

**Unit  
1**

# **Concept of Health, Population and Environment Education**

**Specification Grid of the Unit**

SN	Level	Type	Number	Marks
1	Knowledge	Very short + Short	1+1	1+4
2	Understanding	Long*	1	7
3	Application			
4	High ability			
* Long question may or may not be asked from the chapter.		Total	3	12

## **Ways with the Lesson**

- Environment refers to the sum total of all biotic and abiotic (animate and inanimate) components present in our surrounding.
- Population is dynamic number of people living in a certain place at specified time.
- Health is complete physical, mental and social well being of people.
- These three phenomena are deeply interrelated. Their triangular relationship has different aspects.

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**(A) Very Short Questions-Answers    1 Mark Each**

*Q.1 Define environment.*

Ans: Environment refers to the sum total of all biotic and abiotic (animate and inanimate) components present in our surrounding.

*Q.2 Give a clear meaning of population.*

Ans: Population is dynamic number of people living in a certain place at specified time.

*Q.3 Why population is called a dynamic thing?*

Ans: Population is called a dynamic thing because it goes on changing all the time instead of remaining constant.

*Q.4 How do you define health?*

Ans: Health is complete physical, mental and social well being of people.

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**Q.5. What are various dimensions of human health in your view?**

Ans: Various dimensions of human health are physical, mental and social.

**Q.6. What is the meaning of physical aspect of environment?**

Ans: Physical aspect includes the physical features present in environment which have impact on population and health such as rivers, land, mountains and such others.

**Q.7. Define biological aspect of environment.**

Ans: Biological aspect of environment means all the biological components available in a certain place such as plants and animals, crops cultivated etc.

**Q.8. Give meaning of socio-cultural aspect of environment in a sentence.**

Ans: The rites and ritual, codes of conducts, festivals, ceremonies, traditional practices and such related to a society and its culture are collectively called socio-cultural aspect of environment.

**Q.9. What is the meaning of economic aspect of environment?**

Ans: Economic aspect of environment is the area including diverse activities and phenomena related to money.

**Q.10. Define science and technological aspect of environment.**

Ans: Inventions, discoveries, technologies etc. made possible because of the advancement of science can be called science and technological aspect of environment.

**Q.11. What is meant by political aspect of health, population and environment?**

Ans: Political system, different programmes and policies introduced by government, political condition and such other things related with politics of the place/ country are collectively called political aspect of environment.

**Q.12. Write meaning of psychological aspect.**

Ans: Mode of human's thinking and way of their behaving is the psychological aspect of environment, population and health.

**Q.13. Give one example of how biological aspect of environment is related to human health in a sentence.**

Ans: Humans depend basically on these biological components for their survival, especially for food and food they consume is directly related to their health.

**Q.14. Try to make a connection between human psychology and population change.**

Ans: Human psychology is very much connected with population change because if people have particular superstitious beliefs, they tend to bear more number of children than those who have scientific way of thinking.

**Q.15. Write the most significant effect of rapid population growth on environment according to your opinion.**

Ans: The most significant effect of rapid population growth on environment is that it increases pollution and decreases forest resources.

**Q.16. What is the relation of physical aspect to health, population and environment? Give example in a sentence.**

Ans: One example of relation of physical aspect to other aspects of health, population and environment is that industries, roads, bridges, buildings, hospitals, schools, religious shrines and such structures have a direct or indirect effect on human health, population and environment.

**Q.17** *✓ Describe in a sentence the relationship between biological aspect to health, population and environment.*

Ans: Biological aspect includes biological components such as plants and animals which humans consume and what humans eat determines their health, their good or bad health determines population situation and how much they consume determines environmental condition.

**Q.18** *✓ Show a relation between socio-cultural aspects of relation of health, population and environment.*

Ans: Cultural norms and values such as taking baths every morning, worshiping biological components like trees and some social traditions like early marriage have either positive or negative effects on human health, environment and population.

**Q.19** *✓ What is the relation of economic aspect to health, population and environment?*

Ans: Certain economic condition of a place has either positive or negative impact on environment, population and human health.

**Q.20** *✓ Write in a sentence how science and technological aspect is related to other aspects of health, population and environment.*

Ans: Advancement of science and technology such as in the sector of industries, medical science, family planning etc has contributed both for betterment and degradation of environment, population and health.

**Q.21** *✓ State in a sentence how political aspect is related to other aspects of health, population and environment.*

Ans: Political system, condition, programmes and policies made by the government have great impact on environment, population and people's health.

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**(B) Short Questions-Answers                          4 Marks Each**

**Q.1.** *Give a clear definition of environment, population and health education.*

Ans: Environment, Population and Health Education is a combined subject. Environment, population and Health are three very important aspects of the human life. Environment education, as its name suggests, is education provided to the people for creating awareness and their responsibility towards the environment. A clean, safe and healthy environment is quite necessary for healthy human beings. Hence, environment education intends to create awareness and a sense of responsibility in the humans towards the environment and its conservation. Similarly, population education is an educational programme whose purpose is to generate awareness related to population growth, its effects and management among the people. It helps to create such people who are aware and responsible for the management of population and to make the world a better place to live in. In the same way, health education helps the people know the basic concepts of how to maintain good health. Consequently, it produces healthy and active human resources for a nation.

**Q.2. Highlight the relationship among environment, population and health with examples.**

**Ans:** Environment, population and health are complexly interrelated things related to human life. Different biotic and abiotic components present in environment affect population and its health. Similarly, population of a place has its effect on environment which may further affect human health. Human health, on the other hand, also has its influence on environment and population. These three things run side by side and can remain well only if they are in harmony. Otherwise, there won't be balance among them and human life, life of other creatures and the whole ecosystem get disturbed.

**Q.3. Show difference between physical and biological aspects of health, population and environment.**

**Ans:** Physical aspect of environment includes the physical or natural components of environment like rivers, lakes, hills, mountains, land and such others. It also includes the physical structures that humans have developed such others as roads, bridges, houses, temples, industries, vehicles and such others. Biological aspect of environment includes the living organisms and aspects which may affect the existence of living organism. Some examples of biological aspect of environment can be plants, animals, insects, birds, fertility of soil, crops, etc. Physical aspect mostly includes the physical structures seen on earth either made by nature or by humans. Biological aspect includes those organic things which are created by nature itself.

**Q.4. Highlight the relationship among environment, population and health with examples.**

**Ans:** Environment, population and health are interrelated areas related to human life. These three things run side by side and can remain in good condition only if they are in harmony. Otherwise, there won't be balance among them and human life, life of other creatures and the whole ecosystem get hampered. A change in environment has its effects on population and human health. For example, when environment is clean, health of people remains good but in polluted environment, health also degrades. When health degrades, population decreases because of presence of diseases. Similarly, population increase of decrease and its activities have direct effects on environment and so, on human health. For instance, when population increases very much, industrialization and urbanization increase and environment is degraded so human health also degrades. Likewise, human health also has its positive or negative effects on population as well as environment. If people get caught by diseases, population can decrease and with very good health and people live for long and population may increase.

**Q.5. Give a clear meaning of environment, population and health education.**

Ans: Environment, population and health education is an integrated subject which creates awareness among the people on environment and its conservation, population and its management as well as health and its maintenance. Environmental education intends to make people conscious towards environment, its importance and responsible for conserving it. Similarly, population education teaches them population situation of their country and the whole world. At the same time it also teaches people needs of population management and different ways of it. Likewise, health education teaches people about different aspects of human health and how to maintain their health. As it is known to everybody, environment, population and health are interdependent, it is necessary to teach people their relation and ways of maintaining them too. That is what is done by environment, population and health education.

**Q.6. Show the relationship of environment, population and health with the advancement of science and technology.**

Ans: Advancement of science and technology has a very close relationship with environment, population and health of people. Highly developed science and technology has positive as well as negative effects on them three. It has caused high development of medical science which has improved people's health status. Because of improved health status, nations of the world have got healthier and more productive manpower. Similarly, people have higher life expectancy and population has increased. On the other hand, the increased population has caused over population and consequently, lack of food, accommodation, employment, increased crime and such other negative outcomes. Moreover, advanced science and technology has made tremendous development in industrialization and urbanization causing pollution and degrading environment. Like this, advancement of science and technology and environment, population and health are closely related.

**Q.7. Write a paragraph on a programme launched in your municipality/village or district which has an impact on environment, population and human health.**

Ans: My municipality has launched few programmes at the moment which have certain positive or negative impact on environment. It has launched a programme to pick up waste materials from every household everyday. It sends tractors to households and people dispose waste they produce in the tractors. The waste then is management by the municipality in landfill sites well. Because of this programme, there is no much litter in our town. Likewise, my municipality has launched a plan of prohibiting plastic bags and keeping baskets on the streets. These programmes obviously have positive impacts on environment. Consequently, the positive impacts of

these programmes have positive effects on health of people of my town. Decreased pollution causes improved health status. Population has better quality life consequently.

**Q.8. How are environment, population and health related to development of science and technology? Clarify.**

**Ans:** Environment, population and health are interrelated by science and technology too. Because of advancement of science and technology, various areas of human development have been benefitted. Education, health, transport, communication, medical science, engineering, agriculture and such other areas of human life are directly or indirectly impacted by science and technology. On one hand, science and technology has made human life comfortable; easier ways of working through machines, equipments, gadgets, easy availability of industrial goods, health services, and vehicles and so on. Because of all that, people have better health facilities, better quality food, rest, and above all, good health, long life and better quality of life. On the other hand, advancement of science and technology has increased environmental pollution hampering human population and health.

**Q.9. Write a paragraph on few programmes launched in your municipality/village or district which have an impact on environment, population and human health.**

**Ans:** There is a strong lack of such programmes in our country for betterment of environment, human health and managing population. Even the programmes launched lack effectiveness. But still, there are some programmes launched around my place which can have their impact on environment, population and health. They are as follows:

- I. Afforestation programmes: Such programmes are conducted in different places of our district time and again. These programmes have positive effects on environment and as a result, on human health.
- II. Immunization programmes: Immunization prevents many diseases in people and their health cannot worsen.
- III. Health camps: Health camps are organized sometimes in various places of our district. People's health is positively affected by such camps.
- IV. Awareness campaign for family planning: Different organizations organize awareness programmes for making people aware of need of family planning and its various ways. It helps for population management.
- V. Sanitation programme: Sanitation programme for cleaning local rivers and other water resources is conducted time and again. It has a positive impact on environment and health.

**(C) Long Questions–Answers** **7 Marks Each**

**Q.1.** *What are the different aspects of environment, population and health? Make a list of them and explain any five briefly.*

**Ans:** There are different aspects of Environment, population and health. They are listed and described below.

- A) Physical Aspect:** Physical aspect includes the physical or natural phenomena like rivers, lakes, forest, hills, mountains, land and such things. Humans have developed different structures for their development and comfort such as roads, bridges, factories, industries, vehicles and so on. All of these things can be included under physical aspects of environment, population and health.
- B) Biological Aspect:** Biological aspect of environment, population and health means the different biological matters available in a place due to prevalent geographical condition. For example, the physical/geographical conditions of Himalayan and Terai region are not the same. Himalayan region is colder whereas Terai is way far hotter. Because of that geographical difference, there is difference in the available plants and animals, fertility of soil, crops that can be cultivated etc in those two regions. Himalayan region does not have much fertility of soil there unlike Terai region but has a lot of different varieties of medicinal herbs there. Such difference of biological components according to the available physical/geographical condition of places can be called biological aspect of environment, population and health.
- C) Socio-cultural Aspect:** Wherever humans live, they tend to develop their own culture, tradition, rites and rituals, religion and such other things which are related to their race and civilization. All of such things related with human society of a certain place and their culture such as birth rituals, death rituals, festivals, jatras, marriage ceremony and such others can be called socio-cultural aspect of environment, population and health.
- D) Economic Aspect:** Economic aspect includes all the activities of humans that they do for earning their livelihood and earning wealth. This aspect includes the human activities which enable economic development of them. Phenomena such as industries, other enterprises, employment, tourism, agricultural activities and such others comprise the economic aspect of environment, population and health.
- E) Science and Technological Aspect:** Inventions, discoveries, technologies etc made possible by science can be called science and technological aspect of environment, population and health. Science and technology has made tremendous advancement in many sectors

in this modern age. In areas like medical science, transportation, communication, and so many others, science and technology has been progressing. Though such progress has both negative and positive impacts on environment, population and health, science and technology and its outcomes are important aspects of them.

- F) Political Aspect:** Political system, different programmes and policies introduced by government, political condition and such other things related with politics of the place / country are collectively called political aspect of environment, population and health. Such things have direct relation with the environment, population and health of the people. Some other examples of political aspect can be provisions made for social security, programmes made for the protection of children, differently-abled women, senior citizens, policies for the protection of rights of people, and such.
- G) Psychological Aspect:** Psychological aspect is related to a person's mode of thinking and behaviour shaped by it. A person's psychology or mode of thinking can be greatly shaped by the nurturing and familial environment that they get. A person who gets love, care, and a proper upbringing has a positive attitude towards the society. Just contrarily, a person getting an improper upbringing like harsh treatment, torture, no proper love and care in the childhood may develop negative attitude towards the society. This fact may impact environment, population and health of individuals.

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**(D) Write the difference between the following aspects of environment, population and health.**

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**Q.1. Physical and biological aspect**

**Ans:** Physical aspect of environment includes the physical or natural components of environment like rivers, lakes, hills, mountains, land and such. It also includes the physical structures that humans have developed as roads, bridges, houses, temples, industries, vehicles and others. Biological aspect of environment includes the living organisms. Some examples of biological aspect of environment can be plants, animals, insects, birds, crops, and such. Physical aspect mostly includes the physical structures seen on earth either made by nature or by humans.

**Q.2. Socio-cultural and economic aspect**

**Ans:** Socio-cultural aspect of environment is related to society and culture of a place whereas economic aspect is related to the financial sector. Wherever humans live, they tend to develop their own culture, tradition, rites and rituals, religion and such others which are related to their race and civilization. All of such things related with human society of a certain place and their culture such as birth rituals, death rituals, festivals, jatras,

marriage ceremony and such others can be called socio-cultural aspect of environment, population and health. Whereas, economic aspect includes all the activities of humans that they do for earning their livelihood and wealth. This aspect includes the human activities which bring economic development of them such as industries, other enterprises, employment, tourism, agricultural activities and such others comprise the economic aspect of environment, population and health.

**(E) Write notes on the following.**

***Q.1. Relation between political aspect to other aspects***

**Ans:** The political system of a nation has a large role to play for proper planning for the protection and promotion of environment, population and health through different ways. Whether it be creating awareness of importance of environment and its protection, or population growth, its effects, and measures to manage it, or consciousness towards own health, ways of maintaining a good physical, mental and social health, the policies of the political establishment of the nation has the greatest impact. Environmental conservation, population management and maintenance of good health, all largely depends on political aspect of the nation.

***Q.2. Relation of psychological aspect to other aspects***

**Ans:** Environment, population and health are hugely affected by human psychology. Human psychology refers to the way of thinking of humans. How they behave is determined by how and what they think. The positive or negative perspectives of humans towards environment can conserve or destruct environment. In the same way, mentality of humans towards population and its management, health and its maintenance and such topics can influence the state of being of their population and health. Persons having positive perspectives towards environment, population and health develop favourable behaviours and habits for these three.

**(F) Community based work**

***Q.1. Study the festivals and rituals celebrated your community. Prepare a report on certain rites and rituals which may have either positive or negative impact(s) on environment, population and health.***

**Ans:**

**Rites and Rituals Having Impact on Environment, Population and Health**

**Introduction:** Different communities celebrate various festivals. Such festivals fall at different times of year. They are celebrated by fulfilling various rites and rituals. Such rites and rituals may have positive or negative effects on environment, population and human health.

**Festivals:** My community celebrates *Dashain*, *Tihar*, *Teej*, *Holi* and such others. Such festivals have their good aspects as well as bad aspects.

Therefore, they have some positive and some negative impacts on environment, population and health.

**Positive Impacts:** Such festivals give people chance to gather together and enjoy. They give people a break from their busy life and chance of refreshment.

**Negative Impacts:** Some of these festivals have some negative impacts on environment, population and human health. In *Holi* festival, people pour water and throw colours to each other. This festival is also called the festival of colour. It is very enjoyable. But powder colour is used so much that it can pollute air to some extent. Likewise, a huge amount of water is wasted. Colours used can also cause allergies and some skin diseases in some people. Similarly, narcotics such as marijuana are also consumed which hampers health. During Dashain festival, animals are sacrificed. Such sacrifice causes decline of biodiversity. People eat too much meat and alcohol inviting health hazards. In Tihar, people eat varieties of dishes which contain a lot of sugar and oil. They fire firecrackers that pollutes environment. These are only few representative examples of how our rites and rituals associated with festivals impact environment, population and health.

**Conclusion:** Festivals and rituals are there in all the religions and cultures. They are very important and stand as identities of civilizations. Although they have plenty of positive impacts, they have few negative impacts also. People have to observe them responsibly; by adopting positive impacts of them and giving up negative ones.

This report does not reflect the authors' belief or disbelief in any religions or cultures. They respect The Eternal Religion as one of the ancient, sacred and greatest religions.

- Q.2.** *In Nepaltar village, there used to be a dense forest around it few years ago. But now the forest has been cleared off remarkably. Write a report on what impacts may the village be having because of deforestation.*

**Ans:**

#### **A Report on Deforestation in Nepaltar Village and Its Impacts**

**Introduction:** In Nepaltar Village, There used to be a dense forest surrounding the village one decade ago. But now there is forest but not as dense as it used to be then. Trees have been cut down and other plants in the forest have also been cleared of because of overgrazing, collection of fodder and such other reasons.

**Objective:** Objective of this study is to find out the impacts of deforestation on the local environment, population and human health in Nepaltar Village in specific and everywhere in general.

**Methods of Study:** Interview with local people and observation by self as primary methods of study have been used.

**Findings:** There have been many effects of deforestation seen in the environment, population and human health in Nepaltar Village ever since

deforestation started to take place there. Among many impacts, floods and landslides have become very remarkable. Other impacts seen in the environment include soil erosion due to landslide and cutting by flooding river. Local river has started to dry up because of lack of forest areas. Due to that, water ecosystem has been hampered. Similarly, human health is also hampered as a result of deforestation. Water resources are drying up. People have to rely on the water of the local river now which has polluted water and people fall sick of different water borne diseases. Due to such diseases, people die untimely and population size is affected. Apart from them, there might be many other possible effects of deforestation there.

**Conclusion:** Clearing off of the forested area has caused a huge effect on environment, population and health in Nepaltar Village. Deforestation always has a harsh impact and therefore, forested areas should not be cleared off rather, should be conserved.



## Unit 2

# Demography, Population Change and Management

Specification Grid of the Unit

SN	Level	Type	Number	Marks
1	Knowledge			
2	Understanding	Long*	1	7
3	Application	Very Short + Short	1+1	1+4
4	High ability			
* Long question may or may not be asked from the chapter.			Total	3
				12

### Ways with the Lesson

- Demography is the scientific study of population. It mathematically studies size, distribution, composition, and growth etc. of population.
- Population change refers to either increase or decrease of population.
- There are factors such as birth, death and migration, which are called demographic factors, components. Such factors are caused by processes like fertility, mortality and migration, which are called demographic processes.
- Calculating the rates related to population such as fertility rates, mortality rate, migration rate, population growth rate etc is called demographic measurement.
- These demographic components and processes are responsible for population change.
- Population of most of the countries and the whole world is rapidly growing which is causing several social, economic, environmental problems.
- Environmental degradation such as soil, water, land, sound pollution, deforestation, lack of food stuffs, accommodation, employment etc are some of the socio-economic and environmental consequences of rapid population growth.
- Population must be managed to reduce such harmful effects of rapid population growth.

- Population management refers to maintaining optimum size of population which is balanced with the available means and resources in the country. Depopulation or lack of necessary population is an exceptional case in which population should be increased. It is also a part of population management. But in most of the cases, population growth must be controlled or reduced to manage population.
- Birth control, birth spacing, marriage at appropriate age, abstinence, women empowerment, equity and equality are some of the direct and indirect methods of population management.
- Birth control can be a very good option to be adopted for controlling rapid population growth. Birth control can be done through natural and artificial contraceptive methods.
- Withdrawal, calendar method, cervical mucus testing method, etc are some of the natural contraceptive methods which are not totally reliable.
- Artificial methods are of two types; temporary and permanent. Condom, femidom, pills, injections, intrauterine contraceptive devices, Depo-Provera and Norplant are some of the temporary contraceptive methods whereas vasectomy, minilap and laparoscopy are the permanent ones.
- It is strongly necessary to manage population to create a balance between resources and population, to reduce environmental degradation and to make the lives of future generations less hard.

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**(A) Very Short Questions-Answers                    1 Mark Each**

**Q.1. What does 'demos' mean in Greek?**

Ans: The word 'demos' in Greek language means people.

**Q.2. What is meaning of 'graphia' in Greek?**

Ans: The word 'graphia' in Greek means study.

**Q.3. Write meaning of demography.**

Ans: Demography is the scientific study of population. It mathematically studies size, distribution, composition, and growth etc of population.

**Q.4. Who used the word 'demography' for the first time in the world?**

Ans: The word 'demography' was first used by a person named Archille Guillard in 1855 AD in his book 'Elements of Human Statistics'.

**Q.5. Who is known as the 'father of demography'?**

Ans: A person called John Graunt started demographic study in the year 1663 AD in Britain and that is why he is called the Father of Demography.

**Q.6. What is midyear population?**

Ans: Average of populations of beginning and end of the year is called midyear population.

**Q.7. What is meant by depopulation?**

Ans: Depopulation is a situation in which population of a place is very much less than required so as to be lack of manpower in various sectors of development.

[SLC 2069 B]

**Q.8. What is census?**

Ans: Census is a process of official counting of total number of citizens living in a country.

**Q.9. What is vital registration system (VRS)?**

Ans: Vital Registration System (VRS) is a system in which vital events of human life such as birth, death, marriage, migration, adoption etc are compulsorily registered to the government.

**Q.10. When was the first census taken in Nepal? Write in BS.**

Ans: The first census in Nepal was taken in 1968 BS.

**Q.11. What is density of population?**

Ans: Density of population is the average number of people that live in per square kilometre of a certain country or region.

**Q.12. How do you find density of population?** [SLC 2065 D, 2069 C]

Ans: Density of population can be found by dividing total population by total area of the country or region whose population density is being calculated.

**Q.13. What are the major components of demography?**

Ans: Death, birth and migration are major components of demography.

**Q.14. Which age group is supposed to be active population in Nepal?**

Ans: Age group 15 to 59 is supposed to be active population.

**Q.15. Why is the age group 15-59 supposed to be active population? Write in a sentence.**

Ans: Age group 15-59 is supposed to be active population because it is economically active.

**Q.16. Write what the most important condition of population growth is in your point of view.**

Ans: The most important condition for population growth is when births are more than deaths and in-migration is more than out-migration.

**Q.17. Write difference between immigration and emigration.**

Ans: Immigration is process of migrating from outside into a certain geographical location whereas out-migration is the process of migrating outside.

**Q.18. Over how long period of time will population double if population growth rate is 1 percent?** [SLC 2065 C]

Ans: Population will double in a place in seventy years if the same population growth rate remains constant.

**Q.19. Define migration.**

Ans: Migration can be defined as shifting of people from one place to another permanently or for a long period of time.

**Q.20. What are the two major causes of high infant mortality rate in Nepal? State in a sentence?**

Ans: Two major causes of high infant mortality rate in Nepal are lack of health facilities in rural remote areas and superstitious beliefs.

**Q.21. What are the factors that affect birth?**

Ans: Various biological, psychological, economic and socio-cultural factors affect birth.

**Q.22** *What is biological factor affecting birth?*

Ans: Factor related to conception and reproduction is biological factor affecting birth.

**Q.23** *What areas are mostly affected by migration in your opinion?*

Ans: Accommodation and employment are the most affected area by migration.

**Q.24** *State the trend of migration in Nepal in a sentence.*

Ans: There is a trend of migrating from Himalayan and Hilly to Terai region as well as from rural to urban areas.

**Q.25** *What is the relation between migration and age?*

Ans: Economically active population has higher possibility of migrating than dependant population.

**Q.26** *Which age groups are called dependant population?*

Ans: Age groups 0-14 and 60 plus above are called dependent population.

**Q.27** *Clarify the meaning of population management in a sentence.*

Ans: Population management means a process of maintaining balance between available means and resources and population of a place/country by controlling it and having even distribution of population.

**Q.28** *State any two aspects affected much by rapid population growth.*

Ans: Environment and economic aspect are the two most affected aspects due to rapid population growth in my opinion.

**Q.29** *State any two effective ways of population management.*

Ans: Controlling birth and immigration are two effective ways of population management.

**Q.30** *What are called demographic processes? Make a list of them.*

Ans: Natural and artificial processes which have their effects on population of a place are called demographic processes, such as fertility, mortality and migration.

**Q.31** *What are demographic components? Define them.*

Ans: Demographic components are the factors which affect population such as birth, death and migration.

**Q.32** *How is mid-year population calculated? Write its formula.*

*[SLC 2066 D, E, 2069 BJ]*

Ans: Mid-year population can be calculated by adding the populations of 1<sup>st</sup> January and 31<sup>st</sup> December and dividing the outcome by two.

Midyear population (P)

$$= \frac{\text{population of January 1} + \text{population of December 31}}{2}$$

**Q.33** *What is fertility?*

Ans: Fertility refers to the act of females of bearing babies.

**Q.34** *What is fertility rate?*

Ans: Rate by which number of children is born by per woman in her life time if same pattern of fertility rate remains and she remains alive till her fertile age is called fertility rate.

**Q.35** *Define fecundity in a sentence.*

Ans: Physical ability to give birth which lies both in males and females is called fecundity.

**Q.36. Clarify the meaning of reproductive span of females.**

Ans: Reproductive span of females is the duration in their life when they are biologically able to give birth; generally between the ages of 15 and 49 years of age.

**Q.37. What is menopause?**

Ans: The natural stopping of a woman's menstruation cycle when she grows old is called menopause.

**Q.38. Around what age do women generally have menopause?**

Ans: Menopause occurs in different women at different ages but generally it occurs around 50 years of age.

**Q.39. Define crude birth rate.**

Ans: Crude birth rate is the total number of live births in every thousand population in the certain place within a specified year.

**Q.40. How much is the crude birth rate in Nepal currently?**

Ans: According to demographic and health survey of Nepal, 2068, the CBR of Nepal is 24.3.

**Q.41. Write the formula to calculate crude birth rate.**

Ans: Crude birth rate (CBR) can be calculated using the following formula.

$$\text{CBR} = \frac{\text{Total number of live births in a place within a year (B)}}{\text{mid-year population (P)}} \times 1000$$

**Q.42. How is live birth defined?**

Ans: Live birth means the birth of a baby which cries, moves eyelids, moves voluntary muscles, breathes, which has heart beat etc. right after its birth.

**Q.43. Define general fertility rate.**

Ans: General fertility rate is the total number of live births occurring in per thousand female population with fecundity in a place within a year.

**Q.44. State the formula to calculate general fertility rate.**

$$\text{Ans: General fertility rate (GFR)} = \frac{B}{P'_{15-49}} \times 1000$$

Where,

GFR = General fertility rate

B = total number of live births.

P'<sub>15-49</sub> = midyear population of the females having fecundity of that place

**Q.45. How can it be said that population growth rate is very high by seeing general fertility rate?**

Ans: If general fertility rate is 3 or more per thousand fecund women, population growth of that place/ country is supposed to be very high and alarming.

**Q.46. How does general fertility rate show that population growth rate is constant?**

Ans: If general fertility rate is 2.1 per thousand fecund women, population growth rate is thought to be constant.

*Q.47. What is the general fertility rate of Nepal as observed in the Demographic and Health Survey, 2011 AD?*

Ans: General fertility rate of Nepal as observed in the Demographic and Health Survey, 2011 AD is 2.6 per thousand per thousand fecund women.

*Q.48. How much general fertility has been observed in rural areas of Nepal in Demographic and Health Survey, 2011 AD?*

Ans: General fertility has been observed to be 2.8 per thousand fecund women in rural areas of Nepal in Demographic and Health Survey, 2011 AD.

*Q.49. What is the general fertility rate of Nepal in urban areas seen in Demographic and Health Survey, 2011 AD?*

Ans: General fertility rate has been observed at 1.6 per thousand fecund women in urban areas of Nepal according to Demographic and Health Survey, 2011 AD.

*Q.50. Define age specific fertility rate.*

Ans: Age specific Fertility rate is the total number of live births occurring in per thousand population of females of a certain age or age group having fecundity at a place in a year.

*Q.51. State the formula to calculate age specific fertility rate.*

$$\text{ASFR} = \frac{B_a}{P_a} \times 1000$$

Where,

ASFR = age specific fertility rate

$B_a$  = total number of live births given by females of a certain age or age group having fecundity at the place in specified year

$P_a$  = total midyear population of that place of females of the same specified age group having fecundity

*Q.52. What is the age interval mostly used to calculate age specific fertility rate of an age group?*

Ans: Five years time interval is mostly taken to calculate age specific fertility rate of an age group.

*Q.53. Which age group has the highest age specific fertility rate in Nepal according to census 2011 AD?*

Ans: Women aged 20 to 30 are found to have the highest age specific fertility rate in Nepal.

*Q.54. What is total fertility rate?*

Ans: Total fertility rate refers to the average number of live births that a woman of a particular place gives in average in her total reproductive age.

*Q.55. Write the formula to calculate total fertility rate.*

Ans: Total Fertility Rate (TFR) can be calculated by using the following formula.

$$\text{TFR} = (5 \times \text{ASFR}) / 1000$$

OR,  $\text{TFR} = \frac{(5 \times \text{ASFR})}{1000}$

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**Q.56. State the total fertility rate of Nepal observed in census of 2011 AD.**

Ans: Total fertility rate of Nepal as observed in census of 2011 AD is 2.52.

**Q.57. Define crude death rate.**

Ans: Crude death rate is the total number of deaths happening in per thousand population at a certain place within a year.

**Q.58. Mention the formula to calculate crude death rate.**

Ans: Crude death rate (CDR) =  $\frac{D}{P} \times 1000$

Where,

CDR = crude death rate

D = total number of deaths occurring at a place in a specific year

P = midyear population of that place in that year

**Q.59. State the crude death rate of Nepal according to the census of 2011 AD.**

Ans: Crude death rate of Nepal according to the census of 2011 AD is 7.3 per thousand.

**Q.60. What is age specific death rate?**

Ans: Total number of deaths at a place within a specified time (generally a year) in per thousand population of the people of a certain age or age group is called age specific death rate.

**Q.61. State the formula to calculate age specific death rate.**

Ans: Age specific death rate (ASDR) can be calculated with following formula:  
total number of deaths of those belonging to a certain age group  
at a place within a year

$$\text{ASDR} = \frac{\text{total number of deaths of those belonging to a certain age group}}{\text{total midyear population of the people of the same age group}} \times 1000$$

**Q.62. Define infant mortality.**

Ans: Infant mortality means death of children below the age of 1 year.

**Q.63. How can infant mortality rate be calculated? State its formula.**

Ans: Infant mortality rate (IMR) =  $\frac{D_0}{B} \times 1000$

Where,

IMR=infant mortality rate

D<sub>0</sub>= total number of infant deaths in the given place within specific year

B = total number of live births happening in that place in the year

**Q.64. How has WHO defined maternal mortality ratio?**

Ans: According to WHO, "A maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental cause."

**Q.65. How can you define maternal mortality ratio?**

Ans: Maternal mortality ratio is the total number of maternal deaths due to pregnancy and maternity related causes out of per one hundred thousand (one lakh) live births at a place within a specific year.

**Q.66.** Write the formula to calculate maternal mortality ratio.

Ans: Maternal mortality ratio (MM Ratio) =  $\frac{D_p}{B} \times 100000$

Where,

MM Ratio = maternal mortality ratio

$D_p$  = total number of mothers dead at a place within a year due to pregnancy or maternity related causes

$B$  = total number of live births taking place at that place in the given year

**Q.67.** Define migration.

Ans: Migration means act of people's shifting from one geographical location to another generally for the permanent settlement.

**Q.68.** What is immigration?

Ans: Migration of people in to a specific country/place from any other country/place is called immigration or in-migration.

**Q.69.** State the meaning of emigration.

Ans: Type of migration of people out of a specific country/ place to any other country/ place is called emigration or out-migration.

**Q.70.** What does in-migration rate mean?

Ans: In-migration rate means total number of people migrating into a particular place per thousand population of that place.

**Q.71.** What formula is used to calculate in-migration rate? State it.

Ans: In Migration Rate (I) =  $\frac{\text{number of in-migrants}}{\text{midyear population of that place}} \times 1000$

**Q.72.** What is out-migration rate?

Ans: Total number of out-migrants from a particular place within a year per thousand population is called out-migration rate.

**Q.73.** State the formula to calculate out-migration rate.

Ans: Out Migration Rate (O) =  $\frac{\text{number of out-migrants}}{p} \times 1000$

**Q.74.** Define gross migration rate.

Ans: Gross migration rate refers to the total number of in-migrants plus out-migrants of a particular place inside a country in a specific year per thousand population of that place.

**Q.75.** Write the formula to calculate gross migration rate.

Ans: Gross Migration Rate (GMR)

$$= \frac{(\text{total number of in-migrants} + \text{total number of out-migrants})}{\text{total midyear population}} \times 1000$$

**Q.76.** Define net migration rate.

Ans: Net migration rate is the difference between the numbers of in-migrants and out-migrants of a country/ a particular place inside a country within a given year per thousand populations.

**Q.77. What formula is used to calculate net migration rate?**

Ans: Net Migration Rate (NMR) =  $\frac{(I-O)}{P} \times 1000$

Where,

I = total number of in-migrants in the place within the given year

O = total number of out-migrants from the place within the given year

P = midyear population of the place

**Q.78. What is rate of natural increase of population?**

Ans: If difference between total number of births and deaths of a place within a year is calculated per hundred populations, without considering migration, that calculation is called rate of natural increase.

**Q.79. What formula is used to calculate natural increase of population?**

[SLC 2068 A, C]

Ans: Rate of Natural Increase (RNI) =  $\frac{(CBR-CDR)}{10}$

Where, CBR= crude birth rate and CDR= crude death rate

**Q.80. Define population growth rate.**

Ans: Population growth rate is the rate by which population of a particular place has been growing, per year.

**Q.81. Define Rapid population growth.**

Ans: Rapid population growth refers to rapid increase in population of a place.

**Q.82. Which factor can be projected through population growth rate?**

[SLC 2065 A]

Ans: Increasing or decreasing population of a place of a year can be projected by population growth rate.

**Q.83. Which development region has the highest population according to the census of 2011 AD?**

Ans: Central Development Region has the highest population according to the census of 2068 BS.

**Q.84. Which day is celebrated as Population Day in Nepal? [SLC 2066 D]**

Ans: July 11 is celebrated as population day in Nepal.

**Q.85. What is the total population of Nepal according to the census of 2011 AD? [N-PABSON 2069]**

Ans: Total population of Nepal according to the census of 2011 AD is 2,64,94,504.

**Q.86. Write any one effect of migration in the place of origin.**

Ans: Lack of man power is one effect of migration in the place of origin.

**Q.87. When will the population of Nepal double if it has 1.35 % as its annual population growth rate? [SLC 2068 B, 2069 A, 2070 B]**

Ans: If Nepal has 1.35% of annual population growth, population will double there in  $(\frac{70}{1.35})$  years, that is 51.85 years.

**Q.88. What is Nepal's crude birth rate according to World Population Data sheet, 2012 AD?**

Ans: Nepal's crude birth rate according to World Population Data sheet, 2012 AD is 38 per thousand.

*Q.89. State Nepal's sex ratio according to census 2011 AD.*

Ans: Sex ratio in Nepal according to census of 2011 AD is 94.2%.

*Q.90. What formula is used to calculate population growth rate?*

Ans: Population growth rate (PGR) =  $\frac{(CBR-CDR) \pm NMR}{1000} \times 100$

- Where, CBR= crude birth rate, CDR= crude death rate and NMR = net migration rate

(Here, ± is kept in front of NMR because if NMR is negative, - is kept and if it is positive, + is kept.)

*Q.91. What is Nepal's current population growth rate according to the census of 2011 AD? [PABSON 2069]*

Ans: Nepal's current population growth rate is 1.35% according to 2068 census.

*Q.92. Give meaning of population doubling time.*

Ans: Population doubling time means the time taken by population of a place/country to double its size when trend of population growth remains the same.

*Q.93. What is the formula used to calculate population doubling time?*

Ans: Population Doubling Time (PDT) =  $\frac{70}{PGR}$ , where PGR= population growth rate

*Q.94. What is dependency ratio?*

Ans: Dependency ratio is the number of economically dependent people per hundred economically active people at a place in a particular time.

*Q.95. Which age groups are supposed to be dependant and why?*

Ans: Age groups 0-14 and 60 and above are supposed to be dependant population because most of them are not economically active.

*Q.96. How is dependency ratio calculated?*

Ans: Dependency ratio (DR) =  $\frac{P_{0-14} + P_{60\& above}}{P_{15-59}} \times 100$

Where,

$P_{0-14}$  = population aged from 0 to 14 years

$P_{60\& above}$  = population aged 60 and above

$P_{15-59}$  = population aged from 15 to 59 years

*Q.97. State what any two adverse effects are seen in forest resources due to rapid population growth.*

Ans: Deforestation and depletion of plants due to collection of medicinal herbs are two of the adverse effects of rapid population growth on forest resources.

*Q.98. What age can a girl get married at with her parent's acceptance in Nepal?*

Ans: A girl can get married at the age of 18 if her parents have given acceptance.

*Q.99. What is the minimum age for a boy to be able to get married in Nepal?*

Ans: Minimum age for a boy to get married in Nepal is 18.

**Q.100.** State the ages for boys and girls at which they can get married without parent's consent.

**Ans:** Minimum age for both boys and girls to get married is 21 without parent's consent.

**Q.101.** What is the reason why a girl below age of 20 should not conceive?

**Ans:** A girl below age of 20 should not conceive because her reproductive organs are not well developed and are not mature enough to give birth.

**(B) Short Questions-Answers**

**4 Marks Each**

**Q.1.** Give etymological meaning of the word demography.

**Ans:** 'Demography' is a combined form of two Greek words 'demos' and 'graphia'. 'Demos' in English means people and 'graphia' means study. In this way, demography means the study of human population. Population is the total number of people living in a particular place at a certain time. It is a dynamic thing which does not remain constant but changes all the time. There are some components such as birth, death and migration which are responsible for population change. Demography is the subject which mathematically studies such things as the size, composition, distribution, change etc of population of a certain place.

**Q.2.** Who is called the 'Father of Demography' and why? Explain in brief.

**Ans:** John Graunt is called the 'Father of Demography'. Although the word demography was used in mid-nineteenth century, demographic study had begun earlier than that. A person called John Graunt started demographic study in the year 1663 AD in Britain. He had made an analytical study of the statistics related to death collected by the churches of Britain in his famous book 'Natural and Political Observation Made upon the Bills of Mortality'. This deed of him is supposed to be the first work in the field of demography. That is why John Graunt is often called the Father of Demography.

**Q.3.** What is demography? Write down the components and processes of demography. *[SLC 2059 A]*

**Ans:** Demography is the study of human population and the social condition of a nation. In demography, we study the size, distribution, composition and their changes in a society. It is a science which studies chiefly of births, deaths, marriage and migration. It discovers the laws which control the movement of population. Thus, demography may be defined as the numerical analysis of the state and movement of population inclusive of census enumerations and registration of vital events. In other words, demography is the mathematical, statistical and scientific study of the size, composition, distribution and other changes of population.

The components and processes of demography:

Components	Process
Birth	Fertility
Death	Mortality
Migration	Migration

**Q.4. Describe the demographic components with examples. [SLC 2065 D]**

Ans: The size of population changes from time to time. Due to various demographic components. They are birth, death and migration.

- a) Birth: Birth is a continuous natural process. The birth is related with the fertility process. Fertility refers to the actual birth performance of a woman or group of women restricted to the age group of 15 to 49. The fertility becomes high in such countries or places where there is high prevalence of fecund women.
- b) Death: Death is also a continuous natural process. Death is related with the mortality process. The mortality is also a very important factor for the change in the size of the population. The mortality decreases the number of population. Mortality becomes high due to the poor economic condition of the people.
- c) Migration: It is the third component of population change. The movement of people from one place to another place to their permanent settlement is called migration. The annual rate of population change of a particular country or area is affected by the movement of people from one country to another country too.

**Q.5. Make a list of demographic components and briefly explain how they contribute for population change.**

Ans: Demographic components are the factors which cause change in the size of population of a place. In other words, the elements which cause either increase or decrease in the population of a certain place are the demographic components. Birth, death and migration are called the demographic components. Birth and in-migration contribute for the increase in population whereas death and out-migration decrease population of certain place. How many people get born, are dead and in or out migrate determine the change in population of a place. Therefore, such demographic components or events such as birth, death and migration are the determinants of population change.

**Q.6. What is demographic process? Write in brief. [SLC 2060 A]**

Ans: Each factor has different processes to bring about a change in demographic structure. Among the factors, fertility, mortality and migration are the continuous processes that bring about a change in population. The fertility rate of actual birth process denotes population growth. Similarly, the death rate showing the actual number of deaths, denotes the decrease in population. The migration, after estimating the incoming and outgoing persons permanently, also denotes the change in population. Besides, the social customs like marriage brings about a change to some extent in population through migration from one place to another. These demographic processes working as determinants of size, composition and distribution of population affect the population of the family, country and the world.

**Q.7. What is meant by demographic measurement? Mention its importance too.**

Ans: Demographic measurement means the process of measuring different rates of the demographic events and thus analyzing the different demographic statistics. The occurrence of demographic components,

birth, death and migration, provide demographic statistics. Such statistics can be analyzed using certain formulae developed by scholars. With the use of such data and formulae, the rates of demographic processes can be measured. What the fertility rate is, by what rate the infants are dying, what the rates of in and out-migration in a place are and such calculations and analyses can be done with demographic measurements.

**Q.8. Why are demographic measures necessary? Describe in paragraph.**

Ans: Fertility, mortality and migration are the major components of population change. The changes of population due to fertility, mortality and migration are measured by using different formulae. By such measurements the change in size, composition and distribution of population can be known which is helpful to make a projection - what kind of changes a population will appear in future. Therefore, to analyze the population change, the demographic measures are necessary.

**Q.9. Why is fertility important in population studies?**

Ans: Population study remains incomplete without fertility or birth. It is fertility that is responsible to replace the old people with young ones. So biological replacement is possible only through birth of people. It maintains human society. The society or tribes which have more deaths than births will face danger of becoming extinct. So, fertility is important to save any society and human civilization.

**Q.10. Prepare a table to show demographic components, process and measurements.**

Ans: Demographic Components, Processes and Measurements are shown in the following table.

Demographic Components	Demographic Processes	Demographic Measurements
Birth	Fertility	Fertility Rate
Death	Mortality	Mortality Rate
Migration	Migration	Migration Rate

**Q.11. Why has mortality rate declined considerably in the recent years?**

Ans: Mortality rate has declined largely at present than in the past because of advancement in the field of medicine. We are healthier, our lives have become more comfortable and we live longer because of discoveries. Discovery of vaccines against fatal diseases has checked untimely death of children & adults all. Smallpox, malaria and plague have been wiped out. Medical facilities have been expanded upto villages and there is widespread use of contraceptives which stops unwanted pregnancy related to death of the mother & the child.

**Q.12. Define crude death rate and show its formula.**

Ans: Crude death rate is the total number of deaths happening in per thousand population at a certain place within a year. It is a simple measurement of death. It is supposed to be a crude measurement of death because it takes into consideration all the population equally not caring that everybody does not have equal probability of dying. People of various ages,

locations, economic backgrounds, climatic conditions, political conditions etc may have varied probability of death which CDR does not care about. According to the census of 2011 AD, CDR of Nepal is 7.3 per thousand. The following is the formula to calculate crude birth rate.

$$CDR = \frac{D}{P} \times 1000$$

Where,

CDR = crude death rate

D = total number of deaths occurring at a place in a specific year

P = midyear population of that place in that year

*Q.13. Explain briefly the meaning of maternal mortality ratio then show its formula.*

Ans: Maternal mortality is the death of a female within the period of the beginning of her pregnancy and 6 weeks (42 days) after childbirth. But for the death of a woman to be a maternal mortality, death must have been caused because of pregnancy, childbirth or things associated with them. In other words, maternal mortality ratio is the total number of maternal deaths due to pregnancy and maternity related causes out of per one hundred thousand (one lakh) live births at a place within a specific year. Formula to calculate maternal mortality ratio is presented below.

$$\text{Maternal Mortality Ratio (MM Ratio)} = \frac{D_p}{B} \times 100000$$

Where,

MM Ratio = maternal mortality ratio

$D_p$  = total number of mothers dead at a place within a year due to pregnancy or maternity related causes

B = total number of live births taking place at that place in the given year

*Q.14. Define migration and mention the formula to calculate in-migration rate, out-migration rate, gross migration rate and net migration rate.*

Ans: Migration refers to the act of people's shifting from one geographical location to another generally for the permanent settlement. Following are the formulae to calculate different migration rates.

- i. In Migration Rate (I) =  $\frac{\text{number of in-migrants}}{\text{midyear population of that place}} \times 1000$
- ii. Out Migration Rate (O) =  $\frac{\text{number of out-migrants}}{\text{midyear population of that place}} \times 1000$
- iii. Gross Migration Rate (GMR) =  $\frac{(I+O)}{P} \times 1000$
- iv. Net Migration Rate (NMR) =  $\frac{(I-O)}{P} \times 1000$

(In the above formula of GMR and NMR,

I = total number of in-migrants in the place within the given year

O = total number of out-migrants from the place within the given year

P = midyear population of the place)

**Q.15. Write the reasons behind unequal population distribution in Nepal.**

*(SLC 2068 D, 2069 D, 2070 C, D)*

**Ans:** Population refers to the people living in the specific area at the specific time. Distribution of population refers to the living of people on the basis of physical features, ecological zones, and administrative divisions in a certain place/country. Proper distribution of population is a very essential factor that encourages proper availability of various resources. There is unequal distribution of population in Nepal. Human nature is one of the reasons for the unequal population distribution.

Every human wants to live a life full of easy and comfort. He/she is always forward for getting more and more facilities that he/she could/couldn't afford. He/she doesn't want only compromises in his/her life. So far the fulfillment of the needs they move towards the place where is availability of more facilities. So there is more accommodation of population where there are more facilities. Hence, there is unbalance number of people in the various places of Nepal.

There are many other reasons for unequal distribution of population. They are as follows:

- 1) Physical constrain (Geographical structure)
- 2) Unequal distribution of resources.
- 3) Availability of cultivation.
- 4) Lack of various services and facilities.
- 5) Lack of security
- 6) Lack of plans and policies.
- 7) Lack of employment opportunities
- 8) Difficult climatic condition.

For instant, there is availability of more facilities in the Terai region. Terai region is also full of fertile land/soil. There people can get easy availability of employment opportunities. So more and more people move to the terai region. This invites the unequal distribution of population to Nepal.

**Q.16. What is sex ratio? Clarify with formula used to calculate it.**

**Ans:** Sex ratio is the number of males in every hundred population of females in a place at a particular time. Sex ratio gives us data about how many males in a certain place at a particular time per one hundred

Because of the overgrowth of population, forest areas are cleared off and habitat of much wildlife has been shrinking. Many of the wildlife that used to inhabit in Nepalese forest have been at the verge of extinction. Terrestrial creatures such as one-horned rhino, wild buffalo, elephant, tiger, musk deer, different species of birds, mammals, etc have become very rare now because of human encroachment into forest areas. Illegal poaching of different animals for meat and selling of their hide, bones, and other precious body parts has put them in endangered state.

*Q.24. What effects of rapid population growth can be seen in mineral resources? Clarify.*

Ans: Substances which are found beneath the surface of earth that are taken out and used by humans for different purposes are called minerals. Many of the minerals are used by industries as raw materials. Many others are very precious and so are used to make jewelleries. Although not considered as mineral by many, petroleum products are another resources found beneath

*earth without which modern world cannot almost be imagined. But*

*Q.18. Clarify the concept of rapid population growth in a small paragraph.*

Ans: Rapid population growth refers to rapid increase in population of a place. There are some demographic components responsible for population growth; birth and in-migration increase population whereas death and out-migration decrease it. If birth and in-migration are more than death and out-migration, population increases. When population grows very rapidly, it has many impacts on environment, biotic and abiotic components of it and human health. Generally, if population grows very much, natural resources are exploited too much and they start to run out. Pollution also increases. There is scarcity of various kinds and at the same time, human health degrades. Such a growth in human population which creates such problems is rapid population growth.

*Q.19. Describe the population situation of Nepal in the past and the present.*

*[N-PABSON 2069, 2072 FW]*

Ans: Population size refers to the total population of a place expressed in terms of numbers at certain point of time. It is never constant and generally found increasing with the speed of time. It is expressed in terms of time, place and total number of people.

Population of Nepal is increasing rapidly. In the past, there was no such increase. The population data from the second and third censuses of Nepal showed remarkable declination in the population of Nepal.

The first census was held in 1968 BS (1911 AD) with the population size of 5,638,749. After twenty years, in 1987 BS (1930 AD), population of Nepal was 5,532,574. It showed an exceptional decline in the total population. After this decline, population of Nepal has been increasing continuously from 1987 BS to 2068 BS. The data of the various censuses showed that the population of Nepal has increased nearly 5 folds in 100

**Q.15. Write the reasons behind unequal population distribution in Nepal.**

[SLC 2068 D, 2069 D, 2070 C, D]

**Ans:** Population refers to the people living in the specific area at the specific time. Distribution of population refers to the living of people on the basis of physical features, ecological zones, and administrative divisions in a certain place/country. Proper distribution of population is a very essential factor that encourages proper availability of various resources. There is unequal distribution of population in Nepal. Human nature is one of the reasons for the unequal population distribution.

Every human wants to live a life full of easy and comfort. He/she is always forward for getting more and more facilities that he/she could/couldn't afford. He/she doesn't want only compromises in his/her life. So far the fulfillment of the needs they move towards the place where is availability of more facilities. So there is more accommodation of population where there are more facilities. Hence, there is unequal

- (a) If the birth rate highly decreases.
- (b) If death rate increases.
- (c) If medical care fails to treat the people.

**Q.21. Why are birth and death called natural demographic components? Write the measures to fertility rate.**

[SLC 2068 E]

**Ans:** Birth and death are called as natural demographic components because they are natural and unavoidable phenomenon. Birth and death are continuous processes occurring in the nature. Both birth and death play an important role in the natural demography.

The measure of fertility is done by five ways:

- i) Crude birth rate
- ii) General fertility rate
- iii) Age specific fertility rate
- iv) Total fertility rate
- v) Child/woman ratio

**Q.22. Describe what effects are seen in forests and plants in an area due to rapid population growth there.**

**Ans:** Where there is rapid population growth in a certain area, a lot of effects of it can be seen there. Mainly, it is the forest area which receives one of the biggest impacts of rapid population growth. Humans depend on forests for a number of purposes. For fuel, animal rearing, grazing, collection of fruits and other edible stuffs, medicinal herbs and such other purposes, humans depend on forests. Therefore, a huge pressure of humans is there on forests when population grows very rapidly. Similarly, grown population needs more land for growing crops. But there is no extra land. And so people clear off forested areas for making up cultivated land. In this way, rapid population growth depletes various plants in forests.

**Q.23. How does rapid population growth impact terrestrial and aquatic creatures? Write in a paragraph.**

**Ans:** Rapid population growth affects almost all terrestrial and aquatic creatures. Terrestrial creatures are those which live on land and aquatic are those living in water. Forest is the habitat for a great many creatures.

Because of the overgrowth of population, forest areas are cleared off and habitat of much wildlife has been shrinking. Many of the wildlife that used to inhabit in Nepalese forest have been at the verge of extinction. Terrestrial creatures such as one-horned rhino, wild buffalo, elephant, tiger, musk deer, different species of birds, mammals, etc have become very rare now because of human encroachment into forest areas. Illegal poaching of different animals for meat and selling of their hide, bones, and other precious body parts has put them in endangered state.

- Q.24. What effects of rapid population growth can be seen in mineral resources? Clarify.*

**Ans:** Substances which are found beneath the surface of earth that are taken out and used by humans for different purposes are called minerals. Many of the minerals are used by industries as raw materials. Many others are very precious and so are used to make jewelleries. Although not considered as mineral by many, petroleum products are another resources found beneath the earth without which modern world cannot almost be imagined. But unfortunately, minerals are available in limited amount, which run out in course of time after continuous use. Our country does have limited varieties of mineral resources in little amounts. Because of rapid population growth, high pressure of population is there on minerals and other natural resources and one day very soon, it can be assumed that, minerals in our country will run out and we must face a lot of hardship because of their lacks.

- Q.25. Relate rapid population growth, and flood and landslide in a paragraph.*

**Ans:** Rapid population growth and natural calamities such as landslide and flood are somehow related. One of the main reasons of landslides, floods and soil erosion is uncontrolled population. Overgrown population needs more land for cultivation to satisfy their demand of food and settlement. Therefore, they clear off forest areas. Forest is the thing which can control soil erosion, landslide and floods to great extent. On the other hand, people conduct developmental activities rampantly without caring about their environmental effects. The road networks which are created without good plan and engineering neither sustain longer nor keep the environment clean. We don't have the conservational habits and behaviour because of lack of awareness. Because of all this, landslides, floods and soil erosion are increasing in the country year by year making the lives of people difficult.

- Q.26. How are rapid population growth and air pollution related? Clarify.*

**Ans:** Overgrown population establishes more number of industries. Such industries emit smoke and other harmful gases. There are more vehicles running on the street that also release such gases. Such harmful gases as carbon dioxide, chlorofluorocarbon and carbon mono oxide mix in the atmosphere and the air becomes polluted. On the other hand, improper use of chemical fertilizer, insecticides and pesticides etc also make the air polluted. Some other human activities such as excavation, construction activities etc also add to air pollution. The more the population grows, the more the pollution increases.

**Q.27. How does migration adversely affect social aspect? Write in brief.**  
*(ISLC 2065 D, 2065)*

**Ans:** Migration adversely affects the social aspects. It increases the population of destination and decreases the population of origin. Thus, the destination is more likely to be affected by over population. Mainly, the lack of opportunity compels to migrate from one place to another place. Migration causes social disorder and other problems in society. The increasing number of migrants into a particular area affects available supply of drinking water, electricity, employment opportunity, transport, hospital facilities, education, etc. It results into the social problems like crime, theft, robbery, etc. Thus, the social aspect is badly affected by the migrants.

**Q.28. When population grows rapidly, water pollution increases. Write in a paragraph how.**

**Ans:** Rapid growth of population has a lot to do with water pollution. Water pollution happens when harmful chemicals, unwanted microorganisms, mud and other unwanted substances mix up in water bodies. Water is also polluted when human wastes are thrown in water bodies. Likewise, when industries mix their liquid and solid chemical waste releases in water bodies, water gets polluted. Improper and overuse of chemical fertilizers, weed killers, insecticides, pesticides and such also run with water and get mixed up with rivers. Moreover, construction activities, floods, landslides and such too contribute for water pollution. When population overgrows, such problem arises. It not only hampers aquatic ecosystem, but also affects terrestrial creatures including humans.

**Q.29. "Population growth and noise pollution are directly proportional." Justify.**

**Ans:** Population growth and noise pollution are directly proportional. That means when population grows, so does noise pollution. Industrialization and number of vehicles running on street increase when population grows. Due to such, high volume of sound is produced which causes noise pollution. Noise of vehicles running on street and their honking horn, sound created by industries, construction activities, sound of airplanes and helicopters, sound of music played in loud voice in houses, market places, cultural occasions and so on create sound pollution. As population increases, sound pollution also gets an increase if everybody is not conscious for reducing it.

**Q.30. Clarify the meaning of social and economic consequences of rapid population growth.**

**Ans:** Rapid population growth has its effects on social and economic aspects of human life. When population grows rapidly, food stuffs are short. Land has limited productivity which may not be able to feed overgrown population. Similarly, when population grows education, employment, accommodation, drinking water and other services and facilities lack. Crime may increase and there may be low security. Apart from them, there are a lot of consequences of rapid population growth.

**Q.31.** *What kind of effect is seen in health facilities and services of a place when population grows rapidly there? Describe in short.*

Ans: Health services and facilities are vital for the proper physical and psychological well being of the people. Only healthy people can develop a nation properly. But nobody can be healthy forever. If people get any adversities in their health, they must get proper counselling, check up and treatment. But when population grows very rapidly, there is a huge pressure of population on health services and facilities. Such services and facilities cannot be developed as rapidly as the population grows. So, they lack for the overgrown population. On the other hand, overgrown population causes lack of employment, low income, lack of nutritious food, low quality life and malnutrition.

**Q.32.** *How does education get affected due to rapid population growth? Elucidate.*

Ans: Quality education is a must for progress of a nation. Education produces skilled manpower, increases people's awareness towards their health, enables scientific discoveries, inventions and innovation, and advancement of technology. Education also opens for a person the door to employment opportunities. It may increase people's quality of life. But because of rapid population growth, educational opportunities are lacking in Nepal. Everybody is not able to attain proper and quality education. Although there are so many schools and colleges, many of them lack required means, resources and infrastructures. For quality education, teachers must be trained, enough educational materials must be supplied everywhere in time.

**Q.33.** *Describe in short the effects of rapid population growth on culture and cultural heritages.*

Ans: Culture and cultural heritages are the identities of people. They may make the people and their place renowned in the whole world. Culture includes traditions, festivals, rites and rituals, arts, language, literature, religious and cultural sites and many other things related to human civilization. Rapid growth of population has negative impact on culture and cultural heritages. As the population of a place overgrows, areas of cultural heritages are encroached. Their areas shrink day by day and their existence is at risk. Heritages in Kathmandu Valley and other places of Nepal such as temples, stupas, mosques, stone taps, sculptures at different places, stone pillars and so on are in danger of decline because of overgrown population and their encroachment into areas of such heritages. Pollution also adds to the decline of such heritages.

**Q.34.** *"One main reason of lack of employment is rapid population growth." Justify the statement.*

Ans: Employment opportunities and population are inversely proportional. That means, when population is lower, employment opportunities are higher and if population is higher, employment opportunities are lower. Employment cannot be created quickly and rapidly. But population has

been increasing very rapidly. For the rapidly growing population employment opportunities cannot be created and there is always shortage of it. People aged between 15 and 59 have the highest population in Nepal. All of them need jobs but to provide all of them with job is not easy. Because of that there is high unemployment in our country. Many youths are forced to leave the country to seek employment in foreign labour market every day.

**Q.35. How does rapid population growth affect supply of drinking water? Clarify.**

**Ans:** Clean and enough water is required for survival of humans. They require water for several purposes among which drinking is an inevitable one. Humans cannot survive without water for long. With growth of population, limited sources of water cannot supply enough drinking water for all. Water distribution in a place is done to a certain number of people. If population grows very fast, amount of water distributed cannot be increased in the same ratio. There are limited sources of water which are used for drinking water distribution. Such water sources cannot be increased on one hand and on the other, existing sources are polluted as some are drying up because of human encroachment around the areas of water sources. Example can be the stone taps of Kathmandu valley. Drinking water supply is affected by rapid population growth in these ways.

**Q.36. "Rapid population growth invites hunger." Justify.**

**Ans:** Land is the main basis for production of food stuff. There is limited quantity of arable land in the world and that land has capacity to produce limited amount of food stuff. That may not be sufficient for overgrown population. In Nepal, around 16% of the total area is arable. Land in Terai has been facing a huge pressure of population due to Hilly region to Terai migration. Overuse of soil and chemicals in land have reduced fertility of soil there whereas, in Hilly region, considerable span of land has been left uncultivated. In many places of Nepal, people cannot eat quality and balanced diet. They are unable to consume enough calories required per day. It is estimated that average Nepalese adult requires 2,256 calories per day in average where s/he is consuming just 1815 calories. Children of many parts of Nepal are suffering from malnutrition. Overgrowth of population creates such shortage of food stuffs.

**Q.37. "Bigger the population, smaller the accommodation." How? Elucidate.**

**Ans:** Accommodation is the place of living. Rapid population growth creates a great pressure on accommodation management. There is a growing trend of migrating from Hilly region to Terai and rural to urban areas. Therefore, there is an acute problem of accommodation, especially in urban areas. A great many people migrate to cities such as Kathmandu, Biratnagar, Pokhara, Itahari, Dharan, Nepalganj, Mahendranagar and Butwal. Some people reside in their own home but quite a lot people live in rented houses. To fulfill growing demand of accommodation, new houses are made rapidly. But such constructions are not done according to planned urbanization and create other problems.

**Q.38. Make a connection between growing population and reducing security.**

Ans: Security becomes loose when population overgrows. People become unemployed but they need income to run their life. Following that, some of them may take illegal ways of earning money such as theft, robbery, kidnapping for ransom, smuggling of illegal substances and so on. On the other hand, because of increased ratio between common people and security personnel, criminal activities such as mentioned above, rape, murder and such may get rise. People, out of stress, may also start to do drugs which may have counter-consequences of it. Therefore, because of rapid population growth, there is lower peace, lower security and increased fear in people.

**Q.39. Entertainment is an essential factor of human life which becomes lacking when population grows rapidly. Clarify the statement.**

Ans: Leisure and entertainment are inevitable requirements for the people of all walks of life. Whether rich or poor, males or females, or whatever background, all the people need leisure and entertainment for getting refreshed after their tiredness as well as busy and hectic lifestyle. People travel from one place to another to observe natural beauty of different places in their leisure time. Some others visit religious, cultural and historical places as a means of satisfaction and entertainment. But because of population growth, such naturally green and beautiful, culturally, religiously and historically important places have been encroached and are shrinking day by day. That is hampering people's entertainment opportunity. On the other hand, there is reduced job opportunity and they have lower income. Due to that, they need to work for longer hours per day and week. This fact is hindering them from taking leisure and entertainment.

**Q.40. Explain the natural methods of contraception in short.**

Ans: Natural contraceptive methods are those which do not require artificial contraceptive devices. Though not highly reliable, they are economic and can avoid the possible side effects of artificial contraceptive devices. Generally a fecund woman releases one egg (ovum) a month. During her reproductive span (15-49 year), she releases around 300-400 ova. Process of releasing egg is called ovulation. Ovum is released so that it can meet sperm and they fertilize. An ovum can fertilize within 24 hours of its release. Using this process of ovulation, fertilization and conception, people can prevent pregnancy. Calendar method, ejaculating outside of vagina and cervical mucus testing method are some of the widely used natural contraceptive methods.

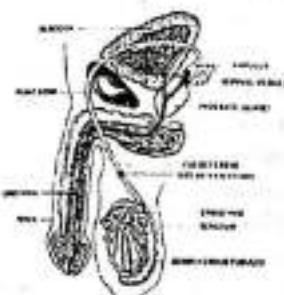
**Q.41. Which temporary method of contraception would you select if you were married and why?**

Ans: What type of contraceptive method I would choose would depend on circumstances. Before the birth of our first children, I would prefer natural contraceptive methods in first place because they are economic and have no or very less side effects. After birth of first child, I would continue to

use natural contraception if we decided to bear second child. If not, we would use intrauterine contraceptive device such as copper T. I would do that because it can be removed and we can conceive again if we want to have second child or in case that our first baby was dead. After my child grows up and we become aged, we would use permanent method of contraception such as minilap or vasectomy.

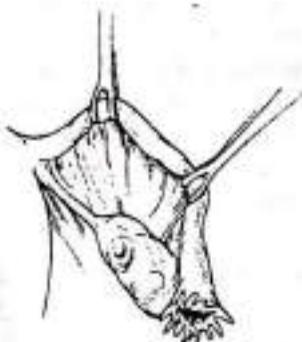
**Q.42. Make a sketch to show vasectomy method of contraception.**

Ans:



**Q.43. Sketch a labeled diagram to show minilap method.**

Ans:



**Q.44. Write few ways in which you can contribute for population management of the country.**

Ans: Population management is a process which becomes successful only if every individual contributes. I can also do something by which I can contribute for population management. Following are some ways in which I can do so.

- i. I can teach my family members, neighbours and friends about necessities of population management to make them realize it.
- ii. I can teach the married couples in my neighbourhood about different contraceptive methods to encourage them for birth control.
- iii. I can teach and encourage them for proper birth spacing and small family size.
- iv. When I grow, I should marry at appropriate age myself.
- v. I should bear only one or two children to contribute for population management.

**(C) Long Questions-Answers                              7 Marks Each**

**Q.1.** *Make a list of environmental consequences of rapid population growth and explain any six of them briefly.*

**Ans:** Rapid population growth has a lot of consequences of environment. Some of them have been discussed below.

- A) **Effect on Forest and Plants:** Forest and plants are much beneficial for whole earth. Nepal used to have 57 percent of its total area covered by forest 50 years ago. But now, because of rapid population growth, forest areas have been cleared off for settlement and cultivation. Now, it is estimated that forest and bushes cover 29% and 10.6% of the total area of Nepal respectively. Our Terai used to have east to west strip of forest through it until few decades ago, which was popularly known as 'Charkose Jhadi'. Now, that forest remains in very few of the parts of Terai; in most parts, it's been already cleared off due to pressure of immigrant population from hills to Terai. In hills too, trend of emblazing fire in forest has devastated it hugely. Overgrazing of forest and pastureland has also added to the decline of forest and plants in Nepal. Smuggling of timber and medicinal herbs as well as wood has been another cause of depletion of forest. With the depletion of forest and plants, there is decline of habitat for wild creatures and consequently, many of the rare wildlife are at the verge of extinction now. Thus, rapid population must be controlled for conservation of forest and plants.
- B) **Effect on Terrestrial and Aquatic Creatures:** Forest is the habitat for a great many creatures. Because of the overgrowth of population, forest areas are cleared off and habitat of much wildlife has been shrinking. Many of the wildlife that used to inhabit in Nepalese forest have been at the verge of extinction. Terrestrial creatures such as one-horned rhino, wild buffalo, elephant, tiger, musk deer, different species of birds, mammals, etc have become very rare now because of human encroachment into forest areas. Illegal poaching of different animals for meat and selling of their hide, bones, and other precious body parts has put them in endangered state.
- C) **Effect on Minerals:** Substances which are found beneath the surface of earth that are taken out and used by humans for different purposes are called minerals. Many of the minerals are used by industries as raw materials. Many others are very precious and so are used to make jewelries. But unfortunately, minerals have limited deposits which run out in course of time after continuous use. Our country does have limited varieties of mineral resources in little amounts. Because of rapid population growth, high pressure of population is there on minerals and other natural resources and day very soon, it can be assumed that, minerals in our country will run out and we must face a lot of hardship because of mineral lacks.

- D) **Flood, Landslide and Land Erosion:** One of the main reasons of landslides, floods and soil erosion in Nepal is uncontrolled population. Overgrown population needs more land for cultivation to satisfy their demand of food and settlement. Therefore, they clear off forest areas. Forest is the thing which can control soil erosion, landslide and floods to great extent. On the other hand, people conduct developmental activities rampantly without caring about their environmental effects. The road networks which are created without good plan and engineering neither sustain longer nor keep the environment undamaged. We don't have the conservational habits and behaviour because of lack of awareness. Because of all this, landslides, floods and soil erosion are increasing in the country year by year making the lives of people difficult.
- E) **Air Pollution:** Overgrown population establishes more number of industries. Such industries emit smoke and other harmful gases. There are more vehicles running on the street that also release such gases. Such harmful gases as carbon dioxide, chlorofluorocarbon and carbon mono oxide mix in the atmosphere and the air becomes polluted. On the other hand, improper use of chemical fertilizer, insecticides and pesticides etc also make the air polluted. Some other human activities such as excavation, construction activities etc also add to air pollution. Such polluted air is not favourable for the living organisms of earth including humans. Air pollution poses a great threat to human health. Different respiratory diseases, cough and cold, chest pain, heart diseases, skin diseases, cancer and many other diseases are caused due to air pollution.

F) **Soil Pollution**

G) **Water Pollution**

H) **Sound Pollution**

**Q.2. What socio-economic consequences of rapid population growth can be seen? Make a list of them and briefly explain any six of them.**

**Ans:** Rapid population growth has very serious consequences on society and economic condition of people in a place. Following are some of the socio-economic consequences of rapid population growth.

- A) **Effect on Health Facilities and Services:** Health services and facilities are vital for the proper physical and psychological well being of the people. Only healthy people can develop a nation properly. But nobody can be healthy forever. If people get any adversities in their health, they must get proper counseling, check up and treatment. But when population grows very rapidly, there is a huge pressure of population on health services and facilities. Such services and facilities cannot be developed as rapidly as the population grows. So, they lack for the overgrown population. On the other hand, overgrown population causes lack of employment, low income, lack of nutritious food, low quality life and malnutrition.

- B) **Effect on Education:** Quality education is a must for progress of a nation. Education produces skilled manpower, increases people's awareness towards their health, enables scientific discoveries, inventions and innovation, and advancement of technology. Education also opens for a person the door to employment opportunities. It may increase people's quality of life. But because of rapid population growth, educational opportunities are lacking in Nepal. Everybody is not able to attain proper and quality education. Although there are so many schools and colleges, many of them lack required means, resources and infrastructures. For quality education, teachers must be trained, enough educational materials must be supplied everywhere in time. Because of overpopulation, such provisions are not easily made. According to the census of 2011 AD, literacy rate of Nepal is only 65.9%.
- C) **Effect on Culture and Cultural Heritages:** Culture and cultural heritages are the identities of people. They may make the people and their place renowned in the whole world. Culture includes traditions, festivals, rites and rituals, arts, language, literature, religious and cultural sites and many other things related to human civilization. Rapid growth of population has negative impact on culture and cultural heritages. As the population of a place overgrows, areas of cultural heritages are encroached. Their areas shrink day by day and their existence is at danger. Heritages in Kathmandu Valley and other places of Nepal such as temples, stupas, mosques, stone taps, sculptures at different places, stone pillars and so on are in danger of decline because of overgrown population and their encroachment into areas of such heritages. Pollution also adds to the decline of such heritages.
- D) **Effect on Employment:** Employment opportunities and population are inversely proportional. That means, when population is lower, employment opportunities are higher and if population is higher, employment opportunities are lower. Employment cannot be created quickly and rapidly. But population has been increasing rapidly. For the rapidly growing population, employment opportunities cannot be created and there is always a shortage of it. People aged between 15 and 59 have the highest population in Nepal. All of them need jobs but to provide all of them with job is not easy. Because of that there is high unemployment in our country and many youths are forced to leave the country to seek employment in foreign labour market every day.
- E) **Effect on Drinking Water:** Clean and enough water is required for survival of humans. They require water for several purposes among which drinking is an inevitable one. Humans cannot survive without water for long. With growth of population, limited sources of water cannot supply enough drinking water for all. Water distribution in a place is done to a certain number of people. If population grows

very fast, amount of water distributed cannot be increased in the same ratio. There are limited sources of water which are used for drinking water distribution. Such water sources cannot be increased on one hand and on the other, existing sources are polluted and some are drying up because of human encroachment around the areas of water sources. (Example can be the stone taps of Kathmandu valley.) Drinking water supply is affected by rapid population growth in these ways.

- F) **Effect on Food Stuff:** Land is the main basis for production of food stuff. There is limited quantity of arable land in the world and that land has capacity to produce limited amount of food stuff. That may not be sufficient for overgrown population. In Nepal, around 16% of the total area is arable. Land in Terai has been facing a huge pressure of population due to Hilly region to Terai migration. Overuse of soil and chemicals in land have reduced fertility of soil there whereas, in Hilly region, considerable span of land has been left uncultivated. In many places of Nepal, people cannot eat quality and balanced diet. They are unable to eat enough calories required per day. It is estimated that average Nepalese adult requires 2,256 calories per day in average where s/he is consuming just 1815 calories. Children of many parts of Nepal are suffering from malnutrition. Overgrowth of population creates such shortage of food stuffs.
- G) Effect on Accommodation  
H) Effect on Clothing  
I) Effect on Security  
J) Effect on Entertainment

**Q.3. Enlist some popular temporary methods of contraception and explain any four of them.**

**Ans:-** Contraception is the methods used for avoiding pregnancy to control child birth. There are many artificial methods and devices, used for contraception. Following is a list of many temporary contraceptive devices.

- I. **Condom:** Condom is a tube-shaped device made up of thin but strong rubber which men wear on their penis during sexual intercourse. Sperm remains inside it after intercourse and cannot enter vagina which prevents pregnancy. Not only pregnancy but if used correctly, it can prevent a number of sexually transmitted infections.
- II. **Pills:** They are tablets which must be regularly eaten by women. These pills prevent ovulation and fertilization cannot be possible and pregnancy can be avoided. There are varieties of contraceptive pills available in the market.

- III. **Foam Tablets:** Tablets which are kept inside vagina 10-15 minutes before sexual intercourse are foam tablets. They produce foam and destroy sperms inside vagina preventing fertilization.
- IV. **Intra Uterine Contraceptive Devices (IUCD):** Contraceptive devices which are kept inside uterus are called IUCD. There are several types of IUCD used. Loop, spiral and copper T are different forms of IUCD but copper T is the most widely used and well-known. Copper T is made up of plastic which has copper wire coiled around it. It can be kept inside uterus for a number of years.
- V. **Depo-Provera Injection:** As its name suggests, it is injected into female body. It prevents pregnancy by stopping production of ovum and stops sperm to enter uterus by thickening the fluid present at the mouth of uterus. Once injected, such injections are generally effective for three months and need to be taken within 7 days after beginning of menstruation. Such injections are injected from arm or thigh.
- VI. **Norplant:** In this method, six small capsules are implanted inside woman's arm. They should be implanted within 7 days from beginning of menstruation cycle. Such capsules prevent the release of ovum and prevent pregnancy. Such method is highly reliable.
- III. **Laparoscopy:** It is another permanent method of contraception for women, which involves making a small surgery in abdomen and tying fallopian tubes with the use of laparoscope to prevent release of ovum. It must be done after 30-40 days of giving birth within 5 to 8 days after menstruation.



pregnancy occurs and that can create problems. If the couple is not ready to conceive or if the couple is not married or let's say the woman may have some complication, they should not conceive. This situation leads the couple towards abortion which may invite lots of problems. Sometimes the woman dies because of complications and sometimes out of stress she takes her life. Therefore, in such emergency situations of unsafe sex, emergency contraceptive devices can be highly helpful. They are usually found in the form of tablets.

- a) **Use of Hormonal Method:** Use of hormone pills for emergency contraception is hormonal method. It is widely used method because such pills are easily available in the market and not difficult to use.

- b) **Combined Oral Contraceptive Pills:** This is an emergency contraceptive pill 4 of which must be taken by woman within 72 hours of intercourse. After 12 hours, another four pills have to be taken.
- c) **Progestin pills:** Progestin is a artificial hormone intended to copy the effects of progesterone hormone, which is often used for contraceptive purposes. Progestin pills are called so because they contain progestin. In Nepal, family planning centre and branch clinics of it sell such pills. One such pill must be eaten within 72 hours of intercourse and after twelve hours of consumption of first pill, another pill must be eaten. This pill is 98% effective.

Q4. *Describe the permanent methods of contraception along with their characteristics.*

Ans: Permanent methods of contraception refer to those methods which are used by those who are satisfied with the number of their children and do not want any more babies. Such methods use a short and minor operation generally and once done, cannot be undone. Following are some of the permanent contraceptive measures.

calories. Children of many parts of Nepal are suffering from malnutrition. Overgrowth of population creates such shortage of food stuffs.

- G) Effect on Accommodation
- H) Effect on Clothing
- I) Effect on Security
- J) Effect on Entertainment

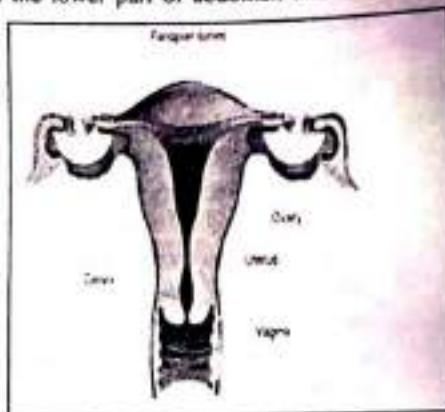
Q5. *Eatist some popular temporary methods of contraception and explain about them.*

I. **Vasectomy:** This is a method for males. Small cut is scrotum and vas deferens is cut. After that, both the cut vas deferens are tied with a string so that sperm, which at testicle cannot come out, preventing the chance of pregnancy to control child.

#### **Characteristics of vasectomy**

- It is a permanent method of contraception.
- It is suitable for those men who do not wish for babies any more.
- It can be done with a minor surgery.
- It does not affect in health and sexual satisfaction.
- Even after vasectomy, the man must use condom for few months.

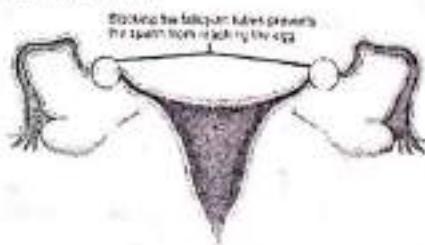
**II. Minilap:** It is permanent contraceptive method used by women. A small surgery is done in the lower part of abdomen and fallopian tubes are cut and tied to prevent ovum release. It must be done after 45 days of birth of baby within 8 days of menstruation. But it can be done anytime if any other method of contraceptive is being regularly used such as Depo-Provera, pills and such others.



**Characteristics of minilap**

- It does not affect health and sexual satisfaction.
- It is permanent contraception method.
- It involves only a minor surgery.
- Only suitable for those women who do not want any more babies.

**III. Laproscopy:** It is another permanent method of contraception for women, which involves making a small surgery in abdomen and tying fallopian tubes with the use of laparoscope to prevent release of ovum. It must be done after 30-40 days of giving birth within 5 to 8 days after menstruation.



**Characteristics of laproscopy**

- There is no side effect to any of the couple.
- It is suitable only for those who do not wish for any more babies.

**D) Write the reason why?**

**Q.1. Both condom and femidom should not be used simultaneously.**

**Ans:** Condom is a temporary contraceptive device which is worn around penis during sexual intercourse. It is made up of latex rubber which is thin but strong. Femidom or female condom is similar contraceptive device but worn by females inside their vagina during sexual intercourse. It is also made up of latex rubber and is thin but strong. Some people might want to use both devices at the same time during sex but that should not be done.

If both are used at the same time, both may break because of friction. After being torn, they can neither prevent pregnancy nor sexually transmitted diseases. That is why condom and femidom both should not be used at the same time.

**Q.2. There is high infant mortality in Nepal.**

**Ans:** Infant mortality means the death of children below the age of 1 year. In other words, infant mortality is death of children before they reach the age of one year. There is high infant mortality in Nepal due to several reasons. One reason is lack of proper health services especially in rural areas. Infants are at risk of a number of diseases but health services are not available in rural areas of the country. Somewhere there is no hospital and somewhere else, there is lack of health staff and medicine. Another reason is superstitious beliefs. People take sick children to witch doctors instead of medical doctors. Yet another reason of high infant mortality is lack of enough balanced diets for mothers and infants.

**(E) Write short note on the following.**

**Q.1. General fertility rate and its formula**

**Ans:** General fertility rate is the total number of live births occurring in per thousand female population with fecundity in a place within a year. GFR is more advanced and scientific fertility rate because it takes into consideration the females with fecundity only, unlike CBR which considers the total population including males, females, fecund, infecund, children, and adults and so on. As per the Demographic and Health Survey of Nepal, 2068 BS, GFR of Nepal is 96 per thousand. The following is the formula to calculate general fertility rate.

$$GFR = \frac{B}{P_{15-49}} \times 1000$$

Where,

GFR= General fertility rate

B=total number of live births,

$P_{15-49}$  = midyear population of the females having fecundity of that place

**Q.2. Age specific fertility rate (ASFR) and its formula**

**Ans:** Age specific Fertility rate is the total number of live births occurring in per thousand population of females of a certain age or age group having fecundity at a place in a year. This fertility rate is supposed to be more scientific because of being based on a specific age or age group. Females of all age groups do not have the same capability of bearing babies. Women who are aged near their menopause have lower fecundity than younger women. Therefore, females of different age groups may have different fertility rates. Thus, age specific fertility rate is thought to be more advanced and scientific than crude birth rate and gross fertility rate because it calculates fertility rate of different ages or age groups. Actually, the specific age group can have the interval of 1 year or 5 years.

But for convenience and uniformity, ASFR of the females of age groups with 5 year's interval is calculated. In Nepal, ASFR of the females aged between 20 and 30 years of age has been found the highest among all age groups. The following is the formula to calculate age specific fertility rate.

$$\text{ASFR} = \frac{B_s}{P_s} \times 1000$$

Where,

ASFR = age specific fertility rate

$B_s$  = total number of live births given by females of a certain age or age group having fecundity at the place in specified year

$P_s$  = total midyear population of that place of females of the same specified age group having fecundity

Menopause = end of menstruation

**Q.3. Role of migration in population change**

Ans: Migration refers to the act of people's shifting from one geographical location to another generally for the permanent settlement. Whether internal migration of a nation does not affect the total population of the place, in-migration and out-migration cause change in population of origin and target places. In-migration increases the population of a particular place whereas out-migration decreases it. Migration within boundary of same country does not affect population of the country but may cause imbalance of population. That means internal migration inside a country does not change the total population but can cause uneven distribution of population there. Consequently, there can be imbalanced development in the various regions of the same country.

**Q.4. Emergency contraceptive methods**

Ans: Sometimes no any methods of contraception are at hand and sexual intercourse is done. Some other times, natural methods are used but they fail. In such situations, pregnancy occurs and that can create problems. If the couple is not ready to conceive or if the couple is not married or let's say the woman may have some complication, they should not conceive. This situation leads the couple towards abortion which may invite lots of problems. Sometimes the woman dies because of complications and sometimes out of stress she takes her life. Therefore, in such emergency situations of unsafe sex, emergency contraceptive devices can be highly helpful. They are usually found in the form of tablets. Combined oral contraceptive pills and progestin pills are some examples of emergency contraceptive methods.

**Q.5. Rate of Natural Increase of Population**

Ans: If difference between total number of births and deaths of a place within a year is calculated per hundred population, without considering migration, that calculation is called rate of natural increase (RNI) of population. In other words, rate of natural increase means the difference of total number

of births and deaths occurring in a place within a year which is per hundred population of the place. It is called rate of natural because natural process of population change; fertility and mortality only counted here. Migration which is not supposed to be natural of population change is not counted in it. Following formula is to calculate rate of natural increase.

$$RNI = \frac{(CBR-CDR)}{10} \quad (\text{Where CBR and CDR mean crude birth rate and crude death rate respectively.})$$

**Q.6. Population doubling time**

**Ans:** Population doubling time means total time period taken by population place to double its size. It is calculated with regard to the population growth rate of that place. According to scholars, if population growth rate of a place at a time is 1% per annum, and if it remains the same, population doubles after 69.3 years or approximately after 70 years. If population growth rate is 2% per annum, population doubles in 35 years. If population growth rate is 5% per annum, population doubles in 14 years. In this way, formula to calculate population doubling time can be derived as follows:

$$\text{Population Doubling Time (PDT)} = \frac{70}{PGR} \quad (\text{Where PGR= population growth rate})$$

**Q.7. Dependency ratio**

**Ans:** Dependency ratio is the number of dependent population per hundred economically active population. People aged 0-14 years and sixty and above are supposed to be dependent population because generally they are not economically active but are dependent on the population aged 15 years. Dependency ratio gives you the data about how many economically dependent people are there for every hundred economically active people in a place at a particular time. Formula to calculate dependency ratio is as follows:

$$\text{Dependency ratio (DR)} = \frac{P_{0-14} + P_{60 \& above}}{P_{15-59}} \times 100$$

Where,

$P_{0-14}$  = population aged from 0 to 14 years

$P_{60 \& above}$  = population aged 60 and above

$P_{15-59}$  = population aged from 15 to 59 years

**Q.8. Sex ratio**

**Ans:** Sex ratio is the number of males in every hundred population of females in a place at a particular time. Sex ratio gives us data about how many men are there in a certain place at a particular time per one hundred women. If sex ratio is exactly 100, it means that numbers of males and females in that place at that particular time are equal. Sex ratio can be calculated using the following formula.

$$\text{Sex Ratio (SR)} = \frac{M}{F} \times 100$$

Where,

$P^m$  = total population of males

$P^f$  = total population of females

**Q.9. Birth spacing and population management**

Ans: Birth spacing refers to the duration between births of two children. In other words, the time taken by a couple to bear the next child is called birth spacing. It has important role in population management. If a couple bears children one after the other having too short birth spacing that contributes for rapid population growth. But if couples keep considerable number of year as birth spacing between two children, naturally there is lower number of births and population can be controlled. Not only that, longer birth spacing keeps mother and child healthy as well as it makes it easier for couples to manage their family well. It is suggested to couples that there must be 4-5 years of birth spacing between two children.

**Q.10. Empowering women for population management**

Ans: Women empowerment means the process of raising the status of women in society by providing them education, employment opportunities, equality, equity and other ways so as to put them in more powerful status in family, society and nation. Nepalese women are deprived and unprivileged compared to men. Difference of literacy rate, presence in administration, politics and other sector can show the gap of privileges that men and women in Nepal are getting. In such a status, women cannot have decision making authority in family. They do not even have right to decide when and how many babies to bear if any. They have to act according to their spouse. They have to be given education, employment opportunities, right to reproduction, equality and respect to empower them. If women are empowered and given right to decide about their reproduction, it helps in population management.

**(F) Differentiate between the following.**

**Q.1. Fertility and fecundity**

Ans: Fertility is a demographic process which causes change in population whereas fecundity is biological or physiological capacity of females of bearing babies. Fertility refers to the act of females of bearing babies. Fertility remains in females within the period when they have fecundity. They start to have fecundity when they have menarche; their first menstruation. In average, females have their menarche at around the age of 15 years. Menstruation ends around the age of 49 years in average. So, when females are between 15 to 49 years, they have fecundity which means that within that period, they have fertility. This period is called their reproductive span. Some females cannot bear babies even within their reproductive span. Such women are said to be infecund or sterile.

**Q.2. Direct and indirect methods of population management**

**Ans:** Measures of population management can be of two types; direct method and indirect method. Direct method includes the ways such as controlling birth and migration by different ways whereas, indirect method includes indirect ways such as increasing people's awareness, empowering women having gender equality and equity and such. Direct methods of population management are very helpful for controlling population immediately. They are useful for such a situation where there is strong need of managing population. On the other hand, indirect methods of population management are helpful in long run. They may not give immediate results for managing population but they aim at uprooting the causes of rapid population growth. Delayed marriage, proper birth spacing, legalized abortion, migration control and family planning are very effective tools of direct method and Providing education, providing population education, gender equality and equity, employment and women empowerment some indirect methods of population management.

**Q.3. Gross and net migration rates**

**Ans:** Gross migration rate refers to the total number of in-migrants plus out-migrants of a particular place inside a country in a specific year per thousand population of that place. It is calculated by adding number of out-migrants and in-migrants of a place in a particular year, dividing it by midyear population and multiplying it by one thousand. On the other hand, net migration rate is the difference between the numbers of in-migrants and out-migrants of a country/a particular place inside a country within a given year per thousand populations. It is calculated by subtracting total number of out-migrants from total number of in-migrants of a place in a year, dividing it by midyear population and multiplying the outcome by one thousand.

**Q.4. Equality and equity**

**Ans:** Equality is a condition in which everybody gets equal treatment by everyone. It is the condition where all are treated equally by law no matter what their backgrounds are. Facilities and opportunities are equally provided to everybody in a country having equality. On the other hand, equity refers to a condition in which disadvantaged people of the country are given extra facilities and opportunities to make their status equal to that of advantaged groups of the country. Both equality and equity are good tools for population management.



## Unit 3

# Population, Environment and Development

Specification Grid of the Unit

SN	Level	Type	Number	Marks
1	Knowledge	Short	1	4
2	Understanding	Very short + Long	1+1	1+7
3	Application			
4	High ability			
* Long question may or may not be asked from the chapter.			Total	3
				12

### Ways with the Lesson

- Population, environment and developmental activities have a very sensitive relationship. When population increases, there is an increase in developmental activities. If development is not done in planned and careful manner, it may severely deteriorate environment.
- Population, environment and development are related by aspects such as agriculture, industries, health, social security, housing, education, communication, employment and such others.
- Development must be balanced in all the geographical and administrative regions in a country. But in our country, different regions such as rural and urban areas, central and other development regions, and the three geographical regions do not have proportional development. On the other hand, environment is also seriously affected because of rapid population growth and consequently, unplanned developmental activities.
- Conservation of environment is quite necessary in the midst of rapidly growing population and haphazard developmental activities. For doing so, nation must adopt the concept of sustainable development in true sense.
- Sustainable development refers to the developmental activity which focuses on making development last longer and at the same time reducing their effect on environment. It also focuses on saving natural resources for the future generations.

**(A) Very Short Questions-Answers** **1 Mark Each**

**Q.1. Define population in your own words.**

Ans: Population is total number of all the people living in a particular geographical area at a certain time.

**Q.2. Why is population called a dynamic thing?**

Ans: Population is called a dynamic thing because it does not remain constant rather, it changes all the time.

**Q.3. Give a clear meaning of environment.**

Ans: Environment means total of all living beings and nonliving objects found around a certain place.

**Q.4. How does Environment Protection Act, 2053 define environment?**

Ans: According to the Environment Protection Act, 2053, "Environment means the interaction and interrelationship among the components of natural, cultural and social systems, economic and human activities and their components."

**Q.5. What should be done to protect forest resources?**

Ans: Cutting down of trees should be controlled to protect forest resources.

**Q.6. Write one effect of unplanned urbanization.**

*(SLC 2063 B)*

Ans: One important effect of unplanned urbanization is lack of solid and liquid waste management.

**Q.7. What is development?**

Ans: Development means positive change that occurs in various aspects of human life, which brings changes and betterment in living standard of humans.

**Q.8. Write the most adverse effect of industrialization and urbanization on environment in your opinion.**

Ans: The most adverse effect of industrialization and urbanization is increase in pollution.

**Q.9. Define agriculture.**

Ans: Agriculture is the activity of cultivating of crops, rearing of animals or both primarily done for producing food stuffs.

**Q.10. Mention an important negative impact of agricultural development on environment.**

Ans: An important impact of advancement in agricultural activities such as use of chemical fertilizers and insecticides is that it degrades environment.

**Q.11. What is industry?**

Ans: Industry is an economic activity of producing goods or providing services, such as that which produces consumer goods or providing services to tourists.

**Q.12. How do industries hamper environment? Write in a sentence.**

Ans: Industries hamper environment by producing solid, liquid and gas pollutants and degrading environment.

**Q.13. Define health.**

Ans: A complete physical, mental and social well being of human is called human health.

- Q.14.** Which article of the present constitution deals with health as a fundamental right?
- Ans: Article 35 of present constitution of Nepal deals with health as a fundamental right of Nepali people.
- Q.15.** Define social security.
- Ans: Social security is the protection and preservation of all the citizens of the country by providing special privileges to the unprivileged groups of people.
- Q.16.** List any two programmes conducted in Nepal regarding social security.
- Ans: Monthly allowance for senior citizens, allowance for single (widowed) women and free health care for senior citizens are some of the programmes launched in Nepal for social security.
- Q.17.** What is the provision for social security for senior citizens in Nepal according to the existing laws?
- Ans: Monthly allowance and free health care are the provisions of social security for senior citizens in Nepal according to the existing laws.
- Q.18.** Which article of present constitution of Nepal deals with right to housing as a fundamental right?
- Ans: Article 37 of the present constitution of Nepal deals with right to housing etc, the sectors related to people's basic needs are the basic aspects that sustainable development gives first priority to.
- Q.19.** Write any two principles of sustainable development. [SLC 2065 B]
- Ans: Appropriate use of natural resources and environmental conservation, provision for right to communication and right to education respectively.
- Q.20.** Define human resources.
- Ans: Human resources means group of individuals who have certain skills that they can use for some productive works.
- Q.21.** What is brain drain?
- Ans: Brain drain is a situation in which there is very less skilled manpower in a country/place to make visions, policies and to work for development.
- Q.22.** What is regional disparity?
- Ans: Regional disparity means a condition in which some regions/ parts of a country have higher level of development whereas some others have remarkably lower level of it.
- Q.23.** Define balanced regional development.
- Ans: Balanced regional development is the condition in which all the regions/ parts of a country are developed in same ratio.
- Q.24.** Which periodic plan did the concept of regional balance start from?
- Ans: 4<sup>th</sup> Periodic Plan of Nepal which ran from 1970 AD to 1975 AD started concept of regional balance in development.
- Q.25.** Clearly state the meaning of human development index.
- Ans: Human development index is an indicator of development which is calculated by using three different aspects of human life; income, education and health status.

**Q.26. Which part of Nepal has the highest human development according to Nepal Human Development Report, 2011?**

Ans: Kathmandu, the capital city of Nepal, has the highest human development in Nepal among various regions of it according to Nepal Human Development Report, 2011 AD.

**Q.27. What can be the reason why Kathmandu Valley has the highest human development in your opinion?**

Ans: The reason why Kathmandu has the highest human development all over Nepal is that infrastructural development is centred on it and it has high availability of human resources.

**Q.28. What should be done for increasing human development of the underdeveloped parts of our country? Write one thing of the top priority in your views.**

Ans: Employment opportunities, education and health services have to be given properly to all the people of underdeveloped parts of the country to raise human development there.

**Q.29. What type of development helps to conserve environment?**

Ans: Sustainable development helps to conserve environment because its main concern is to make developmental activity as well as environment and natural resources durable.

Ans: One important criterion of sustainable development is to manage waste management.

**Q.30. What is development?**

Ans: Development means positive change that occurs in various aspects of ~~environment, life, which brings changes and betterment in living standard of~~

**Q.31. Which commission initiated the concept of sustainable development?**

[SLC 2061 D]

Ans: Brundtland Commission put forward the concept of sustainable development.

**Q.32. What was Brundtland Commission?**

Ans: Brundtland Commission was a commission formed by United Nations General Assembly under the chairmanship of the then Norwegian Prime Minister Gro Harlem Brundtland to suggest the measures regarding balance between development and environment.

**Q.33. Why was the commission called 'Brundtland Commission'?**

Ans: Brundtland Commission was called so because it was chaired by the then Norwegian Prime Minister Gro Harlem Brundtland.

**Q.34. When was the Brundtland Commission formed? [SLC 2066 D, SOS 2070]**

Ans: Brundtland Commission was formed in the year 1983 AD.

**Q.35. What is 'Our Common Future'?**

Ans: 'Our Common Future' was the report published by Brundtland Commission, which included the concept of sustainable development.

**Q.36. Which year was the report 'Our common Future' published in?**

[SLC 2062 A]

Ans: The report 'Our Common Future' was published by Brundtland Commission in the year 1987 AD.

*Q.37. What is the full form of INGO?*

Ans: Full form of INGO is international non-governmental organization.

*Q.38. When was Sagarmatha National Park included in World Heritage Site List?*

Ans: Sagarmatha National Park was enlisted in World Heritage Site List on 19<sup>th</sup> July, 1976 AD.

*Q.39. How has 'Our Common Future' defined sustainable development?*

*[ISLC 2066 A]*

Ans: Our Common Future defines Sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

*Q.40. Write any two benefits of sustainable development according to your views.*

Ans: Two benefits of sustainable development in my views are that it makes developmental activities long lasting and conserves natural resources as well as environment.

*Q.41. What are the basic aspects that sustainable development gives first priority to?*

*[SEDIPS 2069]*

Ans: Sectors of development such as agriculture, health, education, security etc, the sectors related to people's basic needs are the basic aspects that sustainable development gives first priority to.

*Q.42. Write any two principles of sustainable development. [SLC 2065 B]*

Ans: Appropriate use of natural resources and environmental conservation are two principles of sustainable development.

*Q.43. What does 'long term vision' of sustainable development mean?*

Ans: Long term vision of sustainable development means the long vision of such kind of development to conduct durable development as well as to conserve natural resources and environment for the future generations.

*Q.44. What is the duration of 14<sup>th</sup> Periodic Plan?*

Ans: Duration of 14<sup>th</sup> Plan is three years: from fiscal year 2073/74 to 2075/76 BS.

*Q.45. Which periodic plan of Nepal took a very important effort to develop a population policy for the first time?*

Ans: The sixth plan took the first important effort to develop population policy because during this plan The National Population Strategy was made in 1983 AD which was adopted by the next plans too.

**(B) Short Questions-Answers**

**4 Marks Each**

*Q.1. What is development? What are its advantages? Write in four points.*

Ans: Development is a dynamic process that brings changes in various aspects for progress of a place. In other words, development can be defined as act or process of growing or becoming more advanced. It can also be defined as the act or process of creating something over a period of time. Thus, the development activities are all the works done that cause a progress or

a new creation over the existing status in a place. The development activities may be the construction of buildings and bridges, linkage of villages to town through airways and roadways, improvement in health status of the people, increment in the literacy rate or any such activities that improves the standard of life of the people. Development has various advantages for people. Firstly, it makes people's life easier and more comfortable through development in transportation and communication facilities. Secondly, developed educational opportunities make people more conscious and have better employment opportunities. Thirdly, people can have better health due to development in health services and facilities. Similarly, entertainment facilities also increase for the increasing people's quality of life.

**Q.2.** "Human gets everything it wants from environment." Justify this statement.

**Ans:** The statement is quite true that human gets everything it needs from environment. Human totally depends on environment for its survival, it gets food stuffs from environment. Various crops are cultivated in environment which are the basis of human's food. Similarly, for shelter, human needs various objects which it gathers from environment itself. Likewise, human get wood for various purposes from environment. Wood is used for different purposes; as fuel, for production of paper, producing herbal medicines and many other industrial purposes. Environment also supplies fruits and vegetables. Animal products such as dairy, meat, other animal organs for various purposes etc are also supplied to humans by environment. Therefore, it is rightly said that human gets everything it needs from environment.

**Q.3.** What are infrastructures of development? Also explain their importance with examples..

**Ans:** Facilities and services which make human life civilized, comfortable and easier are called infrastructures of development. Some examples of infrastructures of development are education, health services, transportation and communication facilities and such others. Such infrastructures are quite important for everybody's well being. With them, human life becomes more comfortable and easier. Let's take example of education as an infrastructure of development. Education increases people's employment opportunities. They have better income and can have quality of life. Similarly, it maximizes their consciousness towards health and hygiene and as a result, they become healthier. Similarly, transportation makes people's life comfortable because they don't need to walk for distances. It also makes carrying of goods from one place to another far easier. Development of health services cures people's diseases and keeps them from dying due to minor diseases. Due to all this and other reasons, infrastructures of development are quite important.

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**Q.4.** *Briefly describe any five effects of development on environment.*

Ans:

Development has various positive and negative effects on environment.

Though development makes people's life easier and more comfortable, it has diverse negative impacts on environment too. The following are few effects of developmental works on environment.

- i. **Cutting down of tree for construction works:** Trees are cut down for conducting developmental works such as roadway extension, laying down of pipelines, construction of buildings and such others. It hampers environmental balance.
- ii. **Production of smoke, dust and harmful gases by vehicles causing air pollution:** Air pollution is caused due to development of technology and running of vehicles on street. Smoke and other harmful gases are released by them and air gets polluted.
- iii. **Production of solid, liquid and gas wastes by industries and environmental degradation:** Industrial development causes establishment of various industries. They produce varieties of solid, liquid and gas wastes which degrade different aspects of environment if not managed well.
- iv. **Noise pollution:** Vehicles, industries, construction works etc produce sound and cause noise pollution.
- v. **Lack of habitat for wildlife due to deforestation:** Overexploitation of forest resources causes forest to shrink and habitat for wildlife also lacks. As a result, wildlife becomes endangered.
- vi. **Change in natural scenery**
- vii. **Degradation of ecosystem**
- viii. **Degradation of agricultural land**

**Q.5.** *What is development? Explain the importance of development work relating it to population and environment.*

Ans:

Development is a process which brings positive changes in a place and provides comfort, ease and many other positive impacts in people's life there. In other words, development is a process of progress in various sectors related to human life. It is quite important. It is development that has made humans able to evolve from savage state to this modern stage. But at the same time, development has some impact on population and environment, mostly negative. When a place gets developed number of people migrating to that place increases. As a result, population increases there. With increase in population, industrialization and urbanization increase. Due to increased industrialization, urbanization and movement of vehicles, there increases pollution and other forms of environmental degradation. Developmental works such as construction also degrade environment to much extent. Therefore, development has a close relation with population and environment.

- iii. environment have to be evaluated very well. It should be conducted in such a way that it has the minimum effect on environment.
- iv. **Stopping unwise mining:** Mining of various mineral resources, stones, pebbles, sand, soil etc has to be minimized. Unwise mining of such materials which hampers environment a lot should be completely stopped.
- v. **Reducing industrial pollution:** Industrial development is one of the biggest degrader of environment. It develops countries but hampers environment a lot. Pollution done by industries should be reduced.
- vi. **Proper wastage management:** Development brings urbanization with it which increases solid and liquid wastes. They should be managed very well.
- vii. **Detoxification of industrial wastes:** Industrial wastes have to be detoxified before they are disposed to reduce their harmful effect on environment.

**vii. Implementation of sustainable development**

*Q.9. Shed light on relation between population and development.*

**Ans:** Population and development are quite related to each other. Each has an impact to the other. Population is required for development. Population includes necessary manpower needed for making plans of development. Visionary manpower is required for setting goals of development and executing them. Without population, development cannot be possible. Likewise, it is the population that development intends to benefit. On the other hand, development increases people's movement from one place to another. When a place starts to develop, population has a high chance of increasing due to in-migration of people from other places.

*Q.10. What is the relation between development and environment? Explain.*

*[SLC 2061 B]*

**Ans:** People are born and live in the environment. They fulfill their needs from the materials of environment. They perform development activities in the environment. They use the environmental resource to fulfill their needs and for the development works. Without using environmental resources, development is not possible. Similarly, if the resources are overused, it will be difficult to fulfill the needs of future generation. Development works will also be stopped due to lack of natural resources. Thus, there is a close relationship between developmental works and environment.

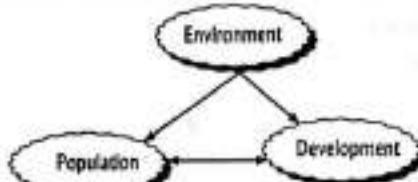
*Q.11. Highlight relation between population and environment.*

**Ans:** Population and environment are very much related. They have a very complicated relationship. When population grows environment is often seen degraded. Rise in population in a place increases their activities such as industrialization, urbanization, deforestation, use of chemical substances for different purposes and so on. Such activities of humans degrade environment. On the other hand, it is population which can conserve the environment too. Once it is degraded due to human activities, humans can also take some steps to promote and conserve

environment. People can make various plans and implement them effectively for protection and promotion of environment. This way population and environment are quite related.

**Q.12. Clarify the triangular relationship among population, development and environment. [SLC 2062 D, Model Question 2065, SLC 2066 B, 2068 E]**

**Ans:** The needs of the people are fulfilled by the available resources in the environment. The environmental resources are used in infrastructure development. Development improves the living standard of the people, if the resources are used haphazardly the living standard goes down. If the population growth is higher, the natural resources will be overused. As a result, environmental degradation will take place. Therefore, we should integrate the environmental conservation and infrastructure development.



In such way, there is a close relationship between population, environment and development. The relationship can be shown as in fig.: The key points which are to be considered to make them balance are as follows:

- Utilization of the natural resources
- Development work, social and cultural activities and environmental condition must be parallel and harmonious.

**Q.13. "Development is impossible without environment." Justify. [SLC 2063 E]**

**Ans:** Development activities take place in environment. Natural resources available in the environment are used for the development activities. Forest resources are used for building houses, constructing railways and pulp and paper factories. They are also used for manufacturing medicines and fruits, food grains and fodders. Minerals are used for preparing various tools, machines and weapons. Similarly, animals and birds provide many kinds of raw materials and food stuff. They have been also assisting human beings to carry on several development activities. Water, air, soil and rock have been provided of paramount importance to development activities. These things are bases to launch development activities. So, without natural resources, development work is not possible. Therefore, development of a place or a country is not possible without environment.

**Q.14. Logically prove that there is a great importance of sustainable development. [SLC 2063, Model Question 2065, 2065 B, 2067 D, E, 2070 D]**

**Or,** What is sustainable development? Mention any three of its importance.

**Ans:** Sustainable development means the development which allows all future generations to have a potential average quality of life at least as high as the average quality of life of the current generation.

Following are the three points of importance of sustainable development :

- a) **Proper use of resource:** Sustainable development develops in people the concept of less consumption of resources as far as possible. Mineral fuels, drinking water, insecticides, chemical fertilizers and forest products should be less used. Also the technology of more benefit with less use should be less applied. The concept that there should not be misused while utilizing the sources should be realized. It contributes to the conservation and promotion of environment through the minimum use of means and resources on the earth.
- b) **Long-term vision:** Development works should be launched to meet the long-term goals. The sustainable development should develop a long-term vision of the development. For this, people should be well familiar with the basic principles of sustainable development. They should be involved in their implementation. That will assist in the conservation of the environment.
- c) **Development of basic aspects:** The sustainable development lays emphasis on the environment in the field of health, education, agriculture, tourism and social improvements which are most essential for human development. The protection and conservation of environment is to be carried on in integrated form while developing these aspects.
- d) **Development based on public participation :** For the implementation of the principles of sustainable development, public participation is a basic ground. Public participation is helpful for the conservation of the environment. It increases the participation of local people to protect their resources.
- (e) **Realization of responsibility**
- (f) **Determination of the limit of development. (Write any three)**

**Q.15. Explain in short few adverse effects of population increase and developmental activities on human health.**

**Ans:** Due to human activities deforestation increases. It causes less rainfall and lack of pure air. There will be lack of food and habitat. They jointly cause respiratory diseases. The diseases further increase due to industrial pollution caused by human activities. Waste materials produced by the human activities have also caused several problems on human health. The use of polluted water affects eyes, brain and muscles of human beings. It has also caused the diseases like typhoid, jaundice, diarrhoea, and scabies. The uses of chemicals have also affected the physique and mind of the human beings.

**Q.16. How are population, environment and development interrelated? Explain briefly.**

**Ans:** The population, environment and development are interrelated to each other. The activities like agriculture, industry, health, security, communication, education, housing, technology, human resources, employment and culture relate the population with environment and

development. Unmanaged population growth creates more demand for natural resources and there is over-exploitation of it. On the other hand industrialization and urbanization, which increase due to population and its growth, bring development too. Industrialization and urbanization pollute the environment too. Similarly, when development occurs somewhere, people are attracted to that place and start to immigrate there. That increases population there. In this way, they are quite related to each other.

**Q.17. Describe any two activities relating population, environment and development.**

**Ans:** We can take examples of industries and agriculture as activities relating population, environment and development. Industry utilizes resources found in environment, mobilizes the manpower, provides employment opportunities and ultimately develops a place. A proper planning on the establishment and operation of the industries can develop the country and the life standard of its citizens. But unmanaged industrialization has many negative impacts on people, environment and the development such as pollution and environmental degradation. Agriculture relates the population with environment and development. The environmental resources like land, water, minerals, climate, temperature, etc. are utilized for the production of agricultural products, which can be used for development of the people and the country. But use of harmful pesticides, insecticides, improper use of chemical fertilizers and such agricultural activities hamper environment, people's health and hence, development of the place.

**Q.18. What are the causes of global warming and ozone layer depletion? How do they affect environment? Explain in brief. {SLC 2066 B}**

**Ans:** Increasing number of factories increase the pollutants polluting the environment. Air pollutants such as, carbon-dioxide, sulphur dioxide, methane, CFC (Chlorofluorocarbon), smoke, dust, etc. contribute to change in temperature and Ozone layer depletion. Due to change in temperature and Ozone layer depletion the problem like change in seasons, disturbance in water cycle, the rise and fall of level of water in the sea, and various radiation related problems such as mutation, skin cancer, cataract, etc. occur. Beside this, cultural sites get deteriorated.

**Q.19. Describe some of the problems that cause regional imbalance in development.**

**Ans:** There are few problems which create regional imbalance. Investment only in particular areas, neglecting of some regions by government, lack of participation of people in developmental activities and uneven distribution of natural resources are some of them. Investors invest only in particular areas in industries and other enterprises. Some regions are flooded with investment whereas some others do not receive any investment. Likewise, some areas of country are given high priority by government for development whereas some others are not. Areas given priority by

development. Unmanaged population growth creates more demand for natural resources and there is over-exploitation of it. On the other hand industrialization and urbanization, which increase due to population and its growth, bring development too. Industrialization and urbanization pollute the environment too. Similarly, when development occurs somewhere, people are attracted to that place and start to immigrate there. That increases population there. In this way, they are quite related to each other.

**Q.17. Describe any two activities relating population, environment and development.**

**Ans:** We can take examples of industries and agriculture as activities relating population, environment and development. Industry utilizes resources found in environment, mobilizes the manpower, provides employment opportunities and ultimately develops a place. A proper planning on the establishment and operation of the industries can develop the country and the life standard of its citizens. But unmanaged industrialization has many negative impacts on people, environment and the development such as pollution and environmental degradation. Agriculture relates the population with environment and development. The environmental resources like land, water, minerals, climate, temperature, etc. are utilized for the production of agricultural products, which can be used for development of the people and the country. But use of harmful pesticides, insecticides, improper use of chemical fertilizers and such agricultural activities hamper environment, people's health and hence, development of the place.

**Q.18. What are the causes of global warming and ozone layer depletion? How do they affect environment? Explain in brief. {SLC 2066 B}**

**Ans:** Increasing number of factories increase the pollutants polluting the environment. Air pollutants such as, carbon-dioxide, sulphur dioxide, methane, CFC (Chlorofluorocarbon), smoke, dust, etc. contribute to change in temperature and Ozone layer depletion. Due to change in temperature and Ozone layer depletion the problem like change in seasons, disturbance in water cycle, the rise and fall of level of water in the sea, and various radiation related problems such as mutation, skin cancer, cataract, etc. occur. Beside this, cultural sites get deteriorated.

**Q.19. Describe some of the problems that cause regional imbalance in development.**

**Ans:** There are few problems which create regional imbalance. Investment only in particular areas, neglecting of some regions by government, lack of participation of people in developmental activities and uneven distribution of natural resources are some of them. Investors invest only in particular areas in industries and other enterprises. Some regions are flooded with investment whereas some others do not receive any investment. Likewise, some areas of country are given high priority by government for development whereas some others are not. Areas given priority by

government are more developed than others. Similarly, people in some parts of country are enthusiastic and participate in developmental activities. They involve in decision making and implementation and assist for carrying out developmental activities. However, in some of the regions of the country, people are not much eager to participate. Such reasons create regional imbalance in development.

**Q.20.** *What effects are experienced by people due to regional disparity? Explain few in short.*

**Ans:** Regional disparity is a situation where there is a huge difference in the level of development in different parts of country. In such a situation, people in developed parts of the country experience higher level of ease and comfort in their life. There is availability of better transportation, communication, health, education and other facilities. Employment opportunities are also better there. People have higher living standard. Just contrarily, in places which have lower level of development, there are various lacks. Facilities of transportation, communication, education and health lack. Employment opportunities also lack in such places. People in such places have lower living standard.

**Q.21.** *What is sustainable development? List the objectives of sustainable development.*

**Ans:** Sustainable development is a concept of development which carries out development without much hampering environment, utilizing natural resources in appropriate amount and is long lasting. In other words, sustainable development is a durable development which considers reduced use of natural resources and environmental conservation. The following are the objectives of sustainable development.

- i. **Durable development:** sustainable development intends to make a developmental activity long lasting. For that, it encourages people's participation, awareness etc.
- ii. **Environmental conservation:** It gives priority to conserve environment while carrying out development.
- iii. **Limited use of natural resources:** It also focuses on limited use of natural resources while carrying out developmental activities so that, such resources can be used by the future generations too.
- iv. **Fulfillment of human needs**
- v. **Poverty mitigation**
- vi. **Social justice and social welfare**

**Q.22.** *Describe the economic, environment and social aspect of sustainable development.*

**Ans:** Sustainable development has various aspects such as economic, environmental and social. Sustainable development always focuses on poverty alleviation and building up economic strength. Without a country and its people being economically strong, sustainable development cannot be imagined. Similarly, it also gives priority to conserve environment. It says that while carrying out developmental activities, humans must

consider its impact on the surrounding environment. Likewise, it also gives emphasis on the fact that without direct involvement of common people, development cannot be sustainable. There must be proper planning for carrying out a long lasting development. On the other hand if people are not involved, there is chance of corruption and sustainable development cannot be imagined.

**Q.23. How can concept of sustainable development be brought into use at local level? Explain few ways.** *(SLC 2071 C)*

**Ans:** Development is a process by which an individual can be capable of oneself for the development of society and nation. It is really important and should be done in eco-friendly way. The term "Sustainable Development" was first coined by Norwegian Prime Minister Gro Harlem Brundtland in 1983 in "Brundtland commission" whose report "Common Future" was published in 1987 with a clear concept and focus upon sustainable development.

The commission has defined sustainable development as "a process in which the exploitation of resources, the direction of investment, and orientation of technological development and institutional change meet the needs of the present generation without compromising the ability of future generations to meet the needs."

The concept of sustainable development can be brought in local level and it must be brought for the prosperous development of the country in following ways.

- The local people should be awarded at the first about the concept of sustainable development.
- Local people should be encouraged to use principles of sustainable development during various developmental activities.
- They should be encouraged to use locally available raw material for their daily activities and progressive work.
- Proper counseling should be given to all people to carry out the development activities in eco-friendly way without giving any harm to the environment.

For example: To get good yield, farmers should use organic fertilizer in soil. Chemical fertilizer increases production but for short time and harms the soil. In contrast, organic fertilizer being natural product prepared from wasteful raw materials in surrounding, it improves the texture of soil and increases soil fertility as well as conserves the ecosystem too.

So we can conclude that in every developmental activity, the principles of sustainable development carry significance. And we should apply it from the grass-root level for the prosperous and speedy development of the country and to preserve our environment, too.

**Q.24.** "Exploitation of resources should not exceed the carrying capacity of earth". Explain this statement.

**Ans:** Earth has its own capacity to sustain life on it. It has limited resources. So, during the exploitation of resources for any activities, the carrying capacity should not be exceeded. Over-exploitation of resources beyond carrying capacity of the earth causes depletion of environment and may not support the development or even the human life. The earth has limited resources such as mineral, forest, and such others. Many of them cannot be produced by humans or regenerated. In such a situation, if such resources are utilized unnecessarily much and in improper way, they run out soon and won't be available for future. Therefore, humans have to utilize natural resources within the carrying capacity of the earth.

**Q.25.** Explain how national as well as international governmental and non-governmental organizations are contributing for environmental conservation programmes in Nepal?

**Ans:** Various governmental and non-governmental organizations are involved in biodiversity conservation in Nepal. Government of Nepal has been formulating various plans and programmes for conservation of ecosystem and biodiversity. It has also ratified various international conventions on such conservations. Government of Nepal has executed Environmental Protection Act, 2053. It has also executed National Heritage Preservation Strategy, 1988 (राष्ट्रिय सम्पद संरक्षण कार्यनीति, २०८५). Government of Nepal also has ratified International Convention on biodiversity (1992) in the year 1993 AD and started executing from 1994 AD. Government has also formed Nepal Nature Conservation Trust (नेपाल प्रकृति संरक्षण कोष) for natural conservation. There are some international organizations such as WWF, IUCN and CITES involved in biodiversity conservation here. World Wildlife Fund (WWF) and International Union for conservation of Nature (IUCN) are involved in identifying and preserving endangered biodiversity. They along with CITES and Nepalese Government are engaged in controlling consumption and smuggling of rare and endangered flora and fauna as well as their parts. Apart from them, various other national as well as local organizations are contributing for biodiversity conservation.

**Q.26.** Make a connection between sustainable development and public participation. [SLC 2072 MW]

**Ans:** Public participation is an important principle of sustainable development. Unless there is dedicated participation of local people in any sort of development works, it can't get its objectives to the desired extent. For the development of certain place, people living there should be motivated for participation in development activities.

The needs of people's participation for sustainable development can be summarized in the following points:

- I. For the conservation of natural resources during sustainable development

2. In order to translate the concept of sustainable development into action
3. For the conservation of diverse cultural heritage such as traditions, customs, religious places, cultural aspects etc. of different people
4. For the development of skilled human resources for future
5. For the conservation of biodiversity and ecosystem as well as for the sustainable development of society.

**Q.27. How is sustainable development achieved through limiting developmental activities? Write in short.** *[SLC 2072 E]*

**Ans:** Sustainable development is necessary for the maintenance of the environment. It can be achieved through limiting development activities. Limited but effective uses of means and resources is enough for the people to satisfy their basic needs, however, more development works are carried on due to greed. Limited and non-renewable means and resources go on decreasing globally due to over use. Development works should be conducted as per carrying capacity. Sustainable development awares the people of the involvement in the policy-making about the concept of limit of development.

Therefore, by limiting the development activities, sustainable development can be achieved.

**Q.28. What type of resources is emphasized by sustainable development for using? Why? Explain.**

**Ans:** Perennial (perpetual) type of resources is emphasized by sustainable development for using. It is the type of resource which does not run out even after continuous use of it. Examples of such resources are such as solar energy, wind energy, tidal energy etc. Even after continued use, they do not finish up. They are continuously available in nature. Unlike mineral resources which finish up after using for certain time, perennial resources do not finish. Such resources are emphasized by sustainable development for using because when they are used nature will not be empty of natural resources. Non-renewable resources can be saved for the future generation. Renewable natural resources can also be used but with conservatory behaviour.

**Q.29. Population control can help for sustainable development. Clarify this statement with suitable examples.** *[SLC 2072 W]*

**Ans:** Sustainable development is necessary for the maintenance of the environment. The purpose of development work is people's welfare. The target of development work is never achieved effectively if the adverse effects are ignored.

People maintain their life by utilizing the limited means and resources found on the earth. But due to population growth, human needs like food, clothing, housing etc. increase. The means and resources

available in the world can't be increased to meet the requirements. Population control and management are essential for sustainable development. It will support the environmental balance.

Long run existence of any sorts of development is not possible without controlled population. Overpopulation increases the total number of consumers; and achievements of development works are over utilized. It affects the positive features of development adversely. The concept of sustainable development integrates with population control to make it long lasting.

Hence, population control can help in sustainable development.

**Q.30. Why is people's participation required for sustainable development?  
Clarify with five reasons of it.** [SLC 2072 MW]

**Ans:** Public participation is an important principle of sustainable development. Unless there is dedicated participation of local people in any sort of development works, it can't get its objectives to the desired extent. For the development of certain place, people living there should be motivated for participation in development activities.

The needs of people's participation for sustainable development can be summarized in the following points:

1. For the conservation of natural resources during sustainable development
2. For translating the concept of sustainable development into action
3. For the conservation of diverse cultural heritage such as social traditions, customs, religious places, cultural aspects etc. of different people
4. For the development of skilled human resources for future
5. For the conservation of biodiversity and ecosystem as well as for the sustainable development of society.

**Q.31. Present examples of any five activities done for sustainable development in your locality.** [SLC 2072 FW]

**Ans:** Sustainable development is a wise concept developed by Brundtland Commission. If this concept is kept confined only within theory and texts, we can't save the environment from being degraded.

Some of the activities done for sustainable development in my locality are mentioned below.

1. Natural resources should be used rationally. Perpetual resources should be used maximum whereas there should be the minimum use of non-renewable resources.
2. Eco-tourism is one of the important areas of application of sustainable development.
3. Urbanization should be done in a planned way. It helps to overcome the adverse effects of unplanned urbanization.

4. Haphazard developmental works should be discouraged. There is need of proper study of probable environmental degradation caused by developmental works in long term.
5. Organic farming should be promoted in wide range. This process yields high quality food products. It also helps to control water and air pollution due to excessive use of chemical fertilizers and pesticides etc.

**(C) Long Questions-Answers** 7 Marks Each

**Q.1. Enlist the principles of sustainable development and explain any four in detail.**

**Ans:** Sustainable development is a long lasting development which aims at considering proper utilization of natural resources and environment conservation. Following are its principles.

**i) Conservation of Ecosystem**

Ecosystem is the interaction of the biotic (living) and abiotic (non-living) factors of environment. The main concern of sustainable development is to conserve the environment. Since, ecosystem is a major component of environment, conservation of ecosystem i.e. forest, wet land, grass, water bodies, etc. leads solely towards environmental conservation.

**ii) Development of Sustainable Society**

A society can only be sustainable when several factors like education, health facilities, healthy habitat, balanced food, employment and social security is present. Since, the social aspect of sustainable development emphasizes on these factors for the development of equitable, inclusive and a just society, it helps in the development of sustainable society.

**iii) Conservation of Biodiversity**

Conservation of different types of living beings should be done for sustainable development. All living organisms have their own importance and interaction between them ensures life on this planet. Their lack badly affects the balance of nature. Thus, conservation of biodiversity is a basic principle of sustainable development.

**iv) Population Management**

The population, environment and development have an interrelated relationship between them and change in anyone of these aspects affects the others. So, growth in population results in bigger need of development and more development leads to the over-exploitation of resources. Thus, for sustainable natural resources there must be control of population growth.

**v) Development of Human Resource**

Humans are the integral part of sustainable development. They are the main actors of developmental activities, conservation of environment and establishment of sustainable society. So, the

development of human resource is one of the basic principles of sustainable development. Enhancing the human capacity with the knowledge and skills of development and environmental conservation helps to develop human resource.

- vi) Public Participation Based Development
- vii) Conservation of Cultural Heritages
- viii) Remaining within the Limit of Carrying Capacity
- ix) Improvement of Quality of Life
- x) Environmental Conservation

**Q.2. Why is it quite important to apply concept of sustainable development?  
Enlist its importance and describe any five in short.**

**Ans:** Concept of sustainable development is very important in this world at present when there has been a huge increase of human population which the earth may not be able to bear. Following are the importance of sustainable development.

i) **Proper Utilization of Resources**

Sustainable development teaches us to use the natural resources in a long lasting manner. It emphasize that the resources should be used in such a way that maximum efficiency is achieved during the developmental works. The minimum resources should be exploited in a manner that maximum developmental level can be achieved.

ii) **Accountability**

Sustainable development leads the human to become accountable toward the environment. It is necessary that who uses the resources should be responsible towards their conservation also. Thus, the sustainable development teaches not just the use of resources but also the accountability of the users towards the conservation of these resources.

iii) **Development of Basic Aspects**

Sustainable development also gives priority to basic needs of human like education, health, agriculture, energy, tourism, culture and other socio-economic aspects of life. Sustainable development is not only limited to the conservation of the environment but also leads toward the reformation of social life by encouraging equity, social inclusion and social justice.

iv) **Public Participation Based Development**

Public participation is a basic aspect of sustainable development. Without public participation sustainable development has no value. For the developmental activities and for the conservation of nature, public participation is a must as argued by the concept of sustainable development.

v) **Limitation of Development**

The requirements and desires of people are limitless. The more development they achieve, the more they desire. So, there must be a limit up to where the natural resources should be exploited. The over-exploitation, especially of non-renewable resources leads to

degradation of environment. So, developmental activities should be conducted within carrying capacity of the earth. Therefore, there must be a limit of development with respect to natural resources.

vii) **Long Term Vision**

Sustainable development means the long lasting development. Hence, for the sustainable development long term goals must be set before conducting developmental activities. Because of these long term visions of the sustainable development, not just the people of this generation, but also the future generations are able to get the benefits of development with the same expense of natural resources.

(D) Write short notes on the following.

**Q.1. Participatory development**

Ans: Participatory development means a development in which there is the involvement of people of various backgrounds. If common people who are going to be affected by particular development activity involve in that activity becomes sustainable. Participatory development is given priority by sustainable development in terms of development and environmental conservation. It also helps the people of backward groups to participate in the developmental activities and share the benefits of development. This causes empowerment and rising of living standards of these groups. Their social status increases with their participation and development also becomes sustainable.

**Q.2. Social security**

Ans: Social security is the protection and preservation of all the citizens of a country. It is the provision of giving special treatment to the citizens who are in need. Whenever basic priority is given to the poor, needy and disadvantaged citizens, all the population can have the chance to get the privilege in the country and have the opportunity to contribute to the development and can also get the benefits of the development. A country can prosper only when all the citizens are taken care of by the government. So, the social security is the provision of giving special treatment to underprivileged people for the inclusion of all the citizens in development. Currently, there is system of providing social security to women, widows, senior citizens, dalit, and such other people to raise their socio-economic standard in Nepal.

**Q.3. Need of education for development**

Ans: Education is a key to development. It is one of the most crucial factors of environmental conservation too. Education creates knowledge and awareness towards the utilization, protection, preservation and promotion of the natural resources and environment. Without education no developmental activities can be conducted in proper manner. Education enables human beings to utilize the resources in a sustainable way so that the maximum development can be achieved through the appropriate use of resources.

of environmental resources, along with the preservation of the environment. A proper education teaches us not just a development but a sustainable development.

**Q.4. *Carrying capacity of earth***

**Ans:** Carrying capacity of earth means the ability of earth to bear utilization of natural resources by humans. Earth has limited resources. So, during the exploitation of resources for any activities its carrying capacity should be considered. The over-exploitation of resources beyond carrying capacity of the earth causes degradation of environment and may not support the development or even the human life. Over-exploitation, especially of non-renewable resources leads to damage of the environment and running out of resources. So, developmental activities should be conducted within the carrying capacity of the earth. Therefore, there must be a limit of development with respect to natural resources.

**(E) Justify the following statements with reasoning.**

**Q.1. *Developmental activities are required for higher economic status.***

**Ans:** Developmental activities are obviously required for higher economic status. To achieve higher economic status, people need to have high paying job or self employment. For such, various means of production must have been developed very well. Industries, agriculture, tourism, mining and hydro-electricity generation are some of the means of production in context of most of the countries. All or some of those means have to be highly developed for higher economic status of a country and its people. Activities to develop transportation, communication and other infrastructures must be conducted for developing agriculture, industries, tourism and other sectors of income of country and people. Therefore, it is evident that developmental activities are required for higher economic status.

**Q.2. *Sustainable development is easy only when people are conscious.***

**Ans:** Our consciousness determines our actions. The same is the case with sustainable development. If people don't have consciousness on the need and ways of implementing sustainable development, it cannot be implemented well. Sustainable development is possible only with active participation of people. People participate in developmental activities when they are conscious about its needs. On the other hand, budget required for implementing concept of sustainable development is a bit more than for ordinary developmental activity. Therefore, common people need to voluntarily involve for reducing budget. Sustainable development can be well implemented when people have a well awareness about concept of sustainable development.

**Q.3. *Sustainable development should be implemented for environmental conservation.***

**Ans:** Sustainable development is concerned with conservation of existing environment. It emphasizes on conducting developmental activities without having much negative effects on the environment. It focuses on -

# Family Life Education and Quality of Life

**Specification Grid of the Unit**

SN	Level	Type	Number	Marks
1	Knowledge		1+1	1+4
2	Understanding	Very Short + Short	1	7
3	Application	Long*		
4	High ability		Total	3
* Long question may or may not be asked from the chapter.				12

**Ways with the Lesson**

- Quality of life is the condition of satisfaction and happiness in individual and family life resulted because of ability to fulfill all basic and additional needs.
- Quality of life is quite necessary and important for people's well being. It gives people fulfillment of basic needs, attainment of quality education, provides them with health services and facilities, employment opportunities, equality, women empowerment and such other improvements in living.
- Quality of life is possible only if there is availability of nutritious food, small family size, good health and health services, sanitation, good family income, security, housing and saving, which are called the elements of quality of life.
- Quality of life can be measured by analyzing status of people's life such as fulfillment of basic needs, physical quality of life index such as literacy rate and others, human development index and so on.
- Quality of life is a result of people's satisfaction and happiness. Though happiness is an abstract thing and cannot be measured well, scholars have made some parametres to measure happiness, which are often called determinants of happiness.
- Some of the determinants of happy life are small family size, quality education, marriage at appropriate age, first conception at appropriate age, proper birth spacing, health and sanitation, nutritious food, gender equality and so on.

**(A) Very Short Questions-Answers** **I Mark Each**

**Q.1.** Define family life education.

Ans: Family life education is awareness to people on their roles that they need to fulfil responsibly in different stages of their life.

**Q.2.** Who needs to be given family life education the most?

Ans: Everybody needs to be given family life education to acquire knowledge of how to deal with various issues that appear at different stages of family life.

**Q.3.** What type of awareness is given by family life education?

Ans: Family life education spreads understanding of issues related to different stages of life such as sexual development, stage of marriage, reproduction, care for elderly people and such others.

**Q.4.** What is the advantage of family life education for people?

Ans: Advantage of family life education for people is that they can deal with various problems that they face in different stages of life responsibly.

**Q.5.** What changes are expected in a person after they get family life education?

Ans: Changes that are expected in a person after they get family life education is that they are more responsible for their family role.

**Q.6.** Name any one basis that determines human development index.

Ans: Any one basis that determines human development index is per capita income.

**Q.7.** What is meant by quality of life? (SLC 2060 C)

Ans: Quality of life is the condition of satisfaction and happiness in individual and family life resulted because of ability to fulfil all basic and additional needs.

**Q.8.** Write any one base for measuring physical quality of life. (SLC 2066 B)

Ans: Nutritious food is one base for measuring physical quality of life.

**Q.9.** When was human development index published for the first time?

Ans: Human development index was published in 1990 AD for the first time.

**Q.10.** How many categories are the countries currently divided in terms of human development index into?

Ans: Countries are currently divided into four categories in terms of human development index.

**Q.11.** What are the categories of countries according to human development index? (SLC 2066 C)

Ans: Countries are classified in four categories in terms of human development index, which are countries with low, medium, high and very high human development.

**Q.12.** What is the index range of human development index?

Ans: Index range of human development index is from 0 to 1.

**Q.13.** Which SAARC country has the highest rank in HDI according to Human Development Report, 2015 AD?

Ans: Sri Lanka is the SAARC country which has the highest rank in HDI according to Human Development Report, 2015 AD.

**Q.14.** *What is the rank of the country from SAARC to stand at the highest rank among SAARC countries according to Human Development Report, 2015 AD?*

Ans: Sri Lanka is the country which stands at 73<sup>rd</sup> position in the world, which is at the highest rank among SAARC countries.

**Q.15.** *Which SAARC country has the lowest rank in HDI according to Human Development Report, 2015 AD?*

Ans: Afghanistan has the lowest rank in HDI among SAARC countries according to Human Development Report, 2015 AD.

**Q.16.** *What is the HDI rank of the country with lowest HDI among SAARC countries?*

Ans: Afghanistan which has the lowest HDI value among SAARC countries stands at 171<sup>st</sup> rank according to Human Development Report, 2015 AD.

**Q.17.** *What is the HDI value of country having lowest among SAARC countries?*

Ans: Afghanistan which has the lowest HDI value among SAARC countries HDI value of 0.465 according to Human Development Report, 2015 AD.

**Q.18.** *What is the HDI value of the country with highest Value in SAARC?*  
*[SLC 2066 D, JEC 2070]*

Ans: Sri Lanka is the country which has the highest HDI value among SAARC countries and has the value of 0.757 according to Human Development Report, 2015 AD.

**Q.19.** *What is the country with the highest HDI rank in the world according to HDI Report, 2015 AD?*

Ans: Norway is the country with the highest HDI value in the world according to Human Development Report, 2015 AD.

**Q.20.** *What is Norway's HDI value according to Human Development Report, 2015 AD?*

Ans: The country with highest HDI value is Norway whose HDI Value is 0.944.

**Q.21.** *What is Nepal's rank in HDI according to Human development Report, 2015 AD?*

Ans: Nepal stands at the HDI rank of 145 according to Human Development Report, 2015 AD.

**Q.22.** *What's Nepal's HDI value according to Human Development Report, 2015 AD?*

Ans: Nepal's HDI value is 0.548 according to Human Development Report, 2015 AD.

**Q.23.** *Define the relation between family life education and quality of life.*

Ans: Family life education is awareness to people on their roles that they need to fulfil responsibly in different stages of their life which enables them to have quality of life.

**Q.24.** *Enlist few necessities of humans that fall under basic necessities.*

Ans: Food, shelter, clothing and sex are some of the human needs that fall under basic needs.

**Q.25. What human necessities fall under socio-cultural necessities?**

Ans: Education, employment, equality, equity, celebration of festivals, transportation and communication are some of the needs that fall under socio-cultural needs.

**Q.26. Name few of the psychological necessities of humans.**

Ans: Happiness, satisfaction, love, care etc are some of the psychological necessities of humans.

**Q.27. Give few examples of spiritual necessities of humans.**

Ans: Faith on religion, religious practices, rites and rituals etc. are some of the spiritual needs of humans.

**Q.28. What advantage does quality of life have? State any one.**

Ans: One of the advantages of quality of life is that it gives people ability to fulfil their needs.

**Q.29. Why is quality of life needed in human life? Write in a sentence.**

Ans: Quality of life is needed in human life for happy and fulfilling life.

**Q.30. Mention any one cause of quality of life.**

Ans: A source of stable income is one of the various causes of quality of life.

**Q.31. Why are problems in health services and sanitation considered as the cause of low quality of life?**

Ans: Problems in health services and sanitation are considered as the cause of low quality of life because such a situation may make people sick and they cannot have happiness and satisfaction in their life.

**Q.32. How do we need to understand first conception at appropriate age?**

(SLC 206)

Ans: First conception within age of 20s is what we need to understand by first conception at appropriate age.

**Q.33. Write any one physical quality of life index.** (JEC 2069, SLC 206)

Ans: Literacy is one of the physical quality of life indexes.

**Q.34. Write any one of the advantages of quality of life.**

(SLC 2063 D, JECN)

Ans: Any one advantage of quality of life is that it helps people to be healthy and satisfied.

**Q.35. Write any one of the efforts of making quality of life.**

(SLC 2063 E, JECN)

Ans: Developing habit of saving is one possible effort of making quality of life.

**Q.36. Which one among the elements of quality of life do you think is the most important and why?**

Ans: Nutritious food is the most important element of quality of life because it is the most basic element and basis for survival in my thinking.

**Q.37. What is the reason that life expectancy of Nepalese people has been increasing in your opinion?**

Ans: Life expectancy of Nepalese people has been increasing due to improved health facilities and educational status in my opinion.

- Q.38.** *State an effort that can be taken for having quality of life.*  
Ans: An effort that can be taken for having quality of life is to acquire quality education.
- Q.39.** *Why is quality of life taken as an abstract concept? Write in a sentence.*  
Ans: Quality of life is taken as an abstract concept because it is based on happiness and satisfaction which cannot be easily measured.
- Q.40.** *State any one cause of low quality of life.* *(SLC 2069 E)*  
Ans: Any one cause of low quality of life is lack of educational opportunity.
- Q.41.** *What type of family is needed for quality of life?*  
Ans: Small-sized family is needed for quality of life.
- Q.42.** *What is the index range of human development index?*  
Ans: Index range of human development index is from 0 to 1.
- Q.43.** *What is meant by spiritual necessity?*  
Ans: Necessity of satisfying one's spiritual needs through involving in religion/spiritualism is called spiritual necessity.
- Q.44.** *Give meaning of human development.*  
Ans: Human development is development of people in various aspects such as economic, educational, health, equality and such others.
- Q.45.** *What should be the number of children by a couple to make a manageable family in your opinion?*  
Ans: That depends on various aspects such as economic condition, age of parents, and other factors but generally; two is the most appropriate number of children in my opinion.
- Q.46.** *Define women empowerment.*  
Ans: Women empowerment is a process of making women's status more powerful by providing them education, employment and other privileges.
- Q.47.** *When was the concept of human development index introduced and by whom?*  
Ans: United Nations Development Programme (UNDP) introduced concept of human development index (HDI) in the year 1990 AD.
- Q.48.** *What is World Human Development Report?*  
Ans: It is a report published by United Nations Development Programme which shows status of human development in different countries of the world.

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**(B) Short Questions–Answers** **4 Marks Each**

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- Q.1.** *What is a family? What is family life education?*  
Ans: Family is a group of relatives living and dining under the same roof who are related to each other by blood or marriage. In other words, family is often called an institution in which immediate kin live together permanently. There is a number of family members which have their own roles and responsibilities towards their family. Grandparents, parents and children have their own positions and roles according to their age and status in the family. An individual member of family has to fulfil roles of

words, it is an awareness which educates people on the matters such as what people's roles are at different stages of their life and how to fulfil them.

**Q.2. Why is family life education necessary for everyone? Explain in short.**

**Anc:** Humans undergo several stages in the cycle of their life. From the stage of embryo, they undergo stages of birth, childhood, adolescence, adulthood, old age and death. They reach different stages such as stage of marriage, parenthood, and others when they need to deal with the issues of those stages very wisely. Before they are dead, everybody has their own individual roles and issues that they should deal with in their family life. Family life education teaches people knowledge, roles and obligations that the people have at different stages of their life and how to perform their roles properly. This education teaches concepts related to sexual development, marriage, reproduction, social norms and values and such other matters related to family life. That is why this education is very necessary to everyone.

**Q.3. Explain the relationship between family life education and quality of life.**

**Anc:** Family life education is awareness to people on their roles that they need to fulfil responsibly in different stages of their life. It makes people responsible towards and skilful in tackling the problems that they face at various stages of their life. People fulfil their roles and responsibilities more responsibly in their family if they have got family life education. When they are able to do so, their family life becomes fulfilling and happy. Such a life is what quality of life is. Therefore, family life education and quality of life are quite related. Family life education can bring quality in people's lives.

**Q.4. Give an introduction of quality of life.**

**Anc:** Quality of life refers to a state in which people are happy and satisfied in their life because they are able to fulfil all of their basic and additional needs easily and in enough quantity. In other words, it is people's status of being able to easily fulfil their needs resulting in high level of happiness, satisfaction and pleasure in life. Quality of life can be gained only when people are able to fulfil every type of their needs; basic, socio-cultural, psychological and emotional, spiritual and so on. For such a situation, they must have small family size, job for all and good income, quality education, quality health services, and such. Apart from them there has to be love, care, affection and good relation among the family members. Such situation results in satisfaction and happiness of whole family. That situation is called quality of life.

state of them is quality of life. It shows the economic, socio-cultural and other status of the whole country. Similarly, it hints towards the same status of individuals and individual families. In this age of physical development and competitiveness, quality of life is given a big importance because this concept promotes the efforts to achieve higher living standards. Therefore, concept of quality of life has a great need and importance.

**Q.6. What is quality of life? Why is education necessary for quality of life?**

*[SLC 2063 D, SOS 2070]*

Ans: Quality of life can be defined as the method of existence of life along with happiness and satisfaction from the fulfillment of basic needs and other social, cultural and psychological needs of the people. Education plays a vital role in the determination of quality of life. Education provides knowledge, skills and attitudes necessary for life. Educated and skilled manpower can be involved in prestigious job and can earn sufficient amount of money and it is useful to uplift the quality of life of ones' family members. It is not very difficult for the educated persons to find a quality job or to follow various income generating activities. Education brings change in the way of thinking in the right way. The educated and skilled people can easily fulfill their basic needs as well as additional needs more easily. Therefore, quality education helps the people manage quality of life.

**Q.7. Describe fulfillment of basic needs as a result of quality of life.**

Ans: Quality of life means the condition of human life where people are able to fulfil almost all of their needs and desires. Likewise, basic human needs include food, clothe, shelter and such other fundamental needs. Where there is quality of life in a family, every family member is able to eat quality and balanced diet. Not only that, they are able to reside in strong and reliable house as well as buy and wear clothes according to their climate, season, culture and trend. That is why quality of life is required for everyone. Quality of life itself is a situation of fulfilment of basic needs. That is why it can be argued that fulfilment of basic needs is a result of quality of life.

**Q.8. How are quality education and quality of life interrelated? Explain in brief.**

Ans: Quality of life is characterized by ability to attain quality education according to one's interest and necessity. Quality education provides better employment opportunities, better income and easier fulfilment of family needs. Education creates awareness of people towards their health and hygiene. As a result, their health status improves due to education.

Quality education makes people learn various skills and increases their employability. Quality of life enables attainment of quality education and makes a way for quality of life. In this way, quality education and quality of life are related and complementary to each other.

- Q.9.** *What is meant by quality of life? What is the role of family size in quality of life? Explain.* [SLC 2062 D, JEC 2070]

**Ans:** Quality of life means the method of existence of life along with happiness and satisfaction from the fulfilment of basic needs and other social, cultural and psychological needs of the people.

The quality of life is directly affected by the size of family. In a large family the bigger amount of income is used to fulfill the basic needs of the family. The available resources are not enough to provide quality education for children, health, communication, entertainment etc. It is easy to fulfil the basic needs as well as to provide necessary facilities and services with the income to all of the family members. As a result, parents will be able to undertake the responsibilities towards their children. Therefore, the role of the size of a family in maintaining quality of life is very big.

- Q.10.** *How does management of health facilities and sanitation help in quality of life? Write your logic.*

**Ans:** Quality of life cannot be imagined in absence of health services, facilities and sanitation. Families having quality of life have access to quality health services and facilities. They also have good understanding and practice of good sanitation of their house and surrounding. They live healthily and in clean and hygienic environment. For such, they put their own efforts too for living in clean and healthy environment. At the time of sickness, they are provided with quality health services and facilities by government or any other agencies. In this way, management of health facilities and sanitation helps people to avoid and cure disease. As a result, they have quality of life.

- Q.11.** *'Facilities of maternal and child welfare are possible only in quality of life.' Justify the statement.*

**Ans:** It is an obvious fact that facilities of maternal and child welfare are possible only in quality of life. In societies where many of the people do not have quality of life, there is high maternal and child mortality because of no or very low facilities of maternal and child welfare. Maternal and child welfare refers to health services given to pregnant, neonatal and breastfeeding women and babies which are in womb and those who are under 5 years of age. Such facilities make the health of mother and children good. There are no such facilities in good state in places having low quality of life. These facilities are well only where there is quality of life. When such facilities are there in a place in enough quantity, then

very low maternal and child mortality which is a characteristic feature of quality of life. That is why it can be claimed that facilities of maternal and child mortality is possible only in quality of life.

**Neonatal** = a woman who has just given birth or a child who has just been born

- Q.12. How are employment and income generation related to quality of life? Describe briefly.**

**Ans:** Every able adult of a family having quality of life has a job and a steady income. Instead of job, some of them might be engaged in some business. Society having good quality of life has income generating opportunity for all. People in such societies have opportunity of quality education, training and skill development and have higher possibility of getting job or running own business. Almost nobody has to be unemployed in places having quality of life. People of a place cannot be said to have quality of life until and unless almost everybody has their own job and income source which is sufficient for their own and family's survival. In this way, employment and income generation are quite related to quality of life.

- Q.13. Quality of life is required also for gender equality and women empowerment. How? Clarify.**

**Ans:** Quality of life is required for gender equality as well as women empowerment. There is no gender discrimination in families and societies having quality of life. They are educated, conscious and therefore treat everybody equally. Females are not oppressed in such societies. Women are given equal opportunity of quality education and employment as men. They get equal opportunity of participating in various sectors of human life; economic, political, social, cultural, creative and so on. They can be independent and thus empowered in a society which has quality of life.

- Q.14. What is feeling of co-existence? How can it be achieved in quality of life? Elucidate.**

**Ans:** Coexistence means a feeling of being equal to everybody. In other words, it can be defined as a situation in which everybody treats all in equal manner. When there is co-existence in a society, there can be a sense of self-respect and respect to others no matter what background they are. Such a situation of co-existence is created only where there is quality of life. In quality of life, there is no discrimination between genders or on any other basis. When all needs and desires are fulfilled and there is equal treatment to all in family or society irrespective of any background, people can feel equal existence to each other. In presence of inequality, some people have to feel intimidation and inferiority. But quality of life provides equality to all and there is feeling of equal co-existence.

**Q.15. Elaborate the importance of quality of life from socio-cultural aspect.**

[SLC 2063 C]

**Ans:** Quality of life is important from the socio-cultural aspect. The tradition, culture, and performance of the people depend upon the education gained by the family members. Involvement of the women in the social affairs and economical activities are also determined by quality of life. If a family has gained the quality of life various superstitions, impractical customs, wrong concepts and values from the society are slowly eradicated. Preplanning about the proper education from the standard educational institutes of the children is possible from the parents enjoying quality of life. Then only their children are able to refund the investments of their parents. The children become highly skilled manpower useful for the development of their society. Responsible citizens of future can be prepared by the education and skill gained. The development of the society and culture is possible by the changes in the thinking of people, attitudes and behaviours. Therefore, quality of life is deeply related with the components of society and culture. To bring the positive changes in the social and cultural aspects, quality of life is quite important.

**Q.16. Briefly explain any five points which justify the importance of quality of life.**

[SLC 2063 C]

**Ans:** The five points which justify the importance of quality of life are as follow:

- (i) **Nutritious food:** If there is the proper management of nutritious food for a person, then the person becomes happy, healthy and satisfied. So, nutritious food is necessary for quality of life.
- (ii) **Sound health:** A healthy person can involve in different development and recreational activities. So the quality of life requires sound health.
- (iii) **Sanitation:** Sanitation of the surrounding helps to gain physical and mental hygiene. It helps to keep the surrounding neat and clean and free from solid and liquid wastes.
- (iv) **Income of family:** For quality of life the income of family also becomes important as it fulfills the needs of the family. Similarly, high income helps in investment in other fields which results in economic soundness.
- (v) **Quality education:** The quality of life ensures quality education in good schools and colleges. Such education, later helps in the attainment of economic progress.

**Q.17. What is meant by elements of quality of life? Clarify the meaning.**

**Ans:** Elements of quality of life mean certain factors which are necessary characteristics in human life which make it have quality in it. However, it is not easy to define quality of life because the concept is based on abstract experiences such as satisfaction and happiness. But there must be some bases to state whether somebody, some society or a country has quality of life or has not. So, one can claim that a society or a country has

quality of life in it if there are some elements present there. Such elements are called elements of quality of life. Nutritious food, small family size, good health and availability of good health services and facilities, sanitation and such other elements make a human life happy, satisfied and that is why these are called elements of quality of life. They are the factors which make life quality of life.

**Q.18. Discuss nutritious food as an element of quality of life.**

Ans: Nutritious food means the kind of food which has all the necessary nutrients in appropriate amount in it. Nutrients such as carbohydrate, protein, vitamins, minerals, fat etc help human body and mind in good condition. They provide energy to body. Nutritious food is required for maintenance of good health. It makes people physically and mentally healthy. A regular balanced diet provides them with their physical, mental and emotional development. *Immunity* reduces and diseases easily catch them who do not eat nutritious food. Therefore, nutritious food should be eaten by everybody for quality of life and responsible members of family must manage for it. When nutrition food is available to all members of a family, they have better chance of remaining physically and mentally healthy. Such situation naturally invites quality of life.

Immunity = ability of human body to fight against diseases (Body of other creatures too has immunity.)

**Q.19. Why is small family size considered as an element of quality of life? Discuss.**

Ans: Small family size is a vital element of quality of life. Small family is easily manageable. All basic and additional needs can be fulfilled in easier way for each family member if it is small. For a large family, huge income is needed for fulfilling all of their needs. Even comparatively lower income can be sufficient for food, housing, clothes, education, health services and such other basic and additional requirements in a small family. In a large family, a big part of family income is spent for basic needs such as food, accommodation and clothing and additional and quite vital needs such as education, health services, entertainment, communication, transportation and such cannot be easily afforded and quality life cannot be achieved. Therefore, Small family size is considered as one of the elements of quality of life.

**Q.20. What is the reason that health and health services are thought to be essential elements of quality of life? Explain.**

Ans: Good health status and quality health services and facilities are thought to be essential elements of quality of life. Low health status cannot make people happy and satisfied, even if they have achieved all the other elements of quality of life. On the other hand, healthy people also fall sick sometimes. In such case, they must be able to get good quality health facility. In a civilized society, health is taken as a precious thing and healthy manpower as pillar of nation building. Thus, nation must invest on keeping people healthy and to provide them with good health services

and facilities. But for such provision, population size must be small. Therefore, people themselves must always adopt the healthy habits to maintain a good health. But still, there is a big chance for people to fall sick even if they try to maintain their health. In such a situation, health services and facilities are vital elements of quality of life.

**Q.21. What points have to be considered by everyone to maintain a good health? Write few points.**

**Ans:** There are many things that people need to consider to remain physically and mentally healthy. A big problem in health maintenance for many is that they do not develop necessary healthy habits even if they know what they should and shouldn't do. Following things have to be considered to maintain good health.

- a. Balanced and nutritious food must be eaten.
- b. Individual and community cleanliness must always be done.
- c. Everybody must keep away from unhealthy habits such as smoking, drinking and drug abusing.
- d. They must have regular health checkups and timely treatment of diseases.
- e. There has to be management of clean and enough drinking water supply.
- f. Physical exercise must be done for fitness.
- g. Marriage and conception must be done at appropriate age and there must be good birth spacing.
- h. Everybody should have knowledge of primary health care and access to it.

**Q.22. Shade light on sanitation as an essential element of quality of life.**

**Ans:** Sanitation means the practice of protecting and promoting health by adopting hygienic ways. Sanitation includes practices such as cleanliness of body and surrounding, hygienic disposal and/or recycling of solid and liquid waste and such things. Unhealthy surrounding may cause spread of diseases. Clean environment keeps people away from many diseases. A lot of diseases spread because of dirty and unhealthy environment. Thus, people have to regularly and actively participate in cleaning themselves, surrounding and community. Environment must always be kept clean and green. Such practice can keep people healthy and happy by avoiding catching diseases and have quality of life. That is why sanitation is considered as an essential element of quality of life.

**Q.23. Highlight how education is an essential element of quality of life.**

**Ans:** Education is one of the few very much essential elements of quality of life. There is a Sanskrit saying which means that 'education is such a wealth which will neither be theft, nor be taken away, nor is divided between brothers, nor is heavy to carry'. It means to say that education is the greatest wealth for individuals. An educated person has better employment and income generating opportunities compared to an uneducated one. They can get skilful education and start their own

business. The families which have educated member are seen to be able to fulfil their basic and additional needs and desires easily because they have good source of income. In this way, education usually invites quality in people's life.

**Q.24. How do employment and income generation help people to attain quality of life? Make reasoning.**

**Ans:** Employment and income generating opportunities help individuals for their quality of life in an important way. Quality of life is almost impossible without occupation and a steady source of income. Family income is one of the vital elements of quality of life. Income provides people a source to spend money for fulfilling their necessities and desires. In this world, fulfilment of other needs such as education, health services, clothing, accommodation, entertainment and others is possible with the help of money. The more of the family members involve in employment and other income generating work, the more increase in their living standard. Therefore, men, women and elder members (if able) of the family must acquire skilful trainings and involve in income generation for family to have quality of life.

**Q.25. How does security help people to achieve quality of their life? Elucidate.**

**Ans:** Security provides people with an environment free of any fear and confusion for studying, working, moving from one place to another and etc. Security makes them sure of being free of any violence to them and they involve in their own activities out of any fear and hesitation. That situation results in people's satisfaction, happiness and thus, quality of life. It cannot be achieved where there is a situation of terror. If there are widespread social problems and criminal activities such as murder, rape, kidnap, gender violence, war, and such other violent situations, there is no security for people and there is no quality of life in such an insecure and fearful environment. A good security even shows positive changes in overall economic status of people. Industries, trade, tourism and other economic activities can develop well if there is good security in the country. When such activities develop, people's life also prospers and quality of life increases. This is how security helps in people's quality of life.

**Q.26. 'A habit of saving ensures one's better future.' Support this statement with few reasoning.**

**Ans:** A habit of saving ensures one's better future. Income without any savings cannot make future secure. If total income is spent for fulfilling needs of the family, there is no saving. In case of any urgency such as sickness if there is no saved money, family members have to bear a great stress. Because of such reasons, people should be able to do a regular saving out of their monthly income for future expenses such as education of children, their marriage, certain celebrations, and such. Therefore, expenses must be made economically for saving a part of monthly family income. If

people have habit of depositing savings in banks or cooperatives. On one hand they have financial security for future and on the other, their money is safe from threats such as robbery, theft etc. Additionally, interest adds to the savings. For these reasons, regular saving of money is considered an element of quality of life.

**Q.27. What is housing's role in attainment of quality of life? Describe.**

**Ans:** Housing has an important role in attainment of quality of life. Everybody must have a strong, reliable and healthy place of living. It protects them from heat, cold and criminal insecurities. Ownership of own house gives people a sense of pride, security and satisfaction. On the other hand, size of house has a direct relation with quality of life. If a large family lives in a small house, there obviously is lack of enough space for the whole family. Apart from that, communicable diseases may spread easily in such a poor accommodation and health is also affected. But if a small family has a house, there is enough space for everybody and life is more comfortable. Where there is separate enough space for cooking, sleeping, gathering, storage, latrine and other requirements inside house that raises quality of life of people.

**Q.28. What way do socio-cultural values impact quality of life in? Explain in a short paragraph.**

**Ans:** Socio-cultural values have direct relationship with quality of life. Among them all, some of the prevalent social problems and evil practices such as various forms of discrimination, untouchability, dowry, *jhuma*, *deuki*, *chhaupadi* systems, superstitious beliefs such as witchcraft and wizardry and such others have negative effects on quality of life. Similarly, alcoholism during celebrations, spending too much money in celebrations, imitation of others' life style and etc affect quality of life negatively. But very good socio-cultural practices such as gender, religious, lingual, regional equality, respect, tolerance, dignity of labour, sense of responsibility towards one another, keeping healthy environment, trying for social reforms and such others hold people's quality of life high. This is how socio-cultural values have either negative or positive impacts on quality of people's lives.

**Q.29. How is spiritual development linked with quality of life? Write your opinions regarding this.**

**Ans:** Spiritual development is closely linked with quality of life. Physical development is quite vital for a person's well-being. But equally important is their spiritual development. If a person has spiritual development, they have high moral character which enables them to distinguish between right and wrong. They generally are able to choose the right things which helps them avoid immoral activities and so, many problems in life. A spiritual person can manage their emotions well such as anger, sadness, over-joy, arrogance, sexual desire and such others. Such ability makes a person able to exhibit respectable image in society.

They are also able to maintain psychological balance and therefore are stress-free. Therefore, proper spiritual development is considered as one of the elements of quality of life.

**Q.30. What is understood by bases of quality of life? Clarify.**

Ans: Bases of quality of life means certain indicators which can be used to study whether people of a place have quality of life or not. Actually, quality of life cannot be measured easily. There is no similar opinion about the concept of quality of life and its measurement. In the past, a country's annual income and per capita income were used to measure people's quality of life. But those indicators cannot well reflect quality of life. High per capita income does not indicate people's expenditure priorities. For example, let's say a person has high income but s/he spends a huge part of their income on alcohol, gambling and drugs. There can be a lot of similar case in a place. So, only income cannot guarantee a person's quality of life. Measurement of quality of life must involve assessment of people's educational, health, socio-cultural, economic, emotional, spiritual and other attainment resulting in happiness and satisfaction. Such indicators related to peoples happiness and satisfaction from their life can be called bases of quality of life.

**Q.31. Define basic needs of humans according to contemporary trend.**

Ans: Basic needs of humans are those fundamental needs which must be fulfilled at any cost for their proper survival. Food, clothe and shelter are the most basic needs of humans. But nowadays, few more things are also added in the list of basic needs according to contemporary trend. The following needs are considered to be basic needs which must be easily fulfilled for quality of life.

- a. Food
- b. Housing/ accommodation
- c. Clothing
- d. Education
- e. Health
- f. Drinking water and sanitation
- g. Security
- h. Sex

**Q.32. How does fulfillment of basic needs determine whether or not one has quality of life? Explain.**

Ans: Quality of life can be measured by determining whether people are able to easily fulfil their basic needs or not. Their ability to fulfil their basic needs brings an improvement in their quality of life. When they don't have to always struggle for fulfilling their minimum requirements, it brings them satisfaction and happiness. If a person or a family has easy ability of fulfilling needs such as food, they have better quality of life. Similarly, one's ability of wearing clothe according to climate and trend, they have better quality of life. Likewise, ownership of a strong and healthy shelter

adds to quality in life. Other basic needs such as drinking water, health, security and others further increase quality of life. In this way, people's ability or inability to fulfil their basic needs easily heavily determines whether they have quality of life or not.

**Q.33. Shade light on the meaning of physical quality of life index and its importance to measure quality of people's life.**

**Ans:** Physical quality of life index refers to the indicator which shows the level of health status and educational attainment of a country. Such index considers that quality of life is not only related to economic prosperity but also to the services and facilities given by the state to its people. People cannot attain quality of life not only by their sole effort; state should also help them in attainment of quality of life. For example, if state does not provide people with health services and facilities and does not even allow private sector to operate such service, how can the people get such service? Therefore, state's investment on providing education, health, employment and such other services and opportunities can be reflected on people's quality of life in a country. That is why physical quality of life indexes are very important to measure quality of life of people.

**Q.34. What is quality of life? Describe the role of women in maintaining quality of life. [SLC 2066 E, 2070 A, N-PABSON 2070]**

**Ans:** Quality of life refers to the life style with full of happiness and satisfaction that fulfills socio-cultural, psychological and emotional needs including survival needs. In other words, quality of life means the method of existence of life along with happiness and satisfaction from the fulfillment of basic needs and other social, cultural and psychological needs of the people.

There is an equal role and responsibility of father and mother to maintain the high living standard in a family. For quality of life, all the family members have to be provided nutritious food, proper sanitation, education, security, etc. If the mother of family is equally participating to maintain a good health and income generating activities, the family will definitely have a quality of life. Moreover, if a women in a family is educated she can give positive attitude and good moral to a child which helps to attain quality of life. Therefore, there is equal role of women in maintaining quality of life.

**Q.35. Differentiate between quality of life and low quality of life.**

*[SLC Model Question 2065]*

**Ans:** Differences between the two are presented below:

- The quality of life is the basis of happiness but the low quality of life is the basis of dispute.
- The quality of life helps to get quality education but low quality of life does not help to get proper opportunity for quality education.
- Quality of life provides all kinds of basic physical needs of the family but low quality of life does not provide basic needs of the family.

**Q.36. a) Write down any three adverse effects of low quality of life.**

Ans: The adverse effects of low quality of life are as follows:

- i) It will be difficult to provide balanced diet and proper nutrition to all the family members.
- ii) It will be difficult to provide quality education to the children.
- iii) It will be difficult to provide basic health services, which will decline the health status of the individual.
- iv) The family members do not have the opportunities of quality education. As a result, they do not get prestigious job.
- v) The limited amount of income will not be sufficient for saving in the family of low quality of life. The increased needs cannot be fulfilled by the low income of the family. Thus, the living standard of the family tends to be lower and lower. (*Write any three*)

**b) Write down any two measures for ensuring quality of life.**

Ans: Following are the efforts for ensuring quality of life:

- i) To provide food, clothes, shelter, entertainment, education, security etc. easily, the family size should be small.
- ii) The alternate sources of income should be identified.
- iii) A part of income should be regularly saved.
- iv) Environmental, sanitation and personal cleanliness should be maintained. (*Write any two*)

**Q.37. "Quality of life may also be lacking in a financially sound family."**

*Justify.*

*[SLC 2060 A, 2068 DJ]*

Ans: Quality of life implies the degree of satisfaction one has in relation to the various aspects of human needs. Nutritious food, size of the family, health sanitation, education, income of the family, saving are some of the elements of quality of life. A financially sound family may have been provided with nutritious food, good health, better income and saving. These alone cannot enable them to live a quality life. The family also should have quality education, small family size, calm family environment, clear path of their children and other family members. Above all, all the members should be happy and satisfied. Due to lack of the things what they want, they may be unhappy and unsatisfied. Quality of life cannot exist in such a family. So, quality of life may also be lacked in a financially sound family.

**Q.38. How can we provide quality of life to ourselves?**

Ans: By following the given steps and efforts we can provide quality life to ourselves :

- a) Managing small family size
- b) Health and sanitation provision
- c) Provision of nutritious food
- d) Having/keeping proper birth spacing
- e) Increasing saving

- f) Maintaining gender equality
- g) Performing marriage at age
- h) Provision of quality education
- i) Giving proper attention on good health
- j) Focusing on environmental sanitation.

**Q.39.** "Two families having the same economic sources may have different quality of life." Justify this statement in brief with examples.

*[SLC 2061 B, 2070 B]*

**Ans:** The two families having the same economic source may have different quality of life because :

- a) Two different families may have dissimilar needs. Needs of some families are smaller that can be fulfilled with a limited income. But some families may have various needs that may not be fulfilled with the same income.
- b) Quality life also depends upon degree of satisfaction from the fulfilled needs. Some family may satisfy easily and some may expect more.
- c) In some families the family members may have very limited needs and expectation that can be fulfilled easily. Whereas in some families the family members may have unlimited needs which may not be fulfilled with their income.

**Q.40.** What are few things that are used to measure physical quality of life? Make a list of them.

**Ans:** Physical quality of life indexes are those indicators which are used to know whether people have quality of life or not. Only economic strength cannot guarantee quality of life of people. Therefore, some other indexes are used to measure it, which are not much connected to economic strength but are rather connected with facilities and status related to human well being. Below are the things used to measure the level of physical quality of life, which can be a basis to measure quality of life.

- a. Mortality Rate of Children under 5 Years of Age
- b. Life Expectancy Rate at Birth
- c. Literacy

**Q.41.** Introduce human development index.

**Ans:** Human Development Index is a measurement which indicates level of human development of a place/country which is calculated using three dimensions of human life; health status, educational attainment and economic status of people. This index is very useful basis to perceive the level of quality of life of a certain place because it includes not only economic condition of people but also two other factors which are much essential for achievement of quality of life; education and health status. Human Development Report is annually published by United Nations Development Programme (UNDP) on the basis of Human Development Index of different countries of the world.

**Q.42. What indexes are used for calculating human development index? Make their list.**

**Ans:** Human development index has been developed to measure the level of human development of a country or place. Some indicators of economic development were used to study a country's development. But it was realized later that such indicators didn't successfully indicate overall development of humans of a place. Therefore, human development index was started to observe the level of human development which uses few indexes who reflect different aspects of human development. Following are the indexes used by human development index.

- Life expectancy at birth:** It is the average expected life span of individuals of a place/ country. It indicates the health and its services received by the people there.
- Educational status:** Education is a very important aspect of human life at this age. Human developmental index uses educational status of people to see their human development.
- Per capita income:** It is average earning of individuals in a country/ place within a year.

**Q.43. How is human development index represented? Introduce.**

**Ans:** Human Development Index of a country is represented by a number, 3 digits after decimal, which is between 0 and 1. Countries of the world can be divided into four categories according to their HDI value. The countries are ranked according to their HDI value in the following way.

- Country having HDI value from 0.000 to 0.449- low human development
- Country having HDI value from 0.500 to 0.699- medium human development
- Country having HDI value from 0.800 to 0.799- high human development
- Country having HDI value from 0.800 to 1.000- very high human development

**Q.44. Show the top ten countries of the world in terms of human development according to Human Development Report of UNDP, 2015 AD.**

**Ans:** According to the Human Development Report of UNDP published in 2015 AD, following are the countries ranked top ten according to the highest HDI values.

HDI Rank	Country	HDI Value
1	Norway	0.944
2	Australia	0.935
3	Switzerland	0.930
4	Denmark	0.923

5	Netherlands	0.922
6	Germany	0.916
7	Ireland	0.916
8	USA	0.915
9	Canada	0.913
10	New Zealand	0.913

**Q.45.** What is the situation of SAARC countries in terms of HDI? Show their ranks and HDI value in a table.

**Ans:** Following table with HDI ranks and values of SAARC countries shows their human development status.

HDI Rank	Country	HDI Value
73	Sri Lanka	0.757
104	Maldives	0.706
130	India	0.609
132	Bhutan	0.605
142	Bangladesh	0.570
145	Nepal	0.548
147	Pakistan	0.538
171	Afghanistan	0.465

**Q.46.** Which indicator do you think is better to measure quality of life of Nepalese people? Illustrate with appropriate logic.

[SLC 2065 A, 2069 D, SEDIPS 2069, SOS 2069]

**Ans:** The basic indicators to measure quality of life of Nepalese are as follows:

- a) Nutritious food      b) Small family size
- c) Sound health      d) Sanitation
- e) Quality education      f) Sufficient income
- g) Security      h) Regular saving
- a) **Nutritious food:** Food is the prime necessity of family. For physical and mental development, nutritious food is necessary. Quality of life will become high only if we can provide nutritious food to all members of the family.
- b) **Small family size:** The needs of family members can be easily fulfilled if it is small. Proper care for children and better education is possible if we have small family size. If we have small family, quality of life increases.
- c) **Sound health:** Health is also one of the important and necessary factors for the quality of life. It becomes difficult to maintain quality of life without the sound physical and mental state.
- d) **Sanitation:** Sanitation makes the environment healthy and helps the members of the family to be healthy and active.

- e) **Quality education:** Education is taken as a powerful component among the necessary components for quality of life. It helps to utilise the modern materials and inventions for maintaining the quality of living standard of the family members.
- f) **Sufficient income:** The source of income is the measurement of the economic condition of the family. The income of the family can be increased by providing the income generating work to the idle house wives.
- g) **Security:** It should be provided for all members of the family, community and nation. The sense of security makes the people happy.
- h) **Regular saving:** It is the remaining amount of money after expenditure. Saving can be used for domestic and causal works. Saving can also be invested in income generating business.

Q.47. *Quality of life is essential for making life prosperous.*

a) *What are the essential elements of quality of life? [SLC 2057]*

- Ans: The essential elements for quality of life are as follows:
- i) Nutritious food                   ii) Family size
  - iii) Health and sanitation       iv) Quality education
  - v) Saving                           vi) Income of family
  - vii) Security

b) *Mention the reasons of high maternal and infant mortality rates in the family with low quality of life. [SLC 2061 A]*

Ans: The reasons of high maternal and infant mortality rates of the family with low quality of life are:

- i) Lack of proper health service
- ii) No proper management of delivery case during the period of maternity
- iii) Lack of nutritious diet
- iv) Lack of education
- v) Lack of maternity home
- vi) Traditional delivery system
- vii) No proper care of infants
- viii) Early marriage
- ix) Lack of sanitation facilities.

Q.48. *What is meant by determinants of happy life?*

Ans: Determinants of happy life means the factors which determine whether or not individuals have quality of life. Presence of such factors makes quality of life and their absence causes low quality life. Every family wants to have quality of life of its members. All want to be able to fulfil all of their basic and additional needs and be happy and satisfied. Each and every activity of people is generally targeted towards fulfilment of their own and their family's needs, bringing happiness and satisfaction in their life and improving their living standard. Factors such as small family size,

availability of education, marriage at appropriate age, first conception at appropriate age, proper birth spacing and some of such others bring quality in lives of individuals. If such factors are absent from their lives, they cannot have quality of life.

**Q.49. Discuss small-sized family as a determinant of happy life.**

**Ans:** Small-sized family is the one in which there are only few children of couple. If a family has one or two children, that family is called a small-sized family. Two children by a couple is thought to be ideal family size in context of Nepal. Small size of family is an important determinant of happy life. There is a frequently used saying, 'small family; happy family'. Though small family size may not be able to guarantee happiness of family members, it increases the possibility of it. It is easier to manage income, fulfil needs such as food, clothing, education, health services, entertainment, and so on in a small family. If family size is big, there is lack of means and resources and so family's needs are not easily fulfilled. Big family size may invite lacks and poverty whereas small family size invites ease of family management, fulfilment of needs, happiness and quality life.

**Q.50. How does quality education help people have happy life? Make a connection between them.**

**Ans:** Education is the process of learning new things and adopting them in life. It lets us learn new areas of knowledge and teaches us professional and life skills. People having quality education are capable because they have developed knowledge and skills in particular field. They have higher employment opportunities compared to uneducated persons. Those with higher level of education have chance of higher level of job and income. Such people can have their own business and be self employed because of the skills that they have acquired through education and different training. Education even helps to give up bad practices and perversions like social problems and evil practices because education enlightens people. For such reasons, quality education is taken as a very important determinant of happy life.

**Q.51. Why is marriage at appropriate age essential for happy life? Elucidate.**

**Ans:** Marriage should be done at appropriate age to bring happiness in life. If one marries when s/he has completed education, has got reliable and steady job, is physically and mentally ready to marry and parent, they can be happy in future. Marriage should be done at appropriate age and conditions. Only mature, ready and independent persons can manage their own family. Once people are married, the parents and guardians keep their family in their own hand. The couple has to take care of their own family. If they are not mature and earning, they cannot manage family and raise children. On the other hand, people married at early age often have to face many challenges to their physical and psychological health. That is why marriage should be done at appropriate age and conditions to be happy in life.

**Q.52. What is the appropriate age for first conception? Why? Explain.**

**Ans:** First conception at appropriate age means being pregnant to the first baby by a woman neither when she is too young nor too old for conception. Conception between 20 to 30 years of age is generally thought to be first conception at an appropriate age. First conception has to be done when girl is mature and physically and mentally ready to be a mother. Father should also be mature as well as mentally and financially prepared to father his child and to raise it. First conception at too early age does not do any good but instead puts the life of mother as well as child in danger. Either one or both can die if the mother is too young. Only after a girl crosses the age of 20 years, she can have first conception because at that age, there is complete development of her reproductive organs. Apart from that, couple has to have finished education and a reliable and steady income source. In such situation, happiness can be gained.

**Q.53. What is the role of proper birth spacing in inviting happiness in life?**

**Discuss.**

**Ans:** Birth spacing is the time interval between births of two babies. Enough birth spacing is necessary for well being of mother, children and other members of family too. That is because it affects quality of people's life. Enough birth spacing gives better health to mother and the children, which makes family life happy. There should be a gap of at least 4-5 years between the births of two babies of the same parents. In such a case, both babies can grow healthily with care, love and enough attention of parents. Not only of babies, but also the mother's health is good if there is enough birth spacing. Babies born with enough birth spacing are physically and mentally healthier. Enough birth spacing can bring happiness in family.

**Q.54. Describe the relationship between health and sanitation and happy life.**

**Ans:** Health and sanitation are very important for happy and quality life. Healthy people are generally happier in life than sick people. Good health of individuals has a positive effect on physical, psychological, emotional and social health of a whole family. Healthy people can work properly and earn income for the family. Healthy children can study well. Good health of whole family saves family's money because it needs not be spent much frequently on treatment and medicine. But to remain healthy, people must focus on sanitation. Their personal hygiene, sanitation of their home and of surrounding have to be seriously taken care of. Streets, public places, house and the whole surrounding should be kept clean and healthy all the time with the effort of everybody.

**Q.55. 'Nutritious food and happiness in life are closely connected.' Justify.**

**Ans:** Nutritious food is very much necessary for happiness and quality of life. Nutritious food helps one remain physically and mentally healthy as well as to fight with diseases. Ultimately, it makes them happy because of good health. It is said that we are what we eat. It tries to mean that our health reflects what we eat. If we usually eat unhealthy food and beverage, our health surely is not good. But if we eat clean, healthy and

nutritious balanced diet, our health is good. A nutritious balanced diet helps a person to be physically and psychologically healthy because it gives them all the necessary nutrients required for their body per day. Nutritious food also enhances people's immunity and helps the fight with diseases. Thus, to be healthy and happy, nutritious food has to be eaten.

**Q.56. 'Every family must have gender equality for happiness in everybody's life.' Support this statement with logic.**

**Ans:** Gender equality is the condition in which all the genders are equally treated by all. There is no discrimination between boys and girls of a family if there is gender equality there. It should be a big priority of every family to have gender equality in it to bring happiness and quality life for each of the family members. Gender equality creates a situation of happiness and satisfaction for sons and daughters, husband and wife, and etc. Gender equality gives happiness and satisfaction in everybody's life not only in the life of a specific gender. It guarantees equal opportunities of education, health services, food, clothing and all for everybody in family. That makes a lovely and harmonious relationship among all the family members and generates happiness there for all.

**Q.57. What is the responsibility of parents and children to bring happiness in each other's life? Explain.**

**Ans:** Everybody has to fulfil their responsibility honestly towards their family to have quality in all family members' life. Grandparents, parents and children; all have to be responsible towards their family to bring happiness and quality of life in their family. It is parents' responsibility to fulfil all the needs of family. They have to generate income, manage expenses, to give their children nutritious food, clothing, accommodation, quality education, health services and all. When parents bear all of their responsibilities towards their family with very high priority, their children are brought up healthily plus happily and become good persons in future. Such proper bearing of responsibilities by parents brings happiness and quality in life of family members. At the same time, children of the family must also fulfill their responsibilities towards family to bring happiness and satisfaction there.

**Q.58. How can saving add to the happiness of people? Describe in short.**

**Ans:** Saving can add to the happiness and quality of life to the people who save. A part of family income should be saved regularly after making the expenses in economic manner. All the necessary spending on basic and additional needs should be done but there should not be any unnecessary expenses. Families need to develop a habit of saving. Savings can be done in bank or cooperative, which pays interest and secures savings from theft, lost and robbery. Such saving is very helpful for future need of money such as for children's education, health expenses and so on and keeps families from taking loan in high interest from banks or rich people. Saving lets the saver to feel a sense of financial security. But saving without fulfilling present needs cannot bring happiness and quality of life.

**Q.59. Clarify the meaning of human development index in a paragraph.**

**Ans:** Human development index (HDI) is an indicator of how humans have developed in various aspects of their life such as health, education and economy. It is a measurement of human development which uses indicators of income level, educational attainment and life expectancy to evaluate development level of humans in various spheres of life. Human development refers to development of a place in different areas affecting human life such as education, health services, economy, communication, transportation, per capita income, life expectancy, security, equality and such. Human development helps rise happiness and quality of life of people. HDI, as discussed above, is an indicator of human development calculated using few dimensions of human life which are some of the responsible factors to bring happiness and quality of life of people; education, health and income. It is often argued that human development and quality of life are complementary to each other.

**Q.60. Why do people need quality of life? Explain briefly.**

**Ans:** Quality of life has a great need and importance. It is everybody's wish to live a comfortable, happy and satisfactory life. So, it is not unnatural for anybody to want to fulfil all of their needs easily. In this age of physical development and competitiveness, quality of life is highly focused because this concept promotes the efforts to achieve higher living standards. Therefore, concept of quality of life has a great need and importance. In this age of material happiness, human life is not thought to be successful until and unless they achieve quality of life. Every activity of average human is targeted towards achieving it. All the development and advancement of science and technology have been done for bringing about ease and comfort in human life. If all the people are able to acquire quality of life in a country, it is thought to be developed. So, quality of life is very necessary and important. Needs and importance of it are discussed in detail in the below points.

**Q.61. What can you do to increase quality of life of your family? Write some creative and convincing ideas.**

**Ans:** There are numerous ways by which I can make my family have quality of life. The following are few of them.

- i. I can do some job when I grow up and earn money so that it can be spent for family expenses. Family income and savings increase if I also earn.
- ii. I shouldn't demand for money unnecessarily with my parents so that they can make some savings.
- iii. I have to treat everybody in the family equally. Equality increases satisfaction and happiness.
- iv. I should fulfill all of my responsibilities well so that there is no misunderstanding and I can keep my family members happy.

**Q.62. Are you having quality of life or not in your opinion? Write your logic about why you think so.**

Ans: I think I am having good quality of life although I do not belong to a very rich family. My family belongs to middle class. We have a small family size. We children go to school. My father does a job and earns. My mother is a farmer. We have a piece of land which she uses and produces some crops. Crops become sufficient for us and there is a little *surplus* too. We sell *surplus crops*. Out of father's and mother's income, we can save a little amount of money every month. We have a small house. My family is happy and satisfied because it is able to fulfil all of its basic and additional needs. Therefore, I am obvious that I am having a good quality of life.

Surplus = saving, saved

surplus crop = saved crops, extra crops remained after using for one's own self

**Q.63. What are some of the determinants of quality of life? Explain.**

Ans: Quality of life is that state of human life where people are happy and satisfied because they are able to fulfil all of their needs and desires. There are some determining factors which make people have quality of life. Some of them are as mentioned below.

- i. Quality balanced food
- ii. Clothe according to climate and trend
- iii. Housing
- iv. Education
- v. Equality
- vi. Spiritual satisfaction
- vii. Overall happiness and satisfaction

**Q.64. Highlight relation of women empowerment and quality of life.**

Ans: Women empowerment is an important element for quality of life. There should be no gender discrimination in families and societies for having quality of life. People need to be educated, conscious and treat everybody equally so that all members of society including females can have quality of life. Females should not be oppressed in societies. If women are given equal opportunity of quality education and employment as men, their living standard rises. They get equal opportunity of participating in various sectors of human life; economic, political, social, cultural, creative and so on. They can be independent and thus empowered in a society which has quality of life.

**Q.65. How have the countries been classified into various categories in terms of human development index? Clarify.**

Ans: Countries of the world can be divided into four categories according to their HDI value. The countries are ranked according to their HDI value in the following way.

**Q.62. Are you having quality of life or not in your opinion? Write your logic about why you think so.**

Ans: I think I am having good quality of life although I do not belong to a very rich family. My family belongs to middle class. We have a small family size. We children go to school. My father does a job and earns. My mother is a farmer. We have a piece of land which she uses and produces some crops. Crops become sufficient for us and there is a little *surplus* too. We sell *surplus crops*. Out of father's and mother's income, we can save a little amount of money every month. We have a small house. My family is happy and satisfied because it is able to fulfil all of its basic and additional needs. Therefore, I am obvious that I am having a good quality of life.

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**Q.65. How have the countries been classified into various categories in terms of human development index? Clarify.**

Ans: Countries of the world can be divided into four categories according to their HDI value. The countries are ranked according to their HDI value in the following way.

- i. Country having HDI value from 0.000 to 0.449- low human development
- ii. Country having HDI value from 0.500 to 0.699- medium human development
- iii. Country having HDI value from 0.800 to 0.799- high human development
- iv. Country having HDI value from 0.800 to 1.000- very high human development

Q.66. *What are the bases of measurement of human development index?*

*Clarify.*

Ans: HDI considers health, education and good economic standard as key dimensions of human development. The measurement of HDI is done on the following bases.

- a. Healthy and long life- measured using country's life expectancy.
- b. Educational attainment- measured using indicators such as adult literacy rate and enrollment ratio in primary, secondary and higher secondary level of education.
- c. Good living standard- measured using per capita income, gross domestic product, purchasing power and etc.

Q.67. *Which organization prepares human development index? How is this index useful for countries? Explain in brief.*

Ans: United Nations Development Programmes (UNDP), a specialized agency of United Nations, studies the condition of human development of different countries of the world and calculates HDI of those countries following a certain formula and procedure. Such measurement is used for preparing the rank of countries in terms of human development. HDI is useful because it is possible to compare the countries in terms of their human development with the help of HDI. It is also helpful to compare a country's human development status in the past and at the present. Using HDI, countries can formulate plans and policies for the future. If a country has low HDI value, it can make future plans and strategies for having higher human development. Due to these reasons, HDI is very useful for the countries.

**(C) Long Questions–Answers**

**7 Marks Each**

Q.1. *Enlist the elements of quality of life and explain any four of them.*

Ans: There are few things without which people cannot have quality in their lives. Such things are called elements of quality of life. The major elements which make people able to have quality of life are listed and discussed below.

- A) **Nutritious Food:** Nutritious food is required for maintenance of good health. It makes people physically and mentally healthy. A regular balanced diet provides them with their physical, mental and emotional development. Body's power to fight with diseases reduces

and diseases easily catch them who do not eat nutritious food. Therefore, nutritious food should be eaten by everybody for quality of life and responsible members of family must manage for it.

- B) Family Size:** Small family is easily manageable. All basic and additional needs can be fulfilled in easier way for each family member if it is small. For a large family, huge income is needed for fulfilling all of their needs. Even comparatively lower income can be sufficient for food, housing, clothes, education, health services and such other basic and additional requirements in a small family. In a large family, a big part of family income is spent for basic needs such as food, accommodation and clothing and additional and quite vital needs such as education, health services, entertainment, communication, transportation and such cannot be easily afforded and quality life cannot be achieved. Therefore, Small family size is considered as one of the elements of quality of life.
- C) Health and Health Services:** Good health status and quality health services and facilities are another element of quality of life. Low health status cannot make people happy and satisfied, even if they have achieved all the other elements of quality of life. On the other hand, healthy people also fall sick sometimes. In such case, they must be able to get good quality health facility. In a civilized society, health is taken as a precious thing and healthy manpower a pillar of nation building. Thus, nation must invest on keeping people healthy and to provide them with good health services and facilities. But for such provision, population size must be small. Therefore, people themselves must always adopt the healthy habits to maintain a good health.
- D) Housing:** Everybody must have a strong, reliable and healthy housing. It protects them from heat, cold and criminal insecurities. Ownership of own house gives people a sense of pride, security and satisfaction. On the other hand, size of house has a direct relation with quality of life. If a large family lives in a small house, there obviously is lack of enough space for the whole family. Apart from that, communicable diseases may spread easily in such a poor accommodation and health is also affected. But if a small family has enough space for everybody and life is more comfortable. Where there is separate enough space for cooking, sleeping, gathering, storage, latrine and other requirements inside house that raises quality of life of people.
- E) Education:** There is a Sanskrit saying which means that 'education is such a wealth which will neither be theft, nor be taken away, nor is divided between brothers, nor is heavy to carry'. It means to say that education is the greatest wealth for individuals. An educated

person has better employment and income generating opportunities compared to an uneducated one. They can get skillful education and start their own business. The families which have educated member are seen to be able to fulfill their basic and additional needs and desires easily because they have good source of income. In this way, education usually invites quality in people's life.

- F) Sanitation
- G) Income and Employment Opportunity
- H) Security
- I) Saving
- J) Socio-cultural Values
- K) Proper spiritual Development

Q.2 *Describe some of the bases of quality of life in detail.*

Ans: Quality of life is a difficult thing to measure because it is based on abstract things such as happiness and satisfaction. But still, there are some bases used to measure quality of life, which are listed and described below.

- A) Basic Needs: Quality of life can be measured by determining whether people are able to easily fulfill their basic needs or not. Their ability to fulfill their basic needs brings an improvement in their quality of life. When they don't have to always struggle for fulfilling their minimum requirements, that brings them satisfaction and happiness. Fulfillment of basic needs started to be taken as basis of economic prosperity since the decade of 1990. Economic prosperity is one of the main bases for quality of life. Hence, economic prosperity is directly related to quality of life because it enables fulfillment of basic needs.

Our country Nepal started to set target of fulfillment of people's minimum needs from sixth periodic plan (Sixth Five-year Plan, 2037-42 BS) by accepting that basic need fulfillment is a basis of quality of life. The following needs are considered to be basic needs which must be easily fulfilled for quality of life.

- a. Food

attain quality of life not only by their sole effort; state should also help them in attainment of quality of life. For example, if state does not provide people with health services and facilities and does not even allow private sector to operate such service, how can the people get such service? Therefore, state's investment on providing education, health, employment and such other services and opportunities can be reflected on people's quality of life in a country.

Below are the things used to measure the level of physical quality of life which can be a basis to measure quality of life.

- a. Mortality Rate of Children under 5 Years of Age
- b. Life Expectancy Rate at Birth
- c. Literacy

C) **Human Development Index (HDI):** Human Development Index is a measurement which indicates level of human development of a place/country which is calculated using three dimensions of human life: health status, educational attainment and economic status of people. This index is very useful basis to perceive the level of quality of life of a certain place because it includes not only economic condition of people but also two other factors which are much essential for achievement of quality of life: education and health status. Human Development Report is annually published by United Nations Development Programme (UNDP) on the basis of Human Development Index of different countries of the world. The following indexes are used by HDI as the indicators of health, educational, and economic status of people.

- a. Life expectancy at birth
- b. Educational status
- c. Per capita income.

Human Development Index of a country is represented by a number, 3 digits after decimal, which is between 0 and 1. Countries of the world can be divided into four categories according to their HDI value. The countries are ranked according to their HDI value in the following way.

- i. Country having HDI value from 0.000 to 0.449- low human development
- ii. Country having HDI value from 0.500 to 0.699- medium human development
- iii. Country having HDI value from 0.800 to 0.799- high human development
- iv. Country having HDI value from 0.800 to 1.000- very high human development

**(D) Write short notes on the following.**

**Q.1. *Maternal and child welfare***

Ans: Maternal welfare is the system of providing health and other care to a woman during her reproduction. She must be given a proper love, care and health services when she is pregnant, under childbirth and in neonatal period. Child welfare is process of providing health care for an infant and a child. In other words, Maternal and child welfare refers to health services to pregnant, and breastfeeding women and babies which are in womb and those who are under 5 years of age. In societies where many of the people do not have quality of life, there is high maternal and child mortality because of no or very low facilities of maternal and child welfare. Such facilities make the health of mother and children good. These facilities are well only where there is quality of life.

**Q.2. *Human Development Index***

Ans: Human development Index is an indicator of human development calculated using few dimensions of human life which are some of the responsible factors to bring happiness and quality of life of people; education, health and income. Concept of human development was introduced by United Nations Development Programme (UNDP) in 1990 AD. It is often argued that human development and quality of life are complementary to each other. UNDP analyses the condition of human development of different countries of the world and calculates HDI of those countries following a certain formula and procedure. Such measurement is used for preparing the rank of countries in terms of human development. HDI makes it possible to compare the countries in terms of their human development. It is also helpful to compare a country's human development status in the past and at the present. Using HDI, countries can formulate plans and policies for the future. That is why HDI has become an important factor or measuring level of development and quality of life of people in different places of the world as well as for making future plans for development there.

**Q.3. *Family size and quality of life***

Ans: Family size and quality of life are quite related. Small family size is advisable for proper management of it. Small family is easily manageable. All basic and additional needs can be fulfilled in easier way for each family member if it is small. For a large family, huge income is needed for fulfilling all of their needs. Even comparatively lower income can be sufficient for food, housing, clothes, education, health services and such other basic and additional requirements in a small family. In a large family, a big part of family income is spent for basic needs such as food, accommodation and clothing and additional and quite vital needs such as education, health services, entertainment, communication, transportation and such cannot be easily afforded and quality life cannot be achieved. Therefore, Small family size is considered as one of the elements of quality of life.

**Q.4. Habit of saving**

Ans: Habit of saving is taken as one of the elements of quality of life. Income without any savings cannot make future secure. If total income is spent for fulfilling needs of the family, there is no saving. In case of any urgency such as sickness if there is no saved money, family members have to bear a great stress. Because of such reasons, people should be able to do a regular saving out of their monthly income for future expenses such as education of children, their marriage, certain celebrations, and such. Therefore, expenses must be made economically for saving a part of monthly family income. If people have habit of depositing savings in banks or cooperatives, on one hand they have financial security for future and on the other, their money is safe from threats such as robbery, theft etc. Additionally, interest adds to the savings. For these reasons, regular saving of money is considered an element of quality of life.

**Q.5. Responsible parents**

Ans: It is often argued that responsible parents can bring happiness in family. With it, there comes satisfaction and quality in everybody's life in a family. It is parents' responsibility to fulfil all the needs of family. They have to generate income, manage expenses, to give their children nutritious food, clothing, accommodation, quality education, health services and all. When parents bear all of their responsibilities towards their family with high priority, their children are brought up healthily plus happily and become good persons in future. Such proper bearing of responsibilities by parents brings happiness and quality in life of family members.

***Gender equality and its relation with quality of life***

Gender equality is related to quality of life. In a family and society where there is inequality of gender, at least half the population there is deprived of happiness, satisfaction and thus, quality of life. It should be a high priority of every family to have gender equality in it to bring happiness and quality life for each of the family members. Gender equality creates a situation of happiness and satisfaction for sons and daughters, husband and wife, and etc. it guarantees equal opportunities of education, health services, food, clothing and all for everybody in family. That makes a lovely and harmonious relationship among all the family members and generates happiness there for all.

**Q.7. Sanitation**

Ans: Sanitation means the practice of protecting and promoting health through hygienic measures. Sanitation includes practices such as cleanliness of body and surrounding, hygienic disposal and/or recycling of solid and liquid waste and such things. Unhealthy surrounding may cause spread of diseases. Thus, people have to regularly and actively participate in cleaning themselves, surrounding and community. Environment must always be kept clean and green. Such practice can keep people healthy and happy by avoiding catching diseases and have quality of life.

**(E) Give reason why?**

**Q.1.** *Quality of life is a complicated concept.*

Ans: Concept of quality of life promotes families to achieve a high level of living standard being happy and satisfied with every need fulfilled. But concept of quality of life is a little complicated. Quality of life is measured on the basis of happiness, satisfaction and such abstract feelings that humans experience. But sometimes measuring quality of life on such abstract bases can be complicated. In same conditions of fulfilment of all necessities, everybody may not be equally happy and satisfied. Experience of happiness and satisfaction can be of different level from person to person. Some people are not happy and satisfied even if they are quite able to fulfil all of their needs very easily. Therefore, quality of life though is a good concept because it promotes raising living standard of people, is difficult to define and is a little complicated.

**Q.2.** *Happy and quality life cannot be imagined without security.*

Ans: Security provides people with an environment free of any fear and confusion for studying, working, moving from one place to another and etc. Security gives them assurance of being free of any violence to them and they involve in their own activities out of any fear and hesitation. That situation results in people's satisfaction, happiness and thus, quality of life. It cannot be achieved where there is a situation of terror. If there are widespread social problems and criminal activities such as murder, rape, kidnap, gender violence, war, and such other violent situations, there is no security for people and there is no quality of life in such an insecure and fearful environment.



**Unit  
6**

## **Natural Resources and Biodiversity**

Specification Grid of the Unit

SN	Level	Type	Number	Marks
1	Knowledge	Very Short + Long*	1+1	1+7
2	Understanding			
3	Application			
4	High ability	Short	1	4
* Long question may or may not be asked from the chapter.		Total	3	12

### **Ways with the Lesson**

- Natural resources are the elements created by nature, which humans utilize for their survival and development.
- Biodiversity is the presence of varieties of flora and fauna in a particular region. Biodiversity of a place includes a lot of plants and animals which make up the ecosystem of the place.
- There can be three types of biodiversity; ecosystem diversity, species diversity and genetic diversity.
- Nepal has many types of ecosystems in which varieties of biodiversity can be found, though great many of the plants and animals have become endangered.
- Biodiversity is very important because it gives humans agricultural products, animal products, plant products, helps in soil conservation, watershed conservation and much more.
- It is quite necessary to conserve biodiversity. It can be done through measures such as awareness campaigns, institutions-community partnership, utilization of religious beliefs, programmes through local bodies, and establishment of conservation areas and so on.
- Three ecological belts of Nepal have their own types of biodiversity. Distinct plants and animals are found there. But their ecosystems and biodiversities are at danger due to particular reasons.
- Such biodiversity which includes many rare and useful plants and animals should be conserved in time using possible measures to prevent them from being extinct.

(A) Very Short Questions—Answers	1 Mark Each
<i>Q.1. Define natural resources.</i>	
<i>Ans:</i> Natural resources are various component of nature which are created by nature itself and which humans use for their survival and economic development.	
<i>Q.2. Into how many types can natural resources be divided according to availability and renewability? What are they?</i>	
<i>Ans:</i> Natural resources can be divided into three type: perpetual, renewable and non-renewable.	
<i>Q.3. What type of natural resource can be called perpetual natural resources?</i>	
<i>Ans:</i> Perpetual natural resources are the kind of natural resource that do not finish up how much humans use them such as solar and wind energy.	
<i>Q.4. What is renewable natural resource?</i>	
<i>Ans:</i> Renewable natural resources are the ones which deplete after continuous use but can be regenerated/ reproduced with some efforts such as soil and forest resources.	
<i>Q.5. Define non-renewable natural resources in your own words.</i>	
<i>Ans:</i> Non-renewable resources are those which cannot be renewed through any means and once these resources are used up they cannot be re-created, such as minerals, petroleum and so on.	
<i>Q.6. How are natural resources helpful for humans?</i>	
<i>Ans:</i> Natural resources are so helpful for humans that they cannot even survive without such resources. They are the basis for survival and economic development for humans.	
<i>Q.7. Write few examples of perpetual natural resources.</i>	
<i>Ans:</i> Solar energy, wind energy and tidal energy are some examples of perpetual natural resources.	
<i>Q.8. What are some examples of renewable natural resources?</i>	
<i>Ans:</i> Forest, water, wood, and soil resources are few examples of renewable natural resources.	
<i>Q.9. Provide names of some non-renewable natural resources.</i>	
<i>Ans:</i> Petroleum and minerals are few examples of non-renewable natural resources.	
<i>Q.10. What does geo-diversity mean?</i>	
<i>Ans:</i> Geo-diversity means diversity of geographical conditions.	
<i>Q.11. What type of natural resources does solar energy belong to?</i>	
<i>Ans:</i> Solar energy belongs to perpetual natural resources.	
<i>Q.12. Define biodiversity.</i>	
<i>Ans:</i> Biodiversity is the number and variety of plants, animals and other organisms that are found in a certain place.	
<i>Q.13. What should be done to maintain biodiversity?</i>	
<i>Ans:</i> Natural environment should be balanced and conserved to maintain biodiversity.	

*Conservation is one conservation measure for biodiversity that can be adopted in my locality.*

**Q.16. How does conservation of biodiversity help in existence of living beings?**

*[SLC 2061 A]*

Ans: Conservation of biodiversity helps in existence of living beings by conserving their natural habitat and basis of their survival.

**Q.17. Write any one importance of biodiversity.** *[SLC 2061 E]*

Ans: Availability of agricultural products is one importance of biodiversity.

**Q.18. What are the different types of biodiversity?**

Ans: Ecosystem diversity, genetic diversity and species diversity are the different types of biodiversity.

**Q.19. Define ecosystem diversity.**

Ans: Ecosystem diversity or ecological diversity is the number and variations in the ecosystems found in any area or over the whole planet.

**Q.20. Clarify the meaning of ecosystem.**

Ans: Ecosystem is system of interaction between living beings and non-living things that helps in continuation of living organisms in a particular place.

**Q.21. What is genetic diversity?**

Ans: Variation in the genes of organisms within the same species is the genetic diversity.

**Q.22. Give meaning of species diversity.**

Ans: Diversity of group of organisms composed of related individuals that look like one another and can breed among themselves is called species diversity.

**Q.23. How many species of birds are found in Nepal?**

Ans: 867 species of birds are found in Nepal till date.

*(Source: Nepal Fourth National Report to the Convention on Biological Diversity, by the Ministry of Forest and Soil Conservation in 2009)*

**Q.24. What kind of vegetation is Yarsagumba?**

Ans: An organism which is mixed structure of fungus and dead caterpillar is called Yarsagumba.

**Q.25. In which ecological region of Nepal is yarsagumba found?**

*[SLC Model Question 2061]*

Ans: Yarsagumba is found in Nepal in Himalayan ecological belt.

**Q.26. What is the main reason of gradual extinction of yarsagumba?**

Ans: Over exploitation for smuggling is the main reason for gradual extinction of yarsagumba.

**Q.27. How many species of butterflies are found in Nepal?**

Ans: 640 species of butterflies can be found in Nepal.

**Q.28. Where is the primary residence of one-horned rhinoceros in Nepal?**

Ans: Chitawan and Bardia National Parks are the main residences of one-horned rhinoceros in Nepal.

**Q.29. Write what the most appropriate measure to control hunting is.**

Ans: Involvement of local people in hunting control is the most appropriate measure to control hunting of wild animals.

**Q.30. In which ecological region of Nepal is rare plant jatamasi found?**

Ans: Rare plant jatamasi is found in Himalayan Region in Nepal.

**Q.31. Which part of the plant Himalayan yew (lauchsalla) can be used to cure cancer of early stage?**

Ans: Leaves of Himalayan yew (lauchsalla) can be used to cure cancer of early stage.

**Q.32. Write one example of in-situ biodiversity conservation. [SLC 2065 D]**

Ans: Establishment of national parks is one example of in situ biodiversity conservation.

**Q.33. How many species of mammals are found in Nepal? [SLC 2065 E]**

Ans: 181 species of mammals are found in Nepal.

**Q.34. Which group does cordyceps (yarsagumba) belong to? [SLC 2065 E]**

Ans: Cordyceps (yarsagumba) belongs to mould group.

**Q.35. Which rare reptile is found in Nepal? [SLC 2061 B]**

Ans: Asiatic rock python is one of the rare reptiles found in Nepal.

**Q.36. What is ex-situ conservation? [SLC 2061 D, 2065 B, C]**

Ans: Conservation of animals and plants in a place that is different from their place of origin and is in a supervision of humans is called ex-situ conservation.

**Q.37. Write any of the importance of biodiversity. [SLC 2065 A]**

Ans: Availability of forest products is one importance of biodiversity.

**Q.38. Why is conservation of biodiversity required?**

Ans: Conservation of biodiversity is required for protecting species of flora and fauna.

**Q.39. Write any one method to control illegal hunting.**

Ans: Implementation of strict law can be one method to control illegal hunting.

**Q.40. Write one name of a rare animal found in Nepal.**

Ans: Royal Bengal tiger is name of a rare animal found in Nepal.

**Q.41. Name a rare plant found in Nepal.**

Ans: Himalayan yew (lauchsalla) is a rare plant found in Nepal.

**Q.42. Name a rare fish found only in Nepal. [SLC 2062 A]**

Ans: Jalkapur is the name of rare fish found only in Nepal.

**Q.43. Write name of one of the rare plants of Nepal.**

Ans: Serpentine (sarpaganda in Nepali) is name of one of the rare plants of Nepal.

- Q.44.** Name any one rare and protected plant of our country. [SLC 2062 B]  
Ans: Yarsagumba is one rare and protected plant of Nepal.
- Q.45.** Which is one rare bird found in Nepal? [SLC 2062 C]  
Ans: Giant pied hornbill is one rare bird found in Nepal.
- Q.46.** In which geographical region is rare plant jatamasi found? [SLC 2065 C]  
Ans: Jatamasi is found in upper Hilly Region of Nepal.
- Q.47.** Write one use of Himalayan yew (lauthsalla). [SLC 2062 D]  
Ans: One use of Himalayan yew (lauthsalla) is treatment of cancer in early stage.
- Q.48.** Which geographical region of Nepal is the bird giant pied hornbill found? [N-PABSON 2070, SLC 2070 D]  
Ans: The bird giant pied hornbill is found in Terai including Inner Terai of Nepal.
- Q.49.** Where is golden michelia (champ) found in Nepal?  
Ans: Golden michelia (champ) is found in Mid-hilly Region of Nepal.
- Q.50.** Which species diversity is more in Nepal in the animal kingdom?  
Ans: Bird species diversity is more in Nepal than any other species diversity among the species of animal kingdom.
- Q.51.** Which topographical region does serpentina (sarpaganda) grow in? [SLC 2062 B]  
Ans: Serpentina (sarpaganda) grows in Terai and lower Hilly Region up to height of 1200 m above sea level.
- Q.52.** At what range of altitude does dactylorhiza (panch aunle) found in Nepal?  
Ans: Dactylorhiza (panch aunle) is found in Nepal at altitude range of 2300 to 3600m above sea level.
- Q.53.** What number of plant species is under cultivation in Nepal?  
Ans: 153 plant species are under cultivation in Nepal.
- Q.54.** What is a rare mammal found in Nepal which has medium body size and scales over its body, which is found in Hilly Region of Nepal?  
Ans: A rare mammal found in Nepal which has medium body size and scales over its body, which is found in Hilly Region of Nepal is pangolin (saalik in Nepali).
- Q.55.** Name a rare plant found in Terai, which can be used by blood pressure patients.  
Ans: A rare plant found in Terai, which can be used by blood pressure patients is serpentina (sarpaganda).
- Q.56.** How many amphibian species are found in Nepal?  
Ans: 43 amphibian species are found in Nepal.
- Q.57.** How many species of reptiles are there under protected creatures in Nepal?  
Ans: 3 (three) species of reptiles are there under protected creatures in Nepal.

- Q.44.** Name any one rare and protected plant of our country. [SLC 2062 B]  
Ans: Yarsagumba is one rare and protected plant of Nepal.
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**Q.70. Write names of two reptiles protected in Nepal.**

Ans: Ghariyal Crocodile (*Ghadiyal goli*) and golden monitor (*sungohoro*) are the names of two of the protected reptiles of Nepal.

**Q.71. Write any one adverse effect on biodiversity due to human activity.**

Ans: Degradation of ecosystem due to human activities is an adverse effect on ecosystem.

**Q.72. What is the average weight of Asiatic rock python?**

Ans: Average weight of Asiatic rock python is 90 kg.

**Q.73. Write names of two rare plants of Himalayan Region.**

Ans: Spike nard (*jatamasi*) and dactylorhiza (*panch aurie*) are two of the rare plants of Himalayan Region of Nepal.

**Q.74. Provide any two examples of in-situ conservation.**

Ans: Establishment of National park and wildlife reserve can be two examples of in-situ biodiversity conservation.

**Q.75. Write full form of B.C.N.**

Ans: B.C.N. stands for Bird Conservation Nepal; a conservation organization.

**Q.76. Mention any one cause of rareness of vegetation and animals.**

Ans: Smuggling of parts and organs of rare plants and animals is one cause of rareness of vegetation and plants.

**Q.77. Write any one major cause of rareness of clouded leopard in Nepal.**

Ans: Any one major cause of rareness of clouded leopard in Nepal is its illegal hunting for selling its skin and teeth.

**Q.78. What is the main function of gene?**

Ans: The main function of gene is to transfer hereditary character from parents to their offspring.

**Q.79. For the treatment of which disease is serpentina used?**

Ans: Serpentina (*sarpaganda*) is used for treatment of diseases related to blood pressure.

**Q.80. At what range of altitude is golden michelia (champ) found?**

Ans: Golden michelia (*champ*) is found in Nepal between 600m to 1500m above sea level.

**Q.81. For what benefit do people hunt giant pied hornbill?**

Ans: People hunt giant pied hornbill (*thulo dhanesh*) for its meat and medicinal purposes.

**Q.82. What is the main reason of gradual extinction of cordyceps (yarsagumba)?**

Ans: Over exploitation for smuggling is the main reason for gradual extinction of yarsagumba.

**Q.83. Differentiate between in-situ and ex-situ conservation in two sentences.**

Ans: To make conservation of biodiversity in their own original place is In-Situ conservation work. Ex-Situ conservation is an artificial device that is necessary to increase the number of important plants, animals and other living beings through special care in a limited area, for example, botanical garden, zoo, etc.

Q.84. *What is meant by rare?*

Ans: Rare, such as rare plants and animals, is the condition of being very few in number and not easily available.

Q.85. *How many species of gymnosperm are found in Nepal?*

Ans: 28 species of gymnosperm are found in Nepal.

Q.86. *What type of land is called wetland?*

Ans: Terrestrial ecosystem which also contains water ecosystem is called wetland.

Q.87. *Write few uses of serpentine (sarpaganda).*

Ans: Few uses of serpentine (sarpaganda) are for the treatment of insanity, insomnia and for relieving pain.

Q.88. *Write full form of IUCN.*

[SEDIPS 2069]

Ans: IUCN stands for International Union for Conservation of Nature and Natural Resources.

Q.89. *Which is the plant that is seen in the form of insect during winter season and plant during rainy season?*

[SOS 2069]

Ans: Cordyceps (yarsagumba) is the plant that is seen in the form of insect during winter season and plant during rainy season.

Q.90. *What is average life span of one-horned rhinoceros?*

[SOS 2069]

Ans: Average life span of one-horned rhinoceros is 40 to 50 years.

Q.91. *Which part of dactylorhiza (panchaule) is used as medicine?*

Ans: Rhizome (root) of dactylorhiza (panch aunle) is used as medicine.

Q.92. *Write any one measure for conserve clouded leopard.*

[SLC 2069 A]

Ans: Controlling poaching of it can be a measure for conserving clouded leopard.

Q.93. *Write any one measure to conserve Bengal tiger.*

Ans: Any one measure to conserve Bengal tiger is to protect its natural habitat and food supplies.

Q.94. *Write name of any one rare animal found in Himalayan Region of Nepal.*

Ans: Name of a rare animal found in Himalayan Region of Nepal is red panda.

Q.95. *Write any one reliable conservation measure of rare plant like golden michelia.*

Ans: One reliable conservation measure of rare plant golden michelia (*champ*) can be prohibition of selling and buying of it.

Q.96. *Which range of altitude is red panda found in?*

Ans: Red panda is found in Nepal at the altitude of 1800m to 3800m above sea level.

Q.97. *Which rare plant of Nepal can be used to making incense sticks?*

Ans: Spike nard (*jatamasi*) is a rare plant which can be used for making incense sticks.

Q.98. *For which diseases is spike nard (*jatamasi*) used for treatment?*

Ans: Spike nard (*jatamasi*) is used for treatment of cholera and heart diseases.

Public participation in conservation activities can be a very useful measure to conserve biodiversity of Hilly Region.

**Q.101. Write any one measure to conserve cordyceps (yarsagumba).**

Ans: Prohibition on collection and trade can be one measure to conserve cordyceps (yarsagumba).

**Q.102. Write any one measure to conserve one-horned rhinoceros.**

Ans: Very strict legal provisions and implementation against its poaching can be one measure to conserve one-horned rhinoceros.

**Q.103. What main reason is Asiatic rock python hunted for?**

Ans: Main reason why Asiatic rock python is hunted for is for its skin to make expensive belt, bag and other leather items.

**Q.104. Write any one use of spike nard (jatamasi).**

Ans: Any one use of spike nard (jatamasi) is to make incense sticks.

**Q.105. How many species of fish are found in Nepal?**

Ans: 182 species of fish are found in Nepal.

**Q.106. Write name of any rare fish found in Nepal.**

Ans: Fresh water dolphin (*sonshi*) is one rare fish found in Nepal.

**Q.107. In which geographical region of Nepal does tropical climate exist?**

Ans: Tropical climate exists in Terai Region of Nepal.

**Q.108. What is the name of bird only found in Nepal?**

Ans: Name of the bird found only in Nepal is spiny babbler (*kande bhyakur*).

**Q.109. Which two species of fish are found only in Nepal?**

Or, Write the names of any two rare fish found in Nepal.

Ans: Two rare species of fish found in only in Nepal are *bagarius bagarius* and *labeo angra*.

**Q.110. Mention any one measure to conserve the bird giant hornbill.**

Ans: Any one measure to conserve the bird giant hornbill is to strictly implement laws which prohibit its poaching.

**Q.111. What are the three species of reptile declared protected in Nepal?**

Ans: Ghariyal crocodile, golden monitor and Asiatic rock python are the three species of reptile declared protected in Nepal.

**Q.112. Which rare plant of Nepal is mostly used for producing good furniture?**

Ans: Golden michelia (*champ*) is a rare plant that is mostly used for producing furniture apart from other purposes.

**Q.113. What are the common foods for red panda?**

Ans: Bamboo shoot, fruits, grass, roots, leaves, small insects etc are the common food for red panda.

**Q.114. Name a rare plant of Nepal used for curing cancer.**

Ans: Himalayan yew (*lauchsalla*) is a rare plant found in Nepal which is used for curing cancer.

**Q.115. Which bird is found in all geographical regions of Nepal?**

Ans: Eagle is a bird found in all three geographical regions of Nepal.

**Q.116. Why is Asiatic python poached?**

Ans: Asiatic rock python is poached for its skin to make expensive bags, belts and other leather items.

**Q.117. How does the improvement of breed help in bio-diversity?**

Ans: Improvement of breeds helps for biodiversity conservation by improving immunity, lengthening life, increased production, quality production.

**Q.118. Mention any mitigating measure to conserve herbs of the mountain (Himalayan) region.**

Ans: Any one mitigating measure for conserving herbs of Mountain (Himalayan) Region can be controlling excessive collection of rare herbs.

**Q.119. Name any two protected birds of Nepal.**

Ans: *Thulo dhanesh* (giant pied hornbill) and *kalo saras* (black stork) are two of the protected birds in Nepal.

**Q.120. What is the medical significance of pachaunde?**

Ans: Roots of *pachaunde* are used as energetic drugs and are also used to make different medicines.

**Q.121. Write any two importance of biodiversity.**

Ans: Biodiversity provides animal products and plant products to humans, which are two of the importance of biodiversity.

**Q.122. Why is red panda being hunted?**

Ans: Red panda is being hunted for its skin with soft fur.

**Q.123. Which ecological region of Nepal is tiger mostly found?**

Ans: Tiger is mostly found in Terai ecological belt of Nepal.

**Q.124. What is tiger mostly hunted for?**

Ans: Tiger is mostly hunted for its skin among other body parts.

**Q.125. Which region is the main habitat of Asiatic elephant in Nepal?**

Ans: Plain land below Churiya Range is the main habitat for Asiatic elephant in Nepal.

**Q.126. Write the names of any two herbs found in Himalayan region.**

Ans: *Jatamasi* and *yarsagumba* are two of the medicinal herbs found in Himalayan region of Nepal.

**Q.127. What are the reasons behind depletion of habitat of wildlife?**

Ans: Human encroachment into the forest areas and illegal trade of forest products are two reasons behind depletion of habitat of wildlife in Nepal.

**Q.128. How many national parks are there in Nepal?**

Ans: There are altogether ten national parks in Nepal till date.

**Q.129. Mention the two international organizations participating in the biodiversity conservation.**

Ans: The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and International Union for Conservation of Nature (IUCN) are two international organizations participating in biodiversity conservation.

(B) Short Questions-Answers	4 Marks Each
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**Q.1.** Explain the meaning of natural resources with examples.

**Ans:** Natural resources are the substances that occur naturally and can be used for survival and other purposes by human beings. They include both the living and nonliving things of nature and can simply be considered as combination of biodiversity and geographical diversity. Some of the natural resources include sunlight, water, soil, air, vegetation and animals. Natural resources are very important to humans because these resources are used for the livelihood, for the developmental activities and for producing different goods. During use of these resources a proper attention must also be given towards their efficient use, as their over-exploitation may cause some serious problems towards environment and human.

**Q.2.** What types can natural resources be divided into on the basis of availability and renewability? Explain them in short.

**Ans:** On the basis of availability and renewability, natural resources can be classified into three types: perpetual resources, renewable resources and non-renewable resources. Perpetual resources are those resources that are continuously present on the earth and their quantity will not be affected due to human use. Few examples of such natural resources can be solar energy, wind energy, and so on. Renewable resources are those resources that can be renewed or regenerated naturally. The examples include soil, water and wood among others. Non-renewable resources are those which cannot be renewed through any means. Once these resources are used up, they cannot be re-created. Examples are minerals and fossil fuels.

**Q.3.** Elucidate the meaning of biodiversity in a paragraph.

**Ans:** Biodiversity is a short form of "biological diversity" and refers to number and variety of plants, animals and other living beings that exist per square unit of any place. It is the variety of life in a small area, bigger region or planet. Life is present only in earth according to the researches and discoveries done till now, so, it is called a "living planet". There are various forms of life in earth ranging from microorganisms having a single cell (unicellular) to very big animals having millions of cells (multi-cellular). There are even variations within a specific type of organisms. This variability is known as biodiversity. Biodiversity is the diversity within species, between species and of ecosystems. Such diversity in a word is called biodiversity.

**Q.4. a) What is biodiversity?**

*[SLC 2058 S, 2063, 2070 A, B, D, JEC 2070]*

**Ans:** Biodiversity of a location is the existence of organisms and species of living beings per square unit area. It indicates the total living heritages of the earth and their status as well as differences or the system and structure of living beings in the nature.

b) Why is it necessary to conserve biodiversity? Mention any five points.

Ans: The conservation of biodiversity is necessary:

- i) To protect the existence of living beings,
- ii) To maintain a balance in natural ecosystem,
- iii) To conserve the resources for the long run,
- iv) To promote natural environment and scenery,
- v) To make study and research.

Q5. What are some organizations involved in biodiversity conservation?  
Introduce their works on sector of biodiversity conservation.

Ans: Various organizations are involved in the world and specifically in Nepal too for biodiversity conservation. Among such organizations, United Nations (UN), International Union for Conservation of Nature and the Convention on International Trade in Endangered Species of Fauna and Flora (CITES) are very important. Different agencies of the United Nations are actively involved in biodiversity conservation programmes. United Nations has declared 2011 AD to 2020 AD as United Nations Decade on Biodiversity. IUCN is an international organization which does various things for nature conservation. It is involved in data gathering and analysis, research, field projects, advocacy, lobbying and education regarding biodiversity conservation. A very important work it does in this sector is that it keeps record of the endangered species of biodiversity in the world. The list it prepares of such endangered species is called IUCN Red List. It helps in identifying the threatened species of flora and fauna and to take steps for their conservation. CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

Q6. What factor does biodiversity depend on? Explain briefly in context to different ecological belts of Nepal.

Ans: The richness of biodiversity depends on climatic condition and geography of the region. It is said that available climate and geography of a certain place shape the nature of living organisms in that place. Biodiversities have their own way of adapting to existing climate, vegetation and other geographical features around them. Organisms which foster in a certain climate may not survive in any other climatic condition. Specific organisms can survive only in specific climate as they have been adapted to it. For example, leopard found in the forests of Hilly Region cannot survive in the Himalayan Region and the snow leopard of Himalayan region cannot survive in the forests of Hilly Region. They have their own adaptation to the environment that they live in. This shows that the diversity is created by the difference due to the geography and the climatic condition.

**Q.7. What different groups is biodiversity divided into? Give a brief explanation.**

Ans: Biodiversity, as it is the diversity in all the living forms of life, study of it as a single aspect is very difficult. For the purpose of simplicity the broader aspect of biodiversity has been classified into three different types- ecosystem diversity, species diversity and genetic diversity. A newly introduced detailed classification even includes molecular diversity, apart from the ecosystem, species and genetic diversities. Molecular diversity has been defined as the variations seen in molecular makeup of the organisms. But the three classifications have been accepted for general use. Environment Protection Act, 2053 of Nepal also describes the ecosystem, species and genetic diversity as biodiversity. Ecosystem diversity or ecological diversity is the number and variations in the ecosystems found in any area or over the whole planet. Likewise, variation in the genes of organisms within the same species is genetic biodiversity. Similarly, diversity of group of organisms composed of related individuals that look like one another and can breed among themselves is called species diversity.

**Q.8. Explain ecological/ecosystem diversity in brief.**

Ans: Ecological diversity or ecosystem diversity is the number and variations in the ecosystems found in any area or over the whole planet. Variations in the aquatic and terrestrial ecosystem form the ecological diversity. There are various ecosystems found in the land, which are called terrestrial ecosystem like grassland ecosystem, forest ecosystem, agricultural ecosystem, and so on. The aquatic ecosystem is of two types; fresh water ecosystem and *marine ecosystem*. Within these ecosystems there are plenty of variations seen, each contributing to a separate ecosystem. Thus, ecosystem diversity is the largest level of biodiversity and includes the species and genetic diversity.

Marine ecosystem = ecosystem of sea or ocean

**Q.9. What is genetic biodiversity? Explain its meaning.**

Ans: Genetic diversity is a difference of organisms determined by difference in gene. Genes are the segments of Deoxyribose nucleic acid (DNA) that gives specific characters to the organisms. Every character that is seen in an organism is determined by the genes it possesses. The height, skin colour, hair type, eye colour and all other characters of an organism are because of the genes they carry. The genes are hereditary i.e. they are transferred from parents to the offspring. The organisms grouped within a species have variations in genes. This variation in the genes of organisms within the same species is the genetic diversity. For example, human beings are of same species but there are also different types of humans like Mongolian, Caucasian, Negro, and so on which, which is because of the difference in the genes.

**Q.10. Highlight meaning of species biodiversity.**

**Ans:** Difference of organism on the basis of species they belong to is called species diversity. Species refers to the group of organisms composed of related organisms that look like one another and can breed among themselves. Species is a basic unit of biological classification. Species diversity is the number of different species that are present in a given area. Variety and variability of the species of any genus constitute the species diversity. Species diversity indicates the richness of the species in an area. Species diversity contributes to biological diversity because a single organism has different species and these varieties in species contribute in biodiversity of any place. Nepal also is a rich country in terms of species diversity. There are various species of birds, mammals, fish, butterfly, reptiles, flowering plants, non-flowering plants and other living organisms.

**Q.11. What is the status of species biodiversity in Nepal? Write in a paragraph.**

**Ans:** Nepal is a rich country in terms of species biodiversity. However, some of the species of plants and animals are in vulnerable status. Though Nepal is a very small country occupying 0.1% of land of the world and 0.03% of the total area of the world (including land and water), it is rich in biodiversity. This diversity has been credited to the variations in the geography and climatic condition. 12 out of 867 ecologically important places of the world are in Nepal. About 3.2% vegetation and about 1.1% animals of the world are found in Nepal. Nepal is home for about 6973 species of angiosperm, 26 species of gymnosperm and more than 5000 species of other non-flowering plant. Similarly, about 651 species of butterfly, 230 species of fish, 117 species of amphibians, 123 species of reptiles, more than 867 species of birds and 208 species of mammals are found in Nepal.

Angiosperm = a flowering plant

Gymnosperm = any plant whose seeds are not closed in ovary

**Q.12. Show the number of various species of vegetation found in Nepal in table.**

**Ans:** Following table shows diversity of vegetation found in Nepal.

Species of vegetation	Number of known species	Percentage of the known species of the world
Gymnosperm	26	5.1
Angiosperm	6973	3.2
Bryophytes	1150	8.2
Pteridophytes	534	5.1
Lichens	465	2.3
Algae	1001	2.5
Fungi	1822	2.6
Total	11971	3.2

.....	208	5.2
Birds	867	9.5
Reptiles	123	1.9
Amphibians	117	2.5
Fish	230	1.9
Mollusks	192	NA
Moths	3958	3.6
Butterfly	651	3.7
Spider	175	0.4
Rotifers	61	NA
Crustaceans	59	NA
Other insects	5052	0.7
Platyhelminthes	168	1.4
<b>Total</b>	<b>11861</b>	<b>1.1</b>

NA=Not Available

**14. Why is biodiversity so important? Describe.**

- Ans:** Biodiversity is very important for survival of humans and other organisms of this earth. Everything that humans and other organisms need can be gained from the plants and animals around them. Importance of biodiversity for humans can be put in the following points more clearly.
- Varieties of agricultural products are available on earth because of biodiversity.
  - Animal products such as diary, meat, fur, leather, are available due to biodiversity.
  - Plant products such as timber, fodder, firewood, paper, colour, medicinal herbs etc are given by biodiversity.
  - Improvement in breeds can be possible by changing genetic features of certain plants and animals of the same species. For such a work varieties of species are needed.
  - Watershed conservation is possible if there is presence of plenty of plants around the watershed area.
  - Production of domestic resources such as construction material different tools and equipments are made of various plants and animals products. Biodiversity is important from this point of view also.
  - Natural beauty is also enhanced due to biodiversity and tourism can be developed.
  - Environment is balanced and there is proper functioning of ecosystem due to biodiversity.

**Q.15.** *Importance of biodiversity is evident in availability of agricultural products." Justify.*

**Ans:** Importance of biodiversity is evident in the availability of agricultural products. Varieties of crops can be cultivated because of biodiversity. Limited biodiversity makes only limited crops cultivation possible. Larger the biodiversity, higher the agricultural production. Biodiversity supplies us with different variety of agricultural products. When a place is rich in biodiversity, varieties of agricultural products can be available like fruits and vegetables, animals, cereals, pluses and so on. These varieties can be used as food sources or even be used for economic purposes. The biodiversity can even be used for producing hybrid plants and animals which gives more yield than the regular ones.

**Q.16.** *Explain importance of biodiversity with reference to availability of animal products.*

**Ans:** This earth is the home to varieties of animals, birds, fish and other creatures. Many of them are very useful for human's survival and economic prosperity. Many of the animals and birds have been domesticated by humans for several purposes. Some are reared to their meant, others for their fur, skin, bone or any other products. Many of the animals are reared in large scale for commercial purpose too in this world. All of such animals are available due to biodiversity. Animals are important to the humans for survival and for many other purposes. Animals are the source of meat for the humans. Some animals like horse, ass, camel, ox and bull are for labour purpose. Different kinds of valuable ornaments and other necessary products are made up of animal products like bones, feather and skin. The animal products are used for medicinal purpose also. People can rear animals for their meat or other products and trade them for economic benefits which aids in the development of the people and the country.

**Q.17.** *Shade light on importance of biodiversity with reference to plant production.*

**Ans:** Plants give shelter to wildlife. That is why plants are very important. Not only that but they also supply humans with various resources. All this is possible due to biodiversity. Plants are very much beneficial things for humans. Various plants and their parts such as leaves, barks, roots, rhizomes, trunks etc can be used as food sources, food for domesticated animals, medicines and so on by humans. Plants provide humans not just food but also many things such as wood for furniture and fuel, paper, colour, various useful products like clothes, and so on. These different products are obtained from a variety of plants. This way, plant products help in the survival of humans and development of their economy. All of these benefits for humans given by plants products are possible only due to biodiversity available on earth. Because of that, biodiversity is quite important for humans.

**Q.18. How does biodiversity help in improvement of breeds? Make a connection in a paragraph.**

**Ans:** Improvement in breeds of animals and plants is the process through which the genes are altered (changed) so that a higher production can be obtained from plants and animals, disease-free variety can be produced and resistance against adverse climate conditions can be created. Improvement in breeds can be possible by changing genetic features of certain plants and animals of the same species. For such a work, varieties of species are needed. If there is no wide variety of biodiversity, genetic improvement for higher productivity and other purposes is not possible. The improvement in breed requires a variety of plants of animals so, the more variety of plants and animals are available the higher will be the chances of production of new breeds.

**Q.19. Introduce soil conservation as an importance of biodiversity.**

**Ans:** Biodiversity is very important for soil conservation. Soil is the loose substance found on the outer surface of earth. It contains various chemical substances which make soil fertile. Those substances are used by plants for their nutrition. Soil conservation means conserving these useful chemical in soil to keep it in its natural state. In other words, soil conservation is act of conserving quantity and quality of soil in its original state. Soil is very important natural resource and helps different plants and trees to grow. These vegetations, in return, help in the binding of the soil together and protect it from landslide and soil-erosion. The vegetation also conserves moisture and minerals and help to maintain the quality of soil. On the other hand, various living organisms decay after being dead. They are decomposed with the help of decomposers. After being decomposed, they mix up with soil and soil becomes richer. This way, biodiversity helps in conservation of soil and soil also promotes biodiversity in return.

**Q.20. What is the role of plants and other biodiversities in watershed conservation? Highlight.**

**Ans:** Plants absorb water through their roots and leave it in soil. They also prevent rapid evaporation of water from the ground. Thus, vegetation helps to conserve water resources. An example can be seen in the shortage of water in the places where deforestation is rapid. This problem has been seen in numerous places in Nepal nowadays. Due to deforestation, water resources have dried up and there is a huge scarcity of water in those places. Places which used to be covered by vegetation used to have plenty of water sources. But since forested areas were cleared off, the water sources started to dry up. Water sources cannot be created easily by reforesting those areas once again. Thus, the high number and variety of plants are important to conserve watershed areas. Therefore, if biodiversity is conserved, watershed areas are also conserved.

**Q.21.** "Environment is the source of all domestic resources needed for human survival." Justify the statement.

**Ans:** Environment is the source of everything that is necessary for the conduction of human activities. Biodiversity is one of the most important aspects of environment which provides us with different products from animals and plants which can be used in daily household activities. Different domestic products such as fire-wood, medicinal plants, constructional materials, daily used materials and ornaments are obtained from different plant and animals. Construction of houses is possible due to environment. Various construction materials such as mud, rock, cement, wood and various parts of varieties of plants are supplied to us by environment. Domestic equipments such as bamboo basket, winnowing tray and furniture are examples of how environmental components can be used by humans for their household purposes. These facts prove that environment and biodiversity present in it are the sources of all domestic materials needed for humans survival.

**Q.22.** How does biodiversity add to the natural beauty and help in tourism development of a place?

**Ans:** Biodiversity adds to natural beauty and helps in tourism development of a certain place. Different kinds of plants and animals are found in different places. The hills covered with green trees, flowers, birds and animals provide a beautiful scene to the nature. Thus, a variety of plants and animals according to different geographical locations have their own uniqueness and beauty in the nature. They can attract many tourists to [particular places and tourism can be developed. On the other hand, Biodiversity is an important factor contributing to the tourism industry. Variety of plants and animals provide beauty to nature and are centre of attraction for the tourists. For example, many visitors come to our country for various purposes like conducting researches and studies on vegetation and wildlife, observing natural beauty and so on. Thus, biodiversity provides a great opportunity for developing country through tourism.

**Q.23.** Describe the role of various biotic and abiotic components for environmental balance.

**Ans:** The biotic and abiotic factors have a close relation among themselves and create a balance in the environment. The vegetation helps to protect the water resources and land. Similarly, land assists in decomposition of dead plants and animals. Decomposed plants and animals add minerals and nutrients to the soil. The minerals present in soil help in the growth of plants. This is how animals and plants are interdependent for supporting each other's lives. And this is the way in which biotic and abiotic components maintain balance in environment. Soil provides support for the growth of producers. Producers are decomposed after they die. They

become basis of survival of various organisms when they are dead. Dead and decomposed biotic components are turned into nutrients and are mixed to soil. In this way, this cycle of environmental balance goes on and on because of the roles played by various biotic and abiotic components of environment.

**Q.24. "Natural ecosystem depends on biodiversity." Explain.**

**Ans:** Biodiversity is the collection of all living beings which interact with abiotic components to balance environment and so, is an important aspect of natural ecosystem. Ecosystem is an interaction of living and non-living things. Biodiversity is the collection of all the living beings of this interaction and thus, is an important aspect of ecosystem. For the proper functioning of ecosystem, biodiversity is very important. Without the biodiversity, there cannot be interaction between the biotic and abiotic components and ecosystem cannot sustain. Actually, in such a situation, ecosystem does not exist at all. In such biogeochemical cycle of ecosystem is dependent on the biodiversity. That is how natural ecosystem depends totally on biodiversity.

**Q.25. How does biodiversity help in economic development as well as study and research? Explain in short.**

**Ans:** Humans can earn money through biodiversity in various ways. Trade of agriculture products, animal products, forest products and herbs, and tourism can aid in economic development of a country. Thus, biodiversity is not just the richness of natural products but is also the richness in economy. On the other hand, biodiversity is also a chief source for conducting study and researches. Researchers conduct researches on various plants and animals before they discover something very important that can enrich humans. Because of the researches, several inventions and discoveries are made which promoted development of human beings, animals and plants. It is because of the research that the medicinal values of some herbs have been identified and is currently used in treatment of many diseases. Hence, study and researches can promote biodiversity and biodiversity provides humans a chance of study and research. That is their interrelationship. This is how biodiversity helps in economic development as well as in study and research.

**Q.26. What is the meaning of biodiversity conservation? Elucidate.**

**Ans:** Biodiversity conservation or conservation of biodiversity means protecting the biodiversity from depleting and being extinct, protecting their natural habitat and ecosystem, creating favourable environment for their proper functioning and preserving the qualities they have. Biodiversity these days is being degraded due to human activities. Many plants and animals have become rare and endangered and are in the verge of extinction. Making them sustain in their natural state without declining is biodiversity conservation. In other words, adopting various measures to protect various flora and fauna of the earth from being extinct is called biodiversity conservation.

Q.27. Enlist few significant reasons why we need to conserve biodiversity.

Ans: The reasons why biodiversity has to be conserved can be put in the following points.

- i. Biodiversity has to be conserved for the continuity of existence of all living beings.
- ii. For the sustainability of resources, it must be conserved.
- iii. Conservation of biodiversity helps in maintaining balance in natural process; ecosystem.
- iv. For social and economic development, biodiversity is necessary.
- v. It is beneficial also for providing scope for study and research.
- vi. If it is conserved, natural scenery and beauty is conserved too.

Q.28. Write any five measures of biodiversity conservation.

Ans: Biodiversity conservation has become so urgent and at the same time, very difficult due to overgrown population and increased needs of humans. Following things can be done for biodiversity conservation.

- i. Awareness generation: Awareness has to be generated among people so that they know importance of biodiversity and are motivated for its conservation.
- ii. Establishment of conservation areas: Conservation areas have to be established for conserving ecosystems and biodiversity living in them.
- iii. Formulation and implementation of effective laws: Laws against biodiversity destruction such as illegal hunting, smuggling, and such others need to be controlled by laws.
- iv. Partnership of institutions and community: Biodiversity conservation becomes successful when conservational institutions and community work together.
- v. Activating local bodies: Local administrative bodies have to be given authority for controlling illegal hunting and smuggling of animal organs. They must be provided budget so that they can form and implement effective policies at their locality for biodiversity conservation.

Q.29. Explain how awareness programmes can help in biodiversity conservation.

Ans: Awareness programmes can help a lot in biodiversity conservation. Biodiversity depletes mainly because of human activities. Human activities such as deforestation, hunting, damaging soil knowingly or unknowingly etc are main responsible factors for degradation of biodiversity. Many of the people who conduct such activities are not aware that their activities degrade environment. They even don't know the importance of biodiversity conservation. The plants and animals can only be conserved when the people know about their importance for humans and for ecosystem as well as environment. When awareness is created, people will not unnecessarily harm vegetation and animals and will actively participate in the activities to protect them and to promote favourable environment for them.

**Q.30. How can partnership between institutions and community be effective method of biodiversity conservation? Describe.**

Ans: Institutions can play very important role in biodiversity conservation. They have visions, strategies, skilled manpower and equipments which can be useful for biodiversity conservation. But they may lack knowledge of biodiversity of a certain place. They may also lack knowledge of activities to be done for biodiversity conservation at a locality. Such knowledge is there with the people living in the local community. Therefore, biodiversity conservation has to be done with the joint effort of institutions and local community. An activity such as conservation of biodiversity can be effective only when it is done by involving a large number of people. Such activities, even though they are much effective, cannot give the proper result when done in small scale. Thus, for the conservation of biodiversity the partnership between different institutions and community can give expected result. Institutions working together with community can make strategies, plans and programs to conserve the biodiversity. The implementation of the programs also should involve people at local level.

**Q.31. What sort of religious beliefs are there around your place that can be used for biodiversity conservation? Write with example.**

Ans: I belong to the Eternal Religion or Hinduism. Hinduism worships various gods and goddesses. At the same time, it worships various components of nature. Several animals, birds and plants are worshiped by Hindus even in my locality. They suppose that the plants and animals they worship shouldn't be killed or cut down. If done so, it invites sin in life. Plants such as *bar*, *peepal*, *amala*, *tulasee*, *Kush* etc are worshipped by my community people. Similarly, animals and birds such as elephant, dog, owl, cow, snake, fish, turtle, crow, peacock etc are supposed to be associated with gods, goddesses and therefore holy. They should also be not harmed. Such beliefs believed by my community can be used for biodiversity conservation.

**Q.32. "Activating local bodies and emphasizing on sustainable use of natural resources can help in biodiversity conservation." Explain.**

Ans: It can be very helpful for biodiversity conservation to activate local bodies and to emphasize sustainable use of resources in a particular place. Whenever the local bodies are activated for the programmes of biodiversity conservation, the exact problem of the community can be identified, the proper solution to the problem can be discussed and the public participation can be obtained. This is the best way for the conservation of biodiversity. When all the biodiversities are conserved locally, the overall biodiversity of a nation can be conserved. Similarly, concept of sustainable development teaches us to use of resources in such a way that required need is fulfilled through the utilization of minimum resources. This enables us to conserve the resources, plants and animals, for future use. Thus, sustainable use of the resources is effective in conserving biodiversity.

Q.33. What do ex-situ and in-situ conservations mean? Explain how they help in biodiversity conservation.

Ans: Ex-situ and in-situ are two different but very useful methods of biodiversity conservation. In different status of biodiversity, different conservation methods can be very useful. In-situ means the original state in which certain organism is found in its original habitat. In situ conservation is that in which conservation is done in the species' own natural state and location. Establishment of national parks, wildlife reserves and conservation area can be appropriate examples of in-situ conservation. This conservation method can be very useful in such a situation where natural habitat is sufficient and suitable for flora and fauna. On the other hand, ex-situ means away from the natural state and location. Ex situ conservation is that in which species are conserved away from their original state and location. Establishment of zoo and botanical garden can be examples of this conservation method. When flora and fauna are in extremely endangered state, this conservation method can be very useful. Even when natural and original habitat is not sufficiently available, this method is very useful for conservation of biodiversity.

Q.34. Write a note on role of government on biodiversity conservation through effective laws.

Ans: Conservation of biodiversity can be hugely effective if done through effective laws. Awareness and motivation to people for biodiversity conservation does not work all the time. Illegal killing of endangered creatures, collection of rare and valuable plants and their smuggling continues if such activities are not closely monitored and punished by government through strict laws. The laws, rules and regulations, as required, must be formulated and effectively implemented for the conservation of biodiversity. There should be strict provisions of punishment and enough power must be given to respective authority for the implementation of proper laws and to design and enforce different programs regarding the conservation of biodiversity. Until and unless it is done, biodiversity cannot be conserved well. News frequently comes in media about poaching of endangered animals. Such things are happening because our state is not much successful to implement laws made against poaching. Police agency, armed police force, forest security agency and all other possible authorities should be given full authority to enforce laws made against, hunting, collecting, smuggling and using of animals, plants and their parts.

Q.35. Write a short account of the biodiversity of Himalayan Region of Nepal.

Or, Discuss on the biodiversity of Mountain Region of Nepal.

[SLC 2065 AJ]

Ans: In mountain region, there are different types of vegetation, animals, birds and other living organisms. This region is not favourable for agriculture. The people cultivate different types of crops such as barely, buckwheat, wheat, maize and other crops. They cultivate different green vegetables,

potato, radish in this belt. Fruits like lemon, apple, peer etc. are also produced in mountain region. Some places are covered by different types of grasses and alpine forest.

Various types of birds and animals like munjal, kalij, pheasant, ghoral, pygmy dog, black bear, snow leopard are found in the forest of this regions. These different types of biological aspects make an integral part of ecosystem in this belt.

**Q.36. Enlist some characteristic features of biodiversity of Hilly Region.**

**Ans:** Hilly Region is the east to west extension of land in the mid part of country between Himalayan and Terai Regions. It is the largest among the three distinct ecological belt of Nepal. This region is very rich in biodiversity. Deciduous type of forests is mostly found and alpine and sub-tropical forests are also found in higher altitudes of this region. The main trees are *sal*, *salla*, *deodar*, *sisham*, *khayar*, *katus*, *uttis*, *chilaune*, *simal*, *kashru*, *bar*, *peepal* and so on. The crops include rice, maize, wheat, potato, buckwheat, millet, soybean, sugarcane, oilseeds and so on. The wild animals commonly found are leopard, tiger, fox, bear, deer, wolf, red monkey and *Chital* (an animal of deer family). Dove, parrot, crow, sparrow, eagle, vulture, *Titra*, *Kalij* (pheasant), and *Jureli* (bulbul) are some commonly found birds of this region. Many of such birds, animals and plants are in endangered state due to human activities, forest fire, illegal hunting and smuggling and so on.

*Mention any five reasons how Hilly Region is rich in biodiversity compared to other regions.*

*[SLC 2059 D, 2061 D, 2065 D, 2068 D, 2070 A]*

**Ans:** The five reasons how hilly region is rich in biodiversity compared to other regions are as follows:

- Hilly region provides favourable conditions for different plants and animals.
- It has favourable geographical feature.
- It has favourable biodiversity of plants for different types of animals and birds.
- There is provision of natural components of environment and other.
- The physical and chemical quality of water is available that is favourable for plants.

**Q.38. Point out major features of biodiversity of Terai Region.**

**Ans:** Terai is the plain land that extends east to west of Nepal in the country's southernmost part. Terai is very rich in terms of ecosystem and biodiversity. Various species of plant and animals lives are found here. Tropical and sub-tropical vegetations are found here. *Sal*, *sisham*, *khayar*, *katus*, *uttis*, *chilaune*, *saaj*, *satisal*, *simal*, *emli* (*tiri*), *bar* and *peepal*, are the common trees of this region among others. The crops like rice, wheat, maize, sugarcane, tobacco, oilseeds and pulses are grown in Terai. Tiger, elephant, rhinoceros, leopard, *krishnasar*, *ratuwa*, *arna*, *ghoral*, *chital*, *laguwa*, *nilgai* and *gaurigai* are common animals found in this region.

Common kite, king vulture, hawk, dove, pigeon, crow, finch, crane and giant horn-bill are some birds of this region. But these creatures are in highly endangered state due to rapid population growth and increased human activities such as deforestation. Northern part of Terai is called Inner Terai which has its own ecosystem and biodiversity. Ecosystem and biodiversity of Inner Terai also in is a very risky state.

- Q.39. *Introduce clouded leopard (dhwansé chitwa) as an endangered species of animal in Nepal.*

Ans: Clouded leopard (*dhwansé chitwa* in Nepali) is found in the mid-hills of Nepal and is conserved in Lamtang National Park, Makalu-Barun National Park and Annapurna Conservation Area. The adult clouded leopard is about 60-120 centimetres in length and its tail is about 75-86 centimetres. It is an attractive animal with body colour varying from grey or earthy brown to pale or rich yellowish brown. The under-parts are white or pale orangey and face is marked with cheek strips. There are marks of large spots on the limbs and under-parts. It does not attack humans as other leopards do and preys upon small mammals and birds. Its number is decreasing due to its hunting for teeth and skin. This shy animal is mistaken by people for being aggressive. That is not true. This mistake is another cause why people kill this rare animal. It has been declared as an endangered species by organizations such as IUCN and CITES and is a protected animal in Nepal.

- Q.40. *What is the status of red panda (habre) in Nepal? Describe.*

Ans: Red panda (*habre* in Nepali) is found at an altitude of 1800-3800 metres from sea level. Its habitat in Nepal is in Lamtang, Makalu-Barun, Dhorpatan, Rara, Sagarmatha, Kunchunjunga and Gaurishankar areas. It measures 64 centimetres in length and 28 centimetres in height. Its tail is 28 to 48 centimetres long. Its average weight is 3-6 kilograms. Its face and under-parts are white in colour while other parts are red. It has a round head, large pointed ears, a little nose and hairy legs. It feeds on bamboo, grasses and fruits. It has been hunted for its skin with soft fur. Red panda has been extremely endangered in Nepal. Its number counts very few. It is rarely seen in its habitats in the abovementioned areas. It is extremely necessary to conserve this animal and keep it from being extinct. It has been declared as an endangered species by organizations such as IUCN and CITES and is a protected animal in Nepal.

- Q.41. *One horned rhinoceros is an extremely endangered animal not only in Nepal but in the whole world. Describe its status in Nepal.*

Ans: One-horned rhinoceros is a very rare animal in the world. It is found in only few countries of the world and is in a very few number whole world now. It has been conserved in Nepal too. It is found in *Shivalik* (Inner Terai) and Terai Regions of Nepal. The habitat is swampy grassland and tropical jungle with Sal trees. It has been conserved in Chitwan National Park, Bardia National Park, Parsa Wildlife Reserve and Suklaphata

Wildlife Reserve. This animal measures 180 centimetres in height and 300-315 centimetres in length and weighs about 2000-2500 kilograms. A female gestates for 15 to 16 months and bears 1 calf. Heavy shield-like folds cover its body. The shape of the head is like that of a boat and bears one horn. They are hunted for their horns which are very much valuable. There were 645 rhinos in Nepal as per rhino census taken in 2015. It has been declared as an endangered species by organizations such as IUCN and CITES and is a protected animal in Nepal.

**Q.42. Give an introduction to royal Bengal tiger and its status in Nepal.**

Ans: Royal Bengal tiger is a large animal of cat family that is in a very much endangered state in the whole world. It is a protected animal in many countries including Nepal. Its habitat in Nepal is the forests and grasslands of Terai region. It is a rare and conserved animal in Nepal and is mostly found in Chitawan National Park, Parsa Wildlife Reserve, Bardiya National Park, Banke National Park and Suklaphanta Wildlife Reserve. Average length of Bengal tiger is 240-310 centimetres, including the tail and the tail is typically 85 to 110 centimetres. Average height is 90-110 centimetres. Its average weight is 130 to 200 kg. Gestation goes for 3 to 4 months and a tigress bears 3 cubs in average. Bengal tiger's coat is yellow to light orange, with stripes ranging from dark brown to black. Belly and interior parts of limbs are white and tail is orange with black rings. It is hunted for its skin, head and other organs. So, the number of Bengal tiger is decreasing gradually. It has been declared endangered animal by organizations such as IUCN and CITES and is a protected animal in Nepal.

**Q.43. Where is Asiatic elephant found in Nepal? Explain its condition in Nepal in a brief paragraph.**

Ans: Plain land below Churia range is the habitat for Asiatic elephants in Nepal. They are commonly found in Jhapa, Parsa Wildlife Reserve, Chitawan National Park, Bardiya National Park and Suklaphanta Wildlife Reserve. Length of the body including trunk is 5.5-6.5 metres with tail being 1.2-1.5 metres and average height is 2.4-2.75 metres. The average weight of an adult is 4000 to 5000 kilograms. Female gestates for 22 months and one calf is born at a time. It has a long trunk, big head, large ears and stumpy legs. The upper incisor teeth of male elephants are modified into tusks. The Asiatic elephant is smaller than African elephant. The number of elephants is being decreased because of poaching for their tusk. Asiatic elephant is the only living species of genus *Elephas* and only about 130-150 elephants are estimated to be present in Nepal. It has been declared as an endangered animal by organizations such as CITES and IUCN and is a protected animal in Nepal.

**Q.44.** Give an introduction to giant pied hornbill (*Thulo dhanesh*); an endangered bird species found in Nepal.

**Ans:** *Thulo dhanesh* is an endangered bird found in some parts of the world including Nepal. Its habitat in Nepal is dense forest of Terai and is mostly found in Chitawan National Park, Banke National Park, Bardiya National Park, Parsa Wildlife Reserve and Suklaphanta Wildlife Reserve. It is a large bird, 95-130 centimetres long and weighs 2-4 kilograms. Its colour is black and white. Its face, under parts and back are black and neck, lower abdomen and tail are white. The most prominent feature of hornbill is the bright yellow and black part on top of its big bill. Due to habitat loss and hunting for medicinal purpose, it is evaluated as near threatened by International Union for Conservation of Nature. It is also declared as a threatened bird by CITES and is a protected bird of Nepal.

**Q.45.** What is Asiatic rock python? Where is it found and what is its status in Nepal? Describe.

**Ans:** It is a large, non-venomous python species of snake. Its habitat is places near wetlands and water sources in forests and grasslands. In Nepal it is commonly found in Terai. Its length is about 7 metres and weighs about 90 kilograms. Colour pattern is whitish or yellowish with uneven patterns varying from yellowing brown and dark brown. It feeds mostly on warm blooded small mammals, and also on amphibians and reptiles. It is killed for making expensive belts and bags, and for medicinal purpose. Due to the unfamiliarity, it is believed to be poisonous and killed. Another reason of decline of its number is its death due to grassland fire. It has been declared as an endangered species of animal by various international conservationist organizations and is a protected reptile in Nepal.

**Q.46.** Make a list of some effective measures to conserve rare animals and plants and describe them briefly.

**Ans:** It is very urgent that rare animals and plants are conserved. Otherwise, they can be extinct because of their over and unwise exploitation. There are some measures that can be taken for their conservation in effective ways. Following is the list of some effective measures of conserving rare animals and plants.

- Study and research:** Study and research also help in conservation of rare animals and plants. Study on these animals and birds helps us to know about their exact number, the causes that are decreasing their number, the measures to protect them and many others. So, the first step towards the protection of these animals and birds is their detailed study and research.
- Conservation of natural habitat:** Natural habitat of rare plants and animals should be conserved for their conservation. Without enough and proper natural habitat, they cannot survive.
- Prohibiting hunting and poaching:** A big reason of decline in number of rare plants and animals is their hunting and poaching. Such activities should be prohibited with zero tolerance.

- d. Awareness of public and their participation in conservation: Local people must be given awareness on importance of biodiversity. They must be taught what happens if some animals and plants get extinct. And they have to be involved in their conservation.
- e. Reduction of effects of human activities: Animals and plants become rare and extinct mainly due to human activities such as deforestation, developmental activities, urbanization and so on. Effects of such human activities must be minimized on rare animals and plants.

**Q.47. How many mammals are there in the list of protected animals and birds of Nepal? Show them in a table.**

**Ans:** There are altogether twenty seven of mammals protected in Nepal. They are shown in the following table.

Mammals			
SN	Scientific Name	Local Name	Common Name
1	<i>Ailurusflugens</i>	Habre	Red Panda
2	<i>Antilopecarvicapra</i>	Krishnasar	Black buck
3	<i>Bosgaurus</i>	GauriGai	Gaur
4	<i>Bosmutus</i>	Ya/Nak	Wild Yak
5	<i>Bubalusbubalis</i>	Arna	Wild water buffalo
6	<i>Canis lupus</i>	Bwanso	Tibetan wolf
7	<i>Caprolagushispidus</i>	Hispid Kharayo	Hispid Hare
8	<i>Cervusduvaceli</i>	Barasinghe	Swamp deer
9	<i>Elephasmaximus</i>	Jangali Hatti	Asiatic elephant
10	<i>Felis lynx</i>	Lynx	Lynx
11	<i>Hyaenahyaena</i>	Hundar	Striped hyena
12	<i>Macacaassamensis</i>	Asamese Rato Bandar	Asamese monkey
13	<i>Maniscrassicaudata</i>	Salak	Indian pangolin
14	<i>Manispantadactyla</i>	Salak	Chinese pangolin
15	<i>Moschuschraysogaster</i>	Kasturi	Himalayan Musk Deer
16	<i>Ovisammon</i>	Nayan	Great Tibetan Sheep
17	<i>Pantheratigris</i>	Bagh	Royal Bengal Tiger
18	<i>Pantherauncia</i>	Hiun Chituwa	Snow Leopard
19	<i>Pantholopshodgsoni</i>	Chiru	Tibetan Antelope
20	<i>Pardofelisnebulosa</i>	Dhwanshe Chituwa	Clouded Leopard
21	<i>Platanistagangetica</i>	Sauns	Gangetic Dolphin
22	<i>Prionailurusbengalensis</i>	Chari Bagh	Leopard Cat
23	<i>Prionodonpardicolor</i>	Silu	Spotted Lingsang
24	<i>Rhinoceros unicornis</i>	Gainda	Greater one-horned rhinoceros
25	<i>Sussalvinus</i>	Sano/Pudke Bandel	Pigmy Hog
26	<i>Tetracerusquadricornis</i>	Chausingga	Four-horned Antelope
27	<i>Ursusarctos</i>	Himali Rato Bhalu	Brown Bear

**Q.48.** Show the birds and reptiles which appear in the list of protected animals and birds of Nepal.

**Ans:** Following list shows names of the birds and reptiles which appear in the list of protected animals and birds of Nepal.

Birds			
SN	Scientific Name	Local Name	Common Name
1	Bucerosbicornis	Thulo Dhanesh	Great Pied Hornbill
2	Catreuswälllichil	Cheer	Cheer Pheasant
3	Ciconianigra	Kalo Saras	Black Stork
4	Ciconiaciconia	Seto Saras	White Stork
5	Eupodotisbengalensis	Khar Majur	Bengal Florican
6	Grus grus	Saras	Common Crane
7	Lophophorusimpejanus	Danfe	Impeyan Pheasant
8	Syphocottidesindicus	Sano KharMujur	Lessar Florican
9	Tragopansatrya	Munal	Crimsom-horned Pheasant

Reptiles			
SN	Scientific Name	Local Name	Common Name
1	Gavialisgangeticus	Ghadial	Gharial Crocodile
2	Python molurus	Ajingar	Asiatic Rock Python
3	Varanusflavescens	Sun Gohoro	Golden Monitor Lizard

**Q.49.** What do extinct and endangered plants and animals mean? What is the status of endangered species in the world and in Nepal? Describe.

**Ans:** Extinct plant or animal is the one that no longer exists in the world. The end of the survival of a species is called extinction of it. The moment of extinction is generally considered to be the death of the last individual of the species. Endangered species of plants and animals is a species which is likely to become extinct if the factors that threaten its existence continue operating. In other words, endangered plants and animals are those which have not been extinct but only very few individuals of that species survive. In 2012, the IUCN Red List showed 3079 animal and 2655 plant species as endangered worldwide. Among the 867 species of birds found in Nepal, 31 species are about to become extinct from the world. Similarly, among the vertebrates found in Nepal, 78 belong to the species that have already become extinct from the world.

**Q.50.** How many flora and fauna from Nepal are included in International Union for Conservation of Nature Red List (IUCN Red List)? How many creatures have been declared protected by the Government of Nepal?

**Ans:** According to the Ministry of Forest and Soil Conservation (2014 AD), 9 species of plants, 55 species of mammals, 149 species of birds, 64 species of reptiles and amphibians and 21 species of fish found in Nepal have been included as endangered species in IUCN Red List. Similarly, 15

species of plants, 52 species of mammals, 108 species of birds, 19 species of reptiles and 3 species of insects have been listed in CITES. Government of Nepal has declared 27 species of mammals, 9 species of birds, 14 species of angiosperms, 3 species of reptiles and 4 species of gymnosperms as protected species of Nepal.

**Q.51. What are the main reasons of depletion of Nepalese biodiversity? Point out some of them.**

**Ans:** There are various factors responsible for extinction as well as endangered state of Nepalese biodiversity. The causes range from overgrazing of cattle to poaching of flora and fauna. Following list shows some of the prominent reasons of depletion of Nepalese biodiversity.

- Increased destruction of biological resources such as trees, medicinal herbs, other plants, and animals is the main reason of depletion of Nepalese biodiversity.
- Pollution caused by different sources such as industries, developmental activities, vehicles, and other activities of humans is another reason of it.
- Global warming and climate change have contributed hugely for inability of biodiversity for continuing adapting to natural habitat.
- Cultivation of new species of plants and animals without proper research is yet another reason of biodiversity depletion. New species of plants and animals come in conflict with native ones and the later come to a danger.
- Another reason of biodiversity depletion in Nepal is lack of serious care from the side of government and Nepalese people for their conservation.

**Q.52. What is golden michelia (*chanp*)? Where is it found? What is its significance? Describe.**

**Ans:** Golden michelia (*chanp* in Nepali) is a rare plant that is found in various parts of the world including Nepal. In Nepal, it is found in the mid-Hills and Terai region of Nepal. It is found between 600 metres to 1500 metres above sea level. Two types of *chanp* are found in Nepal one of which grows bigger in size compared to the other. They can grow up to 30 metres in height. The trunk is smooth and ash coloured. The flowers are pale yellow and golden in colour and gives good smell. Significance of this plant is that it can be used for various purposes. Oil extracted from its flowers can be used to treat arthritis and diseases of eye. It is also used to make perfumes. The bigger type of golden michelia is used also for timber. The bark is also considered to have some medicinal value. Because of the usefulness, these trees have been cut rapidly. The cutting and export of this tree has been prohibited in Nepal however, it has not been controlled effectively.

**Q.53.** Introduce spike nard (*Jatamasi*) as a rare plant of Nepal along with its significance.

**Ans:** Spike nard (*Jatamasi* in Nepali) is a very useful though rare plant found in Nepal. It is found in high hills of Nepal between the altitude of 3000 to 3500 metres above sea level in cool places and in places with high moisture. It is scattered and thinly populated. It is a small, with good smell, erect and green plant. Its flowers are pinkish white. Its roots are used to extract oil which has medicinal value. It is used in treatment of malaria, epilepsy (*chhare rog* in Nepali), different heart diseases, sleeplessness, gas, birth difficulties and other minor painful diseases. *Jatamasi* is also used to make perfumes and incense. Since it is a rare plant, the export of this plant has been prohibited by Nepalese laws and in many other countries of the world.

**Q.54.** What is the status of serpentina (*sapragnada*), a rare plant, in Nepal? Describe it along with its significance.

**Ans:** Serpentina (*sarpaganda* in Nepali) is a rare plant that can be used for various medicinal purposes. It is found in various parts of the world including Nepal. It is found in some parts of Terai and Hilly Regions up to the altitude of 1200 metres above sea level. It is mostly found in the forests with Sal trees. The average height of Serpentina is about half a metre and can grow up to a metre. The stem is dry and white. The leaves are long and broad. It flowers in summer season and white and red coloured flowers are found in bunches. Its fruit is gram-shaped (*chana jasto aakarko*) and is green in colour in early stage which gradually turns reddish and then black as it matures. Its significance is that it can be used in treatment of diarrhoea, dysentery and worm-infections. It is a protected plant and is restricted for export outside the country.

**Q.55.** Where is Himalayan yew (*lauthsalla*) found? What is its significance? Describe in paragraph.

**Ans:** Himalayan yew (*lauthsalla* in Nepali) is a very useful though rare plant found in many parts of the world including Nepal. Lauthsalla is found in Mid-hills and Western parts of Nepal between the Altitudes of 1700 to 3400 metres above sea level. It belongs to the pine species. It is one of the members of coniferous evergreen vegetation. The leaves are dark green flat and are needle-like. It is about 8 metres in height. Its significance is that this tree can be used for many medicinal purposes. The most important use of this plant is that some elements of its leaves, called taxol, is used to make medicine to treat cancer of early stage. Other uses of its leaves are to be used in Ayurvedic medicines to treat epilepsy, various painful diseases, headache, nervous and respiratory illness, blood pressure and so on.

**Q.56. Describe *dactylorhiza* (*panchaule*) as a rare plant found in Nepal and also describe its importance.**

**Ans:** *Dactylorhiza* (*panchaule* in Nepali) is a rare plant that is found in various parts of the world. It can also be found in Nepal. It is found in Nepal at an altitude of 2300 to 3600 metres above sea level. It is a medicinal herb and is one of the protected plants of Nepal. The roots of this plant resemble the palm of human hand. So, the name *panchaule*, meaning five fingers in Nepali, has been given to it. The flowers are pinkish in colour. The root has several uses. They are used as energetic drugs and are also used to make different medicines. The roots of the 3-4 years old plants can be taken out for commercial purpose. The plants should not be destroyed while taking out roots. The taking out of roots should be done after the plant shades its fruits, for protecting the plant.

**Q.57. Discuss the importance of *panchaule* in five points.**

*(SLC 2070 E, 2072 C)*

**Ans:** Panch Aule (*Dactylorhiza hatagirea*) is a small herb of few centimeters height with rosy-colored flowers and finger-like roots. This is listed under the rare plants of Nepal. Illegal collection and export has been banned in Nepal.

Some of the important uses of Panch Aunle are:

1. Young leaves and shoots are eaten as vegetable.
2. Root is expectorant, astringent, demulcent and highly nutritious.
3. Powdered root is spread over wound to control bleeding and to relieve fever.
4. A decoction of the root is given in case of stomach trouble.
5. Root is also used in urinary troubles and also used as farinaceous food.
6. Tubers are useful in diabetes, hemiplegia, dysentery, chronic diarrhea, seminal weakness, neurasthenia, cerebropathy, emaciation and general debility.

**Q.58. Give an introduction to *cordyceps* (*yarsagumba*). Also describe its habitat, importance and status.**

**Ans:** *Cordyceps* (*yarsagumba* in Nepali and some other local languages) is a very unique and useful medicinal herb that can be found in very few parts of the world including Nepal. It is found in Nepal in grassland which is covered with snow during winter at an altitude of 3000 to 5000 metres above sea level. The size is 5-8 centimetres and is a fungus. It is greyish-white in colour. It has an interesting life span. During winter season spores of the fungus disperse through air and stick to the body of caterpillar of a special type of butterfly found in that region. The spores slowly germinate on the body of the caterpillar taking the nutrients from the insect. As the fungus grows on the body of the caterpillar, the caterpillar becomes weak and stops moving. At the end of winter when the snow melts, the fungus fully develops and the caterpillar dies because of the fungal infection. This mixed structure of fungus and dead

caterpillar is the cordyceps or *yarsagumba*. Its importance is that it can be used for various medicinal purposes. It is used to provide energy and is used in different kinds of medicines. It is also used to increase sexual power and is known as "natural Viagra". Since, it is rare vegetation, the collection, use, trade and export is prohibited by the government.

**Q.59. Briefly describe some measures of conserving rare plants.**

**Ans:** All the plants and other components of biodiversities are quite important. If not treated with care every plant can be a rare and endangered plant. The plants which have already been rare should be taken good care of. They must be conserved very well to keep them away from being extinct. Following are some measures that can be taken for conserving rare plants.

- i. Natural habitat of such plants should be conserved. They can never survive without their natural habitat.
- ii. Overgrazing of animals should be stopped. There should not be grazing of animals in the forests and grasslands where such rare plants are found.
- iii. Nurseries and botanical gardens have to be established. It can conserve these plants and helps them reproduce.
- iv. Proper care to such plant must be given while harvesting any forest products. Such plants should not be disturbed while doing so.
- v. Government should make and implement very strict laws against illegal collection, smuggling and use of such plants to discourage their depletion.
- vi. People have to be made aware about their importance and not to overexploit them.

**Q.60. What is the Convention on International Trade in Endangered Species of Fauna and Flora (CITES)? What is its contribution in species conservation?**

**Ans:** CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. CITES is an international agreement to which States (countries) stay voluntarily. States that have joined CITES are known as Parties. Although CITES is legally binding on the Parties – in other words they have to implement the Convention – it does not take the place of national laws. Rather it provides a framework to be respected by each Party, which has to adopt its own domestic legislation to ensure that CITES is implemented at the national level. Main contribution of CITES is that it works for the promotion and protection of biodiversity around the world. It is claimed that about 5,600 species of animals and 30,000 species of plants are protected by CITES against over-exploitation through international trade.

*(Source: www.wikipedia.com)*

of nature conservation and sustainable use of natural resources. It was founded on October 1948 in Fontainebleau, France. It is involved in data gathering and analysis, research, field projects, advocacy, lobbying and education. IUCN has a membership of over 1200 governmental and non-governmental organizations. Some 11,000 scientists and experts participate in the work of IUCN commissions on a voluntary basis. It employs approximately 1000 full-time staff in more than 60 countries.

(Source: [www.wikipedia.com](http://www.wikipedia.com))

**Q.62. What is IUCN Red List? Explain in a paragraph.**

Ans: The IUCN Red List of Threatened Species (also known as the IUCN Red List or Red Data List), founded in 1964, is the world's most comprehensive inventory of the global conservation status of biological species. The IUCN Red List is set upon precise criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. The aim is to convey the urgency of conservation issues to the public and policy makers, as well as help the international community to try to reduce species extinction.

(Source: [www.wikipedia.com](http://www.wikipedia.com))

**Q.63. Explain how ecosystem degrades due to human activities. Also prescribe some mitigating measures for it.**

Ans: The balance between the biotic and the abiotic factors is disturbed by different human activities. Exploitation of the physical aspects of the environment and hunting and poaching of the wildlife are the major human activities that are affecting the environmental balance. The activities that are contributing to the degradation of ecosystem are deforestation, forest fire, establishment of industries and construction activities. Similarly, other activities degrading ecosystem are use of harmful chemicals such as pesticides, unmanaged solid wastes and pollution among others. When these activities are done by the humans then the effect is seen on the ecosystem either instantly or in the long run. So, during the conduction of any activities, a proper attention must always be given to the ecosystem and to the environment. The measures to stop the adverse effect on the ecosystem should be applied in every activity.

**Q.64. How does habitat loss occur for biodiversity? How to minimize this problem? Explain.**

Ans: The chief factor behind the existence of plants and animals is the habitat. Habitat is the place where the plants and animals can get the food, shelter, and all those necessary things for living their lives. Loss of habitat creates the loss of their lives. The human activities like construction works,

extension of agricultural land, deforestation, forest fire and overgrazing create a loss of habitat. Such activities also cause disturbance in food chain, and have many other effects. So, the habitat of the plants and animals should not be destroyed by any human activities. For stopping it, those habitats that have been affected must be reversed through actions like afforestation. Laws have to be made for controlling such activities which hamper natural habitat of biodiversity. Similarly, people must be given awareness on importance of biodiversity as well as why and how to protect their habitat.

Q.65. *We can hear the news occasionally that wild animals enter human settlement and sometimes hunt cattle and even humans there. It has happened even in the capital city. What can be its reasons? How can this problem be mitigated?*

Ans: We can hear such news occasionally. Wild animals enter human settlement areas and sometimes create some problems there. Actually, it is not that wild animal that creates problems there; it is the human being responsible for such a problem. Those animals are forced to enter human settlement area due to narrowing of their habitat due to human activities. The movement of animals and birds are affected by the interference of humans. Destruction of habitat and construction of recreational centres and human habitations near their habitat cause loss of mobility of animals and birds. This creates a restriction to the living beings to survive in a limited area resulting in the competition for food and thus to the decrease in their number. The solution to this problem is not to interfere in the lives of animals and birds. Thus, the activities like urbanization and construction should be done in a manner that does not affect the wildlife and the activities which hamper their habitat should completely be stopped.

Q.66. *Explain limitation of expansion of vegetation as an effect on ecosystem and few measures to mitigate this effect.*

Ans: The expansion of vegetation has not only been restricted but the existing areas of vegetation have been narrowed and depleted. The population growth, developmental activities, urbanization and extension of cultivable land have covered open land and grazing fields. Likewise, they also have depleted the wetlands and have created a huge deforestation. This has caused a negative effect on vegetation and also on the animals and birds of that place. These activities should be completely stopped and other promotional activities like afforestation, plantation of trees at the sides of roads, plantation of grasses on open land for grazing of animals and not letting the fields remain uncultivated helps to expand the vegetation and hence the biodiversity.

Q.67. *What are the causes of depletion of biodiversity?*

Ans: There are various causes for depletion of biodiversity. Some of such causes are listed below.

- i. **Overgrowth of population:** Overgrowth of population has caused lack of settlement areas and land for agriculture. Therefore, humans encroach into forest areas. Developmental activities also take place which hampers ecosystem and thus biodiversity.
- ii. **Lack of awareness among people on importance of biodiversity:** People just use natural resources as much as they want and are not aware about need of biodiversity conservation.
- iii. **Illegal trade of plants and animals:** There is a trend of illegal trade of some plants and animals which is depleting biodiversity.
- iv. **Poverty:** Due to poor economic status of nation and people conservational programmes have not been successfully implemented.
- v. **Natural calamities:** Natural calamities also deplete ecosystem and thus biodiversity.

**Q.68. What steps can be taken from you side for the conservation of biodiversity?**

**Ans:** Conservation cannot be successfully done from single effort of an individual. But if all the individuals of the world like me do something from their side, biodiversity can be conserved well. I can take following steps from my side to conserve biodiversity.

- i. **Not harming wildlife and plants:** I shouldn't harm animals and plants found around my place to conserve biodiversity there.
- ii. **Discarding products made up of animal organs:** I shouldn't use any products which are made up of animal organs such as leather, bone and such others to discourage trading of animal organs.
- iii. **Reporting to security agency if seen any illegal activities:** If I see or hear about any illegal activities such as hunting wild animals etc. I have to report such activities immediately to police or forest rangers.
- iv. **Creating awareness on need and importance of biodiversity:** I can conduct awareness programmes to make local people aware of need and importance of biodiversity as well as what punishment they need to bear if they disturbed biodiversity.
- v. **Unifying to conserve ecosystem and biodiversity around my place:** I can also be united to local people for conserving ecosystem and biodiversity found around my place.

**Q.69. Write in short about Jatamasi.**

**Ans:** Jatamasi (spike nard) is a medicinal plant found in high hills of Nepal between the altitude of 3000- 3500 metres above sea level in cool places and in places with high moisture. It is scattered and thinly populated. It is a small, aromatic and erect plant. The flowers are pinkish white. Its roots are used to extract oil which has medicinal value. It is used in treatment of malaria, epilepsy (*chhare rog*), different heart diseases, insomnia

(sleeplessness), birth difficulties and other minor pains. Jatamasi is also used to make perfumes and incense. Since Jatamasi is a rare plant, the export of this plant is prohibited.

**Write about biodiversity of Terai.**

Q.70. Ans: Terai is the plain stripe of land located east to west in the southern part of Nepal. It has its own unique topography, ecosystems and biodiversity. Tropical and sub-tropical vegetations are found in this belt, which are homes to varieties of plant and animal lives. Trees such as *sal*, *sisham*, *khayar*, *katus*, *uttis*, *chilaune*, *saaj*, *sati sal*, *simal*, *emli (nutri)*, *bar*, *peepal*, etc. are common in this region. Similarly, crops like rice, wheat, maize, sugarcane, tobacco, oilseeds and pulses are grown. Tiger, elephant, rhinoceros, leopard, krishnasar, ratuwa, arna, ghoral, chital, laguna, nilgai and gaurigai are common animals. Likewise, common kite, king vulture, hawk, dove, pigeon, crow, finch, crane and giant horn-bill are some birds of this region. Though being rich in biodiversity, it has been under a great threat due to ever increasing migration, deforestation, illegal hunting of animals and growing urbanization.

Q.71. **Explain in brief the need of conservation of biodiversity.**

Ans: Biodiversity should be conserved for sustaining natural state of animal and plant lives. Need of conservation of biodiversity can be stated in the following points.

- i. Biodiversity has to be conserved for the continuity of existence of all living beings.
- ii. For the sustainability of resources, it must be conserved.
- iii. Conservation of biodiversity helps in maintaining balance in natural process; ecosystem.
- iv. For social and economic development, biodiversity if necessary.
- v. It is beneficial also for providing scope for study and research.
- vi. If it is conserved, natural scenery and beauty is conserved too.

Q.72. **How can establishment of artificial conservation areas help in conservation of biodiversity? Explain.**

Ans: Artificial conservation areas help in biodiversity conservation very much. The conservation of animals and birds in their own natural habitat may not be possible in some context. Due to their very low number and continuity of factors which put them in danger, it is necessary to create artificial areas to conserve them. Botanical garden for vegetations and zoo for the animals are the examples of such artificial conservation areas. This type of conservation method is also called ex-situ conservation. In these areas the plants and animals are not only protected but also a due care is given in increment of their number. Several scientific methods are applied so that they reproduce and more offspring can be produced. It is more effective and useful method of conserving very much endangered species of organisms. In their original habitat, they may not survive for long but artificial conservation areas they have better possibilities of continuation.

**Q.73.** "Conservation of biodiversity can be effective with awareness programmes through local organizations." Justify this statement.

**Ans:** Yes, it is a true fact that conservation of biodiversity can be effective with awareness programmes through local organizations. Awareness created by local organizations can be more convincing than by anyone else. The involvement of different organizations at local level can be effective tool for conservation of the endangered plants and animals. The ministries and governmental organizations, non-governmental organizations and international non-governmental organizations are involved in the conservation of the endangered species. Ministry of Science and Environment, Ministry of Forest and Soil Conservation, National Trust for Nature Conservation, etc. are some of the governmental bodies working in the conservation. Non-governmental organizations are also participating in conservational activities. Similarly, international organizations like the International Union for Conservation of Nature (IUCN) and World Wildlife Fund are the major stakeholders in the biodiversity conservation.

**Q.74.** Make a list of national parks of Nepal.

**Ans:** Following list shows the names of national parks established in Nepal for biodiversity conservation.

- Chitwan National Park
- She-Foksundo National Park
- Lamtang National Park
- Sagarmatha National Park
- Khatpad National Park
- Rara National Park
- Bardia National Park
- Makalu-Barun National Park
- Shivapuri-Nagarjun National Park
- Banke National Park

**Q.75.** How many areas are there in Nepal including wildlife reserves, conservation areas and hunting reserve? Make their separate list.

**Ans:** There are altogether ten protected areas including wildlife reserves, hunting reserves and conservation areas, excluding national parks. Below list shows names of all the protected areas of Nepal excluding national parks.

**Wildlife Reserve**

- Koshi Tappu Wildlife Reserve
- Suklaphanta Wildlife Reserve
- Parsa Wildlife Reserve

**Conservation areas**

- Annapurna Conservation Area
- Kanchanjunga Conservation Area

- Manaslu Conservation Area
- Krishnasar Conservation Area
- Api Nampa Conservation Area
- Gaurishankar Conservation Area

**Hunting reserve**

- Dhorpatan Hunting Reserve

**Q.76.** "Effective conservation of biodiversity has become an urgent need of Nepal." Justify the statement with stating any four needs of biodiversity conservation. [SLC 2068 BJ]

**Ans:** The effective conservation of biodiversity has been an urgent need in Nepal. Day by day, the biodiversity of the country is decreasing and degrading due to human activities. Because of illegal hunting, poaching and trafficking the animals and plants are being rare. The needs of conserving biodiversity are as follows:

- for the balance of natural process
- for studies and research
- for economic and social development
- for the existence of living organism

**Q.77.** What is meant by protected animals and birds? Elaborate. [SLC 2061 BJ]

**Ans:** The birds and animals that exist in a small number and their number is decreasing gradually are generally protected in national parks or in conservation areas. Those conserved birds and animals are called protected birds and animals. Some protected animals are Indian Pangolin, Chinese Pangolin, Assamese Monkey, Grey Wolf, Striped Hyena, Leopard, Clouded Leopard, Spotted Linsang, Red Panda, Royal Bengal Tiger, Snow Leopard etc. Some protected birds are Black Stork, White Stork, Impeyan Pheasant, Crimson-horned Pheasant, Cheer Pheasant, Bengal Florican, Lesser, Florican, Sarus Crane and Great Pied Hornbill etc.

**Q.78.** Introduce cordyceps and write any four measures for its sustainable conservation. [SLC 2069 AJ]

**Ans:** Cordyceps is one of the rare plant species in Nepal, found in the meadows of the Himalayan ranges, belonging to fungus species. It is protected in the Sagarmatha National Park and found at an altitude of 300-4200 meters of Nepal. It is lichen that grows in the body of caterpillar. It is used as a medicine for heart disease, mental disease and sexual excitement.

Some methods for its conservation are given below:

1. **Proper collection:** People should collect it properly leaving some for the future purpose. Otherwise, it may be finished in future.
2. **Implementation of law:** Collection of cordyceps is illegal or against law. People are not allowed to collect, distribute, sell and export it. So, people should implement law for its proper conservation.

- organizations to preserve it.
4. **Employment opportunity:** The major occupation of people of mountain region is herbal collection. So, they should be provided with employment opportunity to leave it.

**Q.79. Make a short plan to conserve the giant pied hornbill and Asiatic rock python.** [SLC 2069 B]

**Ans:** The giant pied hornbill is being rare in Nepal as it is hunted and killed illegally by poachers and hunters because its bone and fat are used in medicinal uses. Asiatic Rock Python is another rare animal. It is hunted and killed illegally by poachers and hunters for its skin to make bags, belts etc. It is also killed by villagers to protect their domestic animals like young calves and goat from it and sometimes thinking wrongly as it is a poisonous snake. We can conserve these creatures in the following ways:

1. We should study, research and identify the status of these creatures.
2. Information and awareness of importance and knowledge of rare animals and birds should be given to the people.
3. A broad policy of conservation of whole ecosystem in aggregate should be made to conserve rare creature in the ecosystem.
4. There must be restriction for hunting these rare birds and animals for their proper conservation.
5. Sufficient laws should be formulated for conservation of rare birds and animals and they should be strictly implemented.
6. The participation of local people in conservation works help to strength the effectiveness of conservation in a remarkable extent.
7. Ex-situ and In-situ conservation of these animals and birds also plays a vital role in the conservation of rare species.

**Q.80. How does improvement in breeds help in biodiversity? Write in short.**

[SLC 2069 C]

**Ans:** Biodiversity has great importance for human beings as well for the aggregate environment. Biodiversity provides main foundation for the elements of livelihood. It has a direct relationship with our lifestyle, food, shelter, social phenomenon and economic aspects of human life.

The improvement in breed helps in conservation of biodiversity. Breeds are different species of living things. Scientific agricultural techniques adopt development and production of new breeds with improvement and production of new breeds with improved quality products, strong immunity, longer life and increased production. New breeds in fruits like seedless litchi, Amrapali mango etc. can give higher quantity as well as better taste and quality. Few new breeds of rice that have been developed by scientists can be planted even in mountain region with higher yield. Holstein and Jersey are new breeds of cow which give

more milk than local ones. Layer hens lay eggs every day and boifers can grow faster to yield more meat for us. Such new breeds are developed by making cross between other two species. More varieties of species can assure more probability of new breeds. In this way the improvement in breeds help in conservation of biodiversity.

- Q1. *Describe any five reasons for conserving biodiversity.*

(SLC 2059 C, 2066 C, E, 2069 C)

- Ans: *Show the needs of biodiversity conservation.*

(SLC Model Question 2065)

Ans: The conservation of bio-diversity means the conservation of whole supreme soul. There must be conservation of their required shelter and their gene quality.

- a) **For the existence of living beings :** The earth is living planet. It is a habitat for innumerable living beings. Geographical features of any country support to make the diversity in plants, animals and organism. Some of the species are also used in the breeding purpose to produce a better variety. They should be preserved for the future generation, too.
- b) **For the long-term conservation of resources :** Bio-diversity is the source of agricultural, animal and herbal resources. People get most necessary materials from it in order to make their livelihood. Without them it is difficult to make their living. By considering this, we have to use bio-diversity rationally and conserve it. It is necessary to preserve the source of various goods necessary for human beings in relation with its sustainability.
- c) **For the promotion and preservation of natural scenes :** As we know well that the variety of animals and plants create a beautiful landscape. It has a great importance for human beings. But such gifts of nature should be given proper conservation by its proper use. For this, the bio-diversity should be conserved.
- d) **For the balance of natural process :** The activities in natural ecosystem such as the birth and death of creatures, destruction, rotting are running. The plants, birds and animals, micro organisms have helped in automatic running of these activities. If conservation of bio-diversity is not made, all the organisms will be affected by the adverse effect on natural process.
- e) **For economic and social development :** The flora and fauna of the environment are the sources of various production. Animals and plants can be the good source of income. The necessary goods are made available from the organic resources to perform social and cultural activities. The conservation of bio-diversity is to be made to get required goods for performing economic, social and industrial activities.

D For study and research areas : Bio-diversity is a broad area for studies and research works. Natural resources and living beings should be researched, conserved and promoted. This conservation of bio-diversity helps their identification, studies and utilization. This work also helps to get necessary goods for human welfare. In this way, the conservation of bio-diversity helps the existence of living beings including man.

**Q.82. What suggestions do you give for the conservation of rare plants found in your locality? Give any five suggestions.** [SLC 2068 E]

**Ans:** The five Points that I suggest for the conservation of rare plant found in my locality are as follow:

- i) Generation of awareness among people about the importance of rare plants.
- ii) Artificial and biological reproduction of rare plants in order to increase their number.
- iii) Implementation of Conservation laws for the conservation of rare plants.
- iv) Establishment of nursery for increasing the number of rare plants.
- v) Prohibition in the illegal trafficking of rare plants.

**Q.83. What is watershed conservation? Write any four ways of watershed conservation.** [SLC 2070 C]

**Ans:** Watershed is a wide piece of land that is enclosed between two water resources like rivers, its tributaries or any other forms of water, drainage systems and remains throughout the year. Very less area of the world is occupied with the watershed areas. These areas deserve a great significance in preservation of many rare plants and animals.

The ways of conservation of watershed are as follows:

- 1) Preserving the natural quality of soil. Soil with inorganic as well as organic materials become loose and can percolate more amount of water to underground. It helps to conserve watershed too.
- 2) Presence of adequate amount of water in the surrounding in the form of water resources such as pond, lake, river etc.
- 3) Afforestation should be done. Deforestation makes the land dry. If the forest is conserved, then it keeps the soil moist and helps to absorb surface water by root through soil. It helps in watershed conservation.
- 4) Vegetation areas prevent water from excessive evaporation and the plants root absorb water and keep it in soil to conserve watershed.

**Q.84. Write on biodiversity of your locality and any three measures of conservation for them.** [SLC 2070 E]

**Ans:** Kathmandu valley is my locality and it is a part of hilly region. So biodiversity of my locality is that of hilly region.

Biodiversity of this region is high due to more area and vividness of climate and ecosystems. This region has average fertility with most

agricultural diversity. Even it covers 41.7% of total land of country; only 10% of that land is cultivable. Main crops cultivated in this region are rice, maize, wheat, barley, millet, oil seeds, soybean etc. Some rare vegetation like Serpentine, Panch Aule, Spike Nard, Himalayan Yew and Golden Michelia are also found. There are thick deciduous and evergreen forests with Sal, Sissau, Katus, Chilaune, Bamboo etc. as main vegetations. Main wild lives are leopard, bear, deer, monkeys, pheasant, crow, sparrow, cuckoo, dove etc.

Three measures of conservation of biodiversity are as follow:

1. **Conservation of ecosystem:** Ecosystem is common for all members of an ecosystem and all its components are interdependent and interrelated directly or indirectly with one another. So we should not degrade the ecosystem for the conservation of biodiversity.
2. **Protection of habitat:** Protection of habitat of wildlife will create the natural habitat for living beings. It conserves biodiversity.
3. **Public awareness:** Role of local people is very important in the conservation activities. Government and non-government organizations are involved in biodiversity conservation.

**Q85.** Write any five causes to be the minimum biodiversity in Himalayan Region. *[SLC 2071 E]*

**Ans:** Himalayan region is the northern part of our country. Its altitude ranges from 4,877 - 8,848 meters from the sea level. It includes about 35% of total land of country. Biodiversity i.e. the vividness of living things, genes, ecosystem and microorganisms in a unit square area of earth, is comparatively less than in the Hilly and the Terai region of our country. The possible causes to be the minimum biodiversity in Himalayan region are as follows:

1. Himalayan region has extremely cold climate. So only few vegetation and animals can survive in such climate.
2. The land structure contains more rocks comparatively. Only two percent of its total land is suitable for agriculture.
3. There are frequent climatic hazards like snow fall, dew, cold waves etc.
4. It has very steep land structure. So plants and animals can't survive in such structure.
5. It has many mountains covered with snow in its northern part. The snow line is at an altitude of 4,000m in the west and 5,000m in the east.

**Q86.** How can Nepal take more benefit by Himalayan yew (*Iauthsalla*)? Give any five suggestions. *[SLC 2071 E]*

**Ans:** Himalayan Yew (*Taxus wallichiana*) is locally known as lauthsalla. It is a perennial tree of pine species. It remains evergreen with pointed, thin and comb-like leaves. It is listed along with the rare plants of Nepal and banned for export.

It is one of the much useful rare plants. Nepal can take more benefits from it by making its use in different economic activities such as:

1. Its leaf is used to prepare medicine for earlier stage of cancer.
2. It is used in preparation of Ayurvedic medicine for intestinal diseases, diarrhea etc.
3. It is also used in preparation of medicines for nervous disorder, respiratory infection, headache etc.
4. It is used in preparation of medicine for blood pressure too.
5. Its timber is used to make furniture.

**Q.87. Which are the best methods to be used to increase productivity of cordyceps? Write any five ways.**

**Ans:** Cordyceps is one of the rare plant species in Nepal, found in the meadows of the Himalayan ranges, belonging to fungus species. It is protected in the Sagarmatha National Park and found at an altitude of 300-4200 meters of Nepal. It is lichen that grows in the body of caterpillar. It is used as a medicine for heart disease, mental disease and sexual excitement.

Some methods for its conservation are given below:

1. **Proper collection:** People should collect it properly leaving some for the future purpose. Otherwise, it may be finished in future.
2. **Implementation of law:** Collection of cordyceps is illegal or against law. People are not allowed to collect, distribute, sell and export it. So, people should implement law for its proper conservation.
3. **Public awareness programmes:** People should be made aware about the rareness of plants and should co-ordinate with various organizations to preserve it.
4. **Employment opportunity:** The major occupation of people of mountain region is herbal collection. So, they should be provided with employment opportunity to leave it.
5. **Control in overgrazing:** Cordyceps is found in meadows that are used for grazing of sheep. Due to constant transportation of cattle, growth of this herb can be hindered. Therefore, overgrazing of cattle must be controlled.

**Q.88. Why is in-situ conservation more effective in Nepal? Present any five reasons.** *[SLC 2071 C]*

**Ans:** In-situ conservation is the conservation of natural habitat of living things. In-situ conservation program has got a significant priority in Nepal and found to be more effective.

Some of the reasons behind it are given below:

1. About 18.5% of total land of Nepal lies in protected areas occupied by many national parks, wildlife reserves, conservation areas and hunting reserves etc. These all come under in-situ conservation.
2. In such habitat, plants and animals grow, develop and reproduce naturally. So each plant and animal will get its optimum environment.

3. It includes natural habitat of rare plants and animals. It helps to preserve such rare plants and animals.
4. It can be operated even in absence of skilled human resource and advanced technology. Traditional skill and knowledge can be used to continue this conservation.
5. Its being natural, it doesn't need high cost. For developing countries like Nepal, it will be cost effective.

Q89. How can Nepal take more benefit from golden michelia? Give any five suggestions. [SLC 2071 A]

Ans: Golden Michelia [Michelia champaca] is perennial tree of about 30 meters height, commonly known as Champ. It seems evergreen throughout a year. It has light yellowish-golden-colored flowers with sweet smell. It has thick bunch of branches and leaves making distinct shadow below it. Unauthorized collection and export of Golden Michelia has been banned. Nepal can take benefits from Golden Michelia by using it in following purposes:

1. Oil extracted from flowers is used in eye disease and gout arthritis.
2. Its flowers and fruits are utilized as energetic supplement.
3. Its bark is used for medicinal purpose.
4. Its timber is used to make furniture.
5. It is being evergreen plant; it helps to maintain green scenery in the country.

Q90. Yarsagumba is taken as a valuable medicine of Nepal. Justify. [SLC 2072 E]

Ans: Yarsagumba (Cordyceps sinensis) is one of the medically important endangered plants found in meadows of mountain region of Nepal at an altitude of about 3000-4200 meters from sea level. It is a seasonal parasitic fungi plant which grows on the back of a species of caterpillar.

Yarsagumba is medically and economically very important plant of Nepal. It is an effective energetic plant. It is used in treatment of weakness, infirmities, and sexual importance. It is taken with honey and milk for more effectiveness. It is used in Ayurved for the treatment of heart disease and brain disease. It has antimicrobial effect against many pathogenic bacteria too. Due to its expensiveness, it is smuggled.

Thus Yarsagumba is taken as a valuable medicine of Nepal.

Q11. How does the species of living creatures become rare from the environment? Mention any three preventive measures. [SLC 2072 FW]

Ans: Survival of plants and animals depend upon biodiversity. We find the significant degradation in biodiversity due to human activities in the process of development as well as geographical changes in the Earth's surface.

The species of living creature become rare from the environment mainly because of the following causes:

1. Alarming destruction of biological resources.
2. Unnecessary breeding of new species of vegetation and animals without proper research and scientific study.
3. Increase of environmental pollution.
4. Global and regional climatic changes.

The three preventive measures of rare living creatures are:

1. In-situ or ex-situ conservation can be done for the protection of rare plants and animals.
2. Rules and regulations should be formulated and effectively implemented for the conservation of rare living creatures.
3. It is necessary to conduct mass awareness programme on the aspects like importance of rare animals and plants, measures to adopt for their conservation, advantages of the conservation, public participation, public responsibility, etc.

The above mentioned measures can be adopted to prevent species of living creatures from becoming rare.

<b>(C) Long Question-Answer</b>	<b>7 Marks Each</b>
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**Q.1. Explain in brief any five importance of biodiversity.**

**Ans:** Biodiversity of a location is the existence of organisms and species of living beings per square unit area. It indicates the total living heritages of the earth and their status as well as differences of the system and structure of living beings in the nature.

Biodiversity is main source to meet the needs of people. Biodiversity is used in human activities related to settlement, life style, social functions and economic activities. The importance of biodiversity can be presented as:

- a) **Agricultural product:** The crops like paddy, wheat, maize, barley etc. are the main foods of people. The source of these food is the agricultural biodiversity. In the ancient time, people brought the useful crops from the forest and also cultivated lands to produce food for them. Then, they selected best seeds to get high yield. This process contribute in the development of best agricultural crops, which are the sources of food for people.
- b) **Animal products:** Animals are the sources of milk, meat, eggs, labour and other raw materials. Fish is another source of food. Birds are the beauty of nature. They can be used for food and for other purposes. Dogs are pet animals that take care of house. The bones, feathers and leathers are raw materials used for clothes, bags and other decorative materials. Some medicines are made by using some animals' products. People can conduct animal farming to produce more production. Thus, all of the animal products are the products of biodiversity.

- c) **Plant products:** Plants are the sources of food, flowers and raw materials are either obtained from forests or from agricultural land. Industries use leaves, fruits and materials for the production of useful materials. Several species of mushrooms, medicinal herbs, fruits, vegetables and plant products are collected and marketed. Plants have the economic value in improvement of living standard of the people.
- d) **Improvement of breeds:** Animals and plants are used for breeding to produce new variants. It is for improving their production and quality. Wild animals, birds and other living beings are valuable sources that can be used for breeding. This breedings can help to improve the quality of the established domesticates. Within domesticates they can be crossed to generate new varieties in the world. These improved varieties/hybrids produce high field of excellent quality.
- e) **Conservation of soil:** Land is one of the important natural resources. Soil erosion deteriorates the quality of land. Vegetation is the basic ground that protects the land. The vegetation and plants conserve moisture of the land. Their roots contribute to keep together the particles of soil.
- f) **Conservation of watershed:** The vegetation and plants contribute in the conservation of sources of water. Plants absorb water and help to remain in soil. The plants also speed down the evaporation process. Thus, there is a close relationship among the biodiversity, water sources and watershed.
- g) **Natural scene:** Nature is full of biodiversity. The plants and animals in the nature have their own habitat and life styles. There is diversity of plants and animals with the diversity of geographical structure. The diversity of plants and animals keeps the beauty of the nature. Thus, biodiversity has contributed to make a most valuable natural scene.

(D) Write short notes on the following.

Q. **Panchaunle**

Ans: Panchaunle is medicinal plant found at an altitude of 2300-3600 metres above sea level. It is a medicinal herb and is one of the protected plants of Nepal. The roots of this plant resemble the palm of human hand. So, the name "Pachaunle", meaning five fingers in Nepali, has been given to it. The flowers are pinkish in colour. The root has several uses. They are used as energetic drugs and are also used to make different medicines. The roots of the 3-4 years old plants can be taken out for commercial purpose. The plants should not be destroyed while taking out roots. The thinning of the roots should be done after shading their fruits to protect the plants.

**Q.2. Asiatic elephant**

Ans: Plain land below Churia range is the habitat for Asiatic elephants in Nepal. They are commonly found in Jhapa, Parsa Wildlife Reserve, Chitwan National Park, Bardia National Park and Suklaphata Wildlife Reserve. Length of the body including trunk is 5.5-6.5 metres with tail being 1.2-1.5 metres and average height is 2.4-2.75 metres. The average weight of an adult is 4000 to 5000 kilograms. It has a long trunk, big head, large ears and stumpy legs. The upper incisor teeth of male elephants are modified into tusks. The Asiatic elephant is smaller than African elephant. The number of elephants is being decreased because of poaching for their tusk. Asiatic elephant is the only living species of genus *Elephas* and only about 130-150 elephants are estimated to be present in Nepal.

**Q.3. Yarsagumba**

Ans: *Yarsagumba* (*Cordyceps*) is found in grassland which is covered with snow during winter at an altitude of 3000- 5000 metres above sea level. It is 5-8 centimetre long and is a fungus. It is grayish-white in colour. It has an interesting life span. During the winter season the spores of the fungus disperse through air and stick to the body of caterpillar of a special type of butterfly found in that region. The spores slowly germinate on the body of the caterpillar taking the nutrients from the caterpillar. As, the fungus grows on the body of the caterpillar, the caterpillar becomes weak and stops moving. At the end of winter when the snow melts, the fungus fully develops and the caterpillar dies because of the fungal infection. This mixed structure of fungus and dead caterpillar is the *Yarsagumba*. It is used to provide energy and is used in different kinds of medicines. It is also used to increase sexual power and is known as "natural Viagra". Since, it is rare vegetation, the collection, use, trade and export is prohibited by the government.

**Q.4. Red panda (*Habre*)**

Ans: Red panda (*Habre*) is found at an altitude of 1800-3800 metres from sea level. Its habitat in Nepal is in Lamtang, Makalu-Barun, Dhorpatan, Rara, Sagarmatha, Kunchunjunga and Gaurishankar areas. It measures 64 centimetres in length and 28 centimetres in height and tail is 28-48 centimetres long. The average weight is 3-6 kilograms. The face and under-parts are white in colour while other parts are red. It has a round head, large pointed ears, a little nose and hairy legs. It feeds on bamboo, grasses and fruits. It has been hunted for its skin with soft fur. It has been classified as endangered in IUCN Red List, listed in Appendix I of CITES and declared protected animal in Nepal.

CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora

**E) Differentiate between the following.****Q.1. In-situ and ex-situ conservation**

**Ans:** In situ means the original state in which certain organism is found in its original habitat. In situ conservation is that in which conservation is done in the species' own natural state and location. Ex situ means far from the natural state and location. Ex situ conservation is that in which species are conserved away from their original state and location. In situ conservation is effective to conserve biodiversity and ecosystem if they have not much depleted. Contrarily, ex situ conservation is highly effective when ecosystem and biodiversity are highly depleted and flora and fauna are endangered. Generally for ex situ conservation, artificial habitats can also be created such as zoo.

**Q.2. Vegetation of Himalayan region and Hilly region**

**Ans:** Deciduous type of forests is mostly found and alpine and sub-tropical forests are also found in higher altitudes of Hilly region. The main trees are *sal*, *salla*, *deodar*, *sishau*, *khayar*, *katus*, *uttis*, *chilaune*, *simal*, *khashru*, *bar*, *peepal* and so on. Main crops cultivated in Hilly region include rice, maize, wheat, potato, buckwheat, millet, soybean, sugarcane, oilseeds and so on. In Himalayan region, alpine forest and grassland are found which have adapted to the available cold climate here. *Thiguresalla*(Fir), *jhuslesalla*(spruce), *gobresalla*, *dhupi*, *deodar*, different types of *laligurash*, *bhojpatra*, *banlasun* are different trees and other plants found in Himalayan region. *Timur*, *Chiraito*, *Panchaunle*, *Padamchal*, *Jatamasi* and *Yarshagumba* are some of the herbs of this region. Different types of crops such as barley, buckwheat, wheat, maize and uwa are found.

**Q.3. Species and genetic diversity**

**Ans:** Difference of biodiversity caused by genetic factor is called genetic biodiversity. There is an element in living organism called gene which determines nature of a living species. Due to gene, offspring of a particular living being has similar features as that of parents. Within the same species of living organism, there can be varieties of differences due to genetic factor. Such biodiversity which have similar genetic or hereditary characteristics can be called genetic biodiversity. Whereas, Species refers to the group of organisms composed of related individuals that look similar to one another and can breed among themselves. Species diversity is the number of different species that are present in a given area. Species diversity indicates the richness of the species in an area.

**B) Justify following statements with suitable logic.****Q.4. Nepal is rich in biodiversity.**

**Ans:** Yes, of course. Nepal is rich in biodiversity. Though Nepal is a very small country occupying 0.1% of land of the world and 0.03% of the total area of the world (including land and water), it is rich in biodiversity. This diversity can be seen in the variations of the geography and climatic condition. 12 out of 867 ecologically important places of the world are in

Nepal. About 3.2% vegetation and about 1.1% animals of the world are found in Nepal. Nepal is home for about 6973 species of *angiosperms*, 26 species of *gymnosperms* and more than 5000 species of other non-flowering plant. Similarly, about 651 species of butterfly, 230 species of fish, 117 species of amphibians, 123 species of reptiles, more than 867 species of birds and 208 species of mammals are found in Nepal. These facts prove that Nepal is very rich in biodiversity.

**Angiosperm** = a flowering plant, plant whose ovules are enclosed in ovary

**Gymnosperm** = plant whose seeds are not enclosed in ovary

**Q.2. Human activities cause loss of mobility of animals and birds.**

**Ans:** Human activities obviously cause loss of mobility of animals and birds. The movement of animals and birds are affected by the interference of humans. Destruction of habitat and construction of recreational centres and human habitations near their habitat cause loss of mobility of animals and birds. This creates a restriction to the living being to survive in a limited area resulting in the competition for food and thus to the decrease in their number. The solution to this problem is not to interfere in the lives of animals and birds. Thus, the activities like urbanization and construction should be done in a manner that does not affect the wildlife and the activities which hamper their habitat should completely be stopped.

**Q.3. Local participation is the best way of biodiversity conservation.**

**Ans:** Participation of local people is the best way for biodiversity conservation. They are the ones who benefit if ecosystem and biodiversity of their locality are conserved. When conserved, it is local people who are going to get the maximum advantage of them. It is the local people themselves who destroy local ecosystem and biodiversity the most. Therefore, there is this twofold need of local people's participation in biodiversity conservation. On one hand, they need to play active role in conservation because they are the ones to destroy it. On the other hand, they are the ones to get benefitted by biodiversity if conserved successfully.

**Q.4. Humans are the destroyer and conserver of biodiversity.**

**Ans:** Above statement is absolutely correct. It is humans who are both the destroyers and conservers of biodiversity. Biodiversity is depleted due to human activities. Overpopulation has caused various effects on it. Humans encroach into forest areas and biodiversity gets hampered. They do things such as illegal hunting of rare creatures and smuggle them. Humans also legally/ illegally collect rare plants for medicinal purpose or for selling. Industrialization and urbanization have caused great impacts on ecosystems and caused lack of habitat for plants and animals. This way, humans are the destroyers of biodiversity. Likewise, they are the conservers also. Endangered species of creatures cannot be saved if humans do not make effective plans for their conservation. Humans are the destroyers and therefore, they themselves have to take initiative for biodiversity conservation through various plans, projects, visions and their well implementation.

- i. Religious aspect is effective in biodiversity conservation.*
- ii. Religious aspect can be a very useful tool for conserving some of the very useful plants and animals. Religious values, norms and beliefs can be utilized for the conservation of biodiversity. *Peepal, Bar, Tulsi, Parijat, Rudrakshya, Lotus, kush, etc* are considered holy in Nepal and should not be harmed according to the religious views. Similarly, some animals have their own religious importance. Elephant is taken as Lord Ganesh, snakes are associated with Lord Shiva, and there are many of such creatures which are connected with people's religious belief. If these views and beliefs are used for conservation and promotion of the biodiversity, it can be conserved and promoted very well."*



# **Environmental Health and Diseases**

**Specification Grid of the Unit**

SN	Level	Type	Number	Marks
1	Knowledge	Very Short + Long*	1+1	1+7
2	Understanding	Short	1	4
3	Application			
4	High ability			
* Long question may or may not be asked from the chapter.			Total	3 12

## **Ways with the Lesson**

- Environmental health is a subject which is concerned with the components of environment which may have impacts on human health.
- Environmental diseases are those which infect humans due to contamination of environment.
- Diseases which can catch humans because of different environmental components can be of two types; communicable and non-communicable.
- Communicable diseases are those which transfer from diseased to healthy humans through different means. They are caused by microorganisms such as virus, bacteria and others.
- Non-communicable diseases are those which do not transfer from one person to another through means such as water, air and etc.
- Some common communicable diseases are cholera, dengue, viral influenza and etc.
- People have to take much precaution against these communicable diseases otherwise they can sometimes take dangerous forms.

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## **(A) Very Short Questions-Answers                          1 Mark Each**

**Q.1. Give a clear meaning of environmental health.**

Ans: Environmental health is a subject which is concerned with the components of environment which may have impacts on human health.

**Q.2. What are main environmental risk factors that contribute for huge number of deaths every year in the world according to World Health Organization?**

Ans: Environmental risk factors such as air, water and soil pollution, chemical exposure, climate change and ultraviolet radiation are the main

when combined, disease means a state of 'lack of comfort'.

**Q.5. How old are diseases supposed to be?**

Ans: Diseases are supposed to be as old as existence of humans.

**Q.6. What did the ancient people think as the causes of diseases?**

Ans: Causes of diseases were thought to be sins or supernatural forces such as gods, goddesses, Satan etc.

**Q.7. Why was sin taken to be the reason of occurrence of diseases in the olden time?**

Ans: Sin was taken as the cause of diseases in olden times because causes of many of the diseases were not known to them due to any development of modern medical science.

**Q.8. What are some common symptoms when diseases attack human body?**

Ans: Some common symptoms when diseases attack humans are weakness, lack of interest on daily works, irritation, and pain in affected body part among others.

**Q.9. How many types are diseases divided into on the basis of their communicability and non-communicability?**

Ans: Diseases are divided into two types on the basis of their communicability and non-communicability.

**Q.10. What are the two types of diseases categorized on the basis of their communicability and non-communicability?**

Ans: The two types of disease divided on the basis of their communicability and non-communicability are communicable and non-communicable diseases.

**Q.11. What is the meaning of communicable disease?**

Ans: Communicable diseases are those which transfer from diseased to healthy humans through different means.

**Q.12. Define non-communicable diseases in a sentence.**

Ans: Non-communicable diseases are a kind of diseases that do not transfer from person to person through different mediums but catch humans due to reasons related to heredity, eating habit, environment, lifestyle and others.

**Q.13. What does reservoir mean with regard to diseases?**

Ans: Something such as water, food, insects that reserves disease-carrying germs is called a reservoir, with regard to diseases.

**Q.14. Give meaning of carrier with regard to communicable diseases.**

Ans: Insects, pests, parasites and other creatures which carry germs, generally without getting them affected and contribute to spread of disease can be called carriers.

**Q.15. What are some of the microorganisms that are responsible for the spread of communicable diseases?**

Ans: Virus, bacteria, fungi, protozoa etc are some of the responsible microorganisms responsible for spread of diseases.

**Q.16. Give the meaning of epidemic disease.**

Ans: Epidemic disease means a disease which spreads in a certain place affecting so many people at the same time.

**Q.17. What does pandemic disease mean?**

Ans: A disease spreading in a large area at the same time is called pandemic disease.

**Q.18. Give a clear meaning of endemic disease.**

Ans: A disease which occurs typically in a certain region which may reoccur there time and again is called an endemic disease.

**Q.19. Define sporadic diseases.**

Ans: Sporadic diseases are the diseases that very rarely occur and occur scattered.

**Q.20. Which season are communicable diseases found to be spreading more in?**

Ans: Summer is the season in which communicable diseases are found to be spreading more.

**Q.21. What does cycle of communicable diseases mean?**

Ans: The cyclic order in which communicable diseases transfer from one person to others through certain medium is called cycle of communicable disease.

**Q.22. Define preventive measures for communicable diseases with an example.**

Ans: Preventive measures for communicable diseases mean the necessary precautions what can be taken to avoid these diseases. Example of preventive measure against communicable disease is to wear mask to avoid various airborne diseases.

**Q.23. What is meant by food and water borne diseases?**

Ans: Food borne and water borne diseases are a type of communicable diseases that infects a person when they eat a food or water contaminated by some disease causing germ.

**Q.24. Introduce roundworm in a sentence.**

Ans: An intestinal disease caused by a round shaped worm is called roundworm.

**Q.25. What causes roundworm?**

Ans: Various types of worms that are generally round shaped cause roundworm, which enter human body through infected food and water.

**Q.26. Write any two symptoms of roundworm infection.**

Ans: Any two symptoms of roundworm are stomach pain and vomiting.

**Q.27. What is diarrhoea?**

Ans: Diarrhoea is a disease in which a person passes compulsive loose stool at least three times a day.

**Q.28. State any two symptoms of diarrhoea.**

Ans: Continuous frequent passing of stool and filling of gas in stomach are two symptoms of diarrhoea.

**Q.29. What condition is called dehydration?**

Ans: Condition in which human body lacks enough water in it is called dehydration that can be caused due to a number of causes such as diarrhoea etc.

**Q.30. What causes dehydration?**

Ans: Loss of water from body and no enough drinking of water causes dehydration mostly.

**Q.31. State few symptoms of dehydration.**

Ans: Thirst, dryness of inside of mouth and reduced amount of urine are few symptoms of dehydration.

**Q.32. What is dysentery?**

Ans: Dysentery food and waterborne disease caused by microscopic germs in which there is presence of blood and mucus-looking substance in the stool is called dysentery.

**Q.33. What are the causative factors of dysentery?**

Ans: Microscopic organisms amoeba and shigella are the causative agents of dysentery, which infect humans through contaminated food and water.

**Q.34. Give specific names of germs which cause dysentery.**

Ans: There are two types of dysentery, of which amoebic dysentery is caused by a protozoa (amoeba) called *entamoeba histolytica* and another, bacillary dysentery is caused by a bacterium called *shigella*.

**Q.35. Give meaning of amoebic dysentery.**

Ans: Amoebic dysentery is a type of dysentery caused by a protozoa (amoeba) called *entamoeba histolytica*.

**Q.36. Mention any two symptoms of amoebic dysentery.**

Ans: Stomach pain and frequent desire to pass stool but little amount of it are two symptoms of amoebic dysentery.

**Q.37. Define bacillary dysentery.**

Ans: This type of Dysentery is caused by a bacterium called *shigella*.

**Q.38. Mention any two symptoms of bacillary dysentery.**

Ans: Two symptoms of bacillary dysentery are appearance of blood in stool and there is a possibility that fever may accompany.

**Q.39. State any two main causes of food and water borne diseases in context of Nepal.**

Ans: Two important causes of frequent occurrence of water borne diseases in context of Nepal are lack of cleanliness of water sources and open defecation.

**Q.40. Suggest any two major preventive measures for food and water borne diseases.**

Ans: Proper purification of drinking water and environmental sanitation can be two major preventive measures for food and water borne diseases.

**Q.41. Define airborne disease with an example.**

Ans: Airborne diseases are those which catch people when they breathe infected air.

Or. The diseases that infect humans when they breathe in air infected by diseases carrying germs are called airborne disease.

Or. The diseases that transmit to humans through the medium of air are called airborne diseases.

**Q.42. Enlist any four examples of airborne diseases.**

Ans: Common cold, viral influenza, chickenpox and measles are some examples of airborne disease.

**Q.43. What causes common cold?**

Ans: A virus called rhinovirus causes common cold.

**Q.44. Enlist any two major symptoms of common cold.**

Ans: Itching of nose and headache are two major symptoms of common cold.

**Q.45. What precautions should be taken during common cold infection to control its spread? State any two.**

Ans: Two precautions to be taken against common cold are keeping physical distance from infected person and wearing mask in public.

**Q.46. Which organ does hepatitis B affect mostly?**

Ans: Hepatitis B affects Liver.

**Q.47. What causes hepatitis B?**

Ans: Hepatitis B Virus which is also called HBV causes hepatitis B disease.

**Q.48. What are two major modes of transmission of hepatitis B?**

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Ans: Two major modes of transmission of hepatitis B are due to transplantation of organs of infected person and due to sharing of tooth brush, towel, razor and etc with infected person.

**Q.49. Enlist any two major symptoms of hepatitis B disease.**

Ans: Pain in stomach and yellowness of eyes and skin are two major symptoms of hepatitis B disease.

**Q.50. How can hepatitis B disease be prevented? Suggest any two important measures.**

Ans: Any two measures for prevention of hepatitis B disease are taking a good care of personal health and hygiene and keeping away from drug abuse and sharing of syringe.

**Q.51. What germ transmits hepatitis C disease?**

Ans: A germ named hepatitis C virus or HCV transmit hepatitis C disease.

**Q.52. State any two important modes of hepatitis C transmission.**

Ans: Unsafe sex and sharing of syringe are two important modes of transmission of hepatitis C disease.

**Q.53.** What acts generally thought to transmit hepatitis B and C do not transmit these diseases? State any two of such.

**Ans:** Sharing of utensils as well as coughing and sneezing are thought to transmit hepatitis B and C but actually they do no.

**Q.54.** Define non-communicable diseases.

**Ans:** Non communicable diseases are those diseases which are not caused by infectious agents and are not transmitted from person to person but originate in a person because of several risk factors and progress slowly.

**Q.55.** What four major types of non-communicable diseases?

**Ans:** Cardiovascular diseases, cancers, chronic respiratory diseases and diabetes are taken as four major types of non-communicable disease.

**Q.56.** State any four main causes of non-communicable diseases.

**Ans:** Unhealthy diet, lack of physical mobility, consumption of harmful substances and heredity are four main causes of non-communicable disease.

**Q.57.** Define cancer.

**Ans:** Cancer is a condition in which there is overgrowth of cells in particular organs of our body.

**Q.58.** What organs has cancer been found to affect mostly in males and females?

**Ans:** Breast and cervix in females and penis, urethra and testicles in males are found to be the most affected organs by cancer.

**Q.59.** State any two causative factors of cancers.

**Ans:** Coming in constant contact with chemical substances such as tobacco, smoke, and others and exposure to physical elements such as radiation, ultraviolet rays etc. are two causative factors of cancers

**Q.60.** What are any two important symptoms of cancer?

**Ans:** Following are possible two of the many symptoms of cancer.

- i. Some wounds do not recover for prolonged time. That can be a symptom of cancer.
- ii. Moles and corns of human body may change colour and size.

**Q.61.** State any two measures how cancer can be prevented and controlled.

**Ans:** Refraining from tobacco and alcohol consumption and timely treatment of injuries and wounds can be two of the preventive measures of cancer.

**Q.62.** Define cardiovascular diseases.

**Ans:** Cardiovascular diseases are diseases of heart and blood vessels, which are non-communicable.

**Q.63.** What organs are affected by cardiovascular diseases?

**Ans:** Heart and blood vessels are affected by cardiovascular disease.

**Q.64.** What is brain stroke?

**Ans:** Brain stroke is a medical condition in which brain cannot function properly due to sudden interruption in blood supply to the brain.

**Q.89. How can cholera be prevented?**

Ans: Treatment of water before drinking, cooking or washing and proper disposal and treatment of infected stool and vomit are two important preventions of cholera.

**Q.90. What causes dengue fever?**

Ans: *Dengue virus* causes dengue fever when it enters human body due to mosquito bite.

**Q.91. Which mosquito carries Dengue virus?**

Ans: The mosquito that spreads dengue is *Aedes aegypti*.

**Q.92. State how dengue fever transmits.**

Ans: Dengue fever transmits to healthy human when a mosquito bites them after biting an infected person.

**Q.93. Mention one symptom of dengue and one preventive measure against it.**

Ans: Mild to high fever with severe headache is a symptom and taking rest as well as drinking plenty of water is a preventive measure for dengue fever.

**Q.94. How is viral influenza transmitted?**

Ans: The virus mostly spreads from infected person to a healthy person through air from coughs and sneezes or from direct contact with respiratory secretions like sharing drinks and utensils.

**Q.95. Which strain of Influenza A virus causes bird flu and swine flu?**

Ans: Swine flu is caused by H1N1 strain of Influenza A virus and affects the pigs and bird flu is caused by the H5N1 Influenza A virus and affects the birds whereas, these viruses can infect humans too.

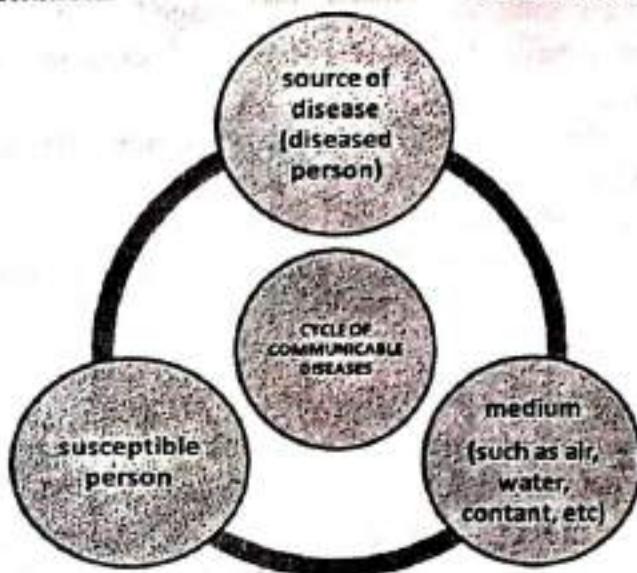
<b>(B) Short Questions–Answers</b>	<b>4 Marks Each</b>
<b>Q.1. Introduce concept of environmental health clearly in a paragraph.</b>	
Ans: Environmental health is a subject which examines and controls the factors prevalent in environment which may hamper human health. In other words, environmental health is a branch of public health which deals with the aspects of natural and human-made environment which may have effect on human health. It focuses on protecting human health from any harmful situations or contaminants present in any natural or human-made environment. Environmental health can also be defined as the aspects of human health that are influenced by the factors present in environment. The theory and practice of studying and managing elements present in environment that can possibly negatively impact human health can be called environmental health. It is quite important because it makes people aware of how they can maintain their good health keeping away from diseases that various environmental factors can cause in their body.	
<b>Q.2. What is the argument of World Health Organization regarding relation of environmental degradation and human health? What should be done for improving the situation according to this organization?</b>	
Ans: World Health Organization (WHO) is one of the authorities which is quite concerned with environmental health and spreading this concept to the public. WHO argues that environmental risk factors, such as air, water	

and soil pollution, chemical exposures, climate change, and ultraviolet radiation, contribute to huge number of deaths and injuries in the world per year. This organization also claims that by focusing on reducing environmental and social risk factors, nearly a quarter of the global burden of disease can be prevented. Examples include promoting safe household water storage, better hygiene measures, safer management of toxic substances in the home and workplace. At the same time, actions by sectors such as energy, transport and agriculture are required urgently, in cooperation with the health sector, to address root environmental and social causes of ill-health that lie beyond the direct control of the health sector.

3. *Give a clear introduction to disease in a small paragraph.*
- Ans: A state in which a person is physically or mentally unhealthy can be called a disease. The word 'disease' is made up of two parts; 'dis-' and 'ease'. 'Dis' is a prefix which means something like 'lack' and 'ease' means 'comfort'. So when combined, disease means a state of 'lack of comfort'. Disease is the occurrence of any unusual event in human's physical or mental health. Many of the diseases are caused due to infection of some organisms. Though, all the diseases are not caused due to infection of such germs; rather they occur due to genetic factors, unhealthy lifestyle and so on. But whatever, diseases may disturb not only physical and mental health, but also psychological and social state of people. Some of them cause pain in some parts of body, whereas some others are not associated with any pain. Some of them transfer from one person to another whereas, some other do not do so. Likewise, some diseases are curable but some others are not. But anyways, diseases are better avoided.
4. *Highlight the meaning of communicable diseases with examples. What are the causative factors of transmission of such diseases? Explain.*
- Ans: Communicable diseases are those illnesses which transfer from one person to another or catch a person through some medium. Such diseases in most of the cases are caused by microorganisms which transmit from infected person to healthy people by several means. Such means can be such as air, water, food, and some disease carriers such as insects. Some examples of communicable diseases are tuberculosis, cholera, malaria, jaundice, typhoid, diarrhoea, and others. Infected water, food, air, and body liquids of diseased person like saliva, blood, cough, sperm, cervical mucus and others are the means of communication of such diseases. If a healthy person comes in contact with diseased through clothes, closeness, sex and etc, the healthy person becomes vulnerable to such diseases. It is not that all of the communicable diseases transfer from one person to another through the same means. Different communicable diseases transfer through different means and ways. But anyways, one common thing about all of them is that they transfer from diseased person to healthy ones through any of the means and if taken preventive measures carefully, people can avoid them in most of the cases.

Ans: Cycle of communicable diseases

is shown in following chart.



Q9. What is the cycle of communicable diseases inside human body? Define and explain its different stages.

Ans: Communicable diseases have 5 stages of transferring from infected person or disease carrier through mediums to healthy person. That is the cycle of communicable diseases outside human body. But if you talk of cycle of communicable disease inside human body, it means the period after entrance of disease-carrying germs in the body through observation of symptoms and illness till recovery from the disease. This cycle has 6 stages as follows.

- i. **Incubation period:** It is the period when disease causing germs have already entered a body but are passive and there is no symptom seen.
- ii. **Prodromal Period:** In this stage, simple symptoms of the disease are seen.
- iii. **Fastigium Period:** Clear symptoms of the disease are seen in this stage.
- iv. **Defervescence period:** This is the period when the sick person is extremely suffering from the disease. It is climax period and if not got treatment, the sick can even die.
- v. **Convalescence period:** It is when the diseased person starts to recover.
- vi. **Defection Period:** It is completely recovered state.

for infection of various minor to fatal diseases. Some examples of diseases transferred by these insects are malaria, Japanese encephalitis, elephantiasis, kala azar etc. They transfer due to several reasons. Many of the reasons are results of people's lack of care. They transfer due to not using mosquito net while sleeping. Similarly, they may also transfer due to staying outdoors in areas where such insects live. Sometimes, even due to wearing short clothes people may have to face insect bites and get victim of such diseases. Lack of maintaining cleanliness of surrounding around residence can also cause such diseases. Some preventive measures for such diseases can be as follows.

- not staying outside especially during nights
- using mosquito net as required
- keeping surrounding clean all the time
- controlling growth of parasites

**Q.16.** Give some examples of diseases communicated through birds and animals and how they transfer. Also prescribe some advices about how such diseases can be avoided.

**Ans:** Some examples of diseases communicated through birds and animals are bird's flu, swine flu, rabies, scrub typhus, plagues and so on. Actually, many of such diseases infect animals and birds. When humans come in their contact, the germs which have infected them infect human too. Some other disease infect humans when the infected animal bites people. Likewise, some others are transferred to humans due to bite of parasitic insects hidden on animals body. Rabies transfer due to bite of rabies infected dog. Similarly, bird's flu transfers due to coming in contact with birds infected with diseases. Some other diseases of this type can also transfer due to being bitten by some wild animals. Health experts give following advices to be prevented from such diseases.

- taking timely vaccines against such diseases
- keeping away from stray animals such as dog
- not coming in contact with dead animals such as rat, birds etc because they could have been infected and dead due to some infections that can transfer on humans
- taking good precaution which caring pigs, chicken and other livestock

**Q.17.** What are STDs? How do they transfer? Prescribe some preventive measures against them.

**Ans:** Sexually Transmitted Diseases (STDs) are the diseases that transmit into and infect human body due to unsafe sexual activities. In other words, STDs mean those diseases which humans catch if they involve in unsafe sex. Some examples of such diseases are HIV/AIDS, syphilis, gonorrhoea, hepatitis B, C and D among others. As already mentioned, they transfer due to unsafe sexual activities and intercourse. Most of these diseases are various and many of them can take life if untreated.

HIV/AIDS result in death of infected person. Therefore, such infections should be prevented through some measures. Following are the major preventive measures of STDs.

- i. Not having unsafe sex and multiple sex partners: people must have only one sex partner. If a person has multiple sex partners, they have high chances of getting an STD. They also have equal chance of transferring their STD to others.
- ii. Using condom during intercourse: Condom can help avoid unwanted pregnancy and almost all STDs if used properly. Some STDs can transmit through personal contact also. But the biggest cause of their transfer is unsafe sex and other sexual activities. They must be prevented.
- iii. Some of the STDs can transfer through infected syringe and other pointed as well as sharp objects too. They should not be shared.

**Q18. How can diseases communicate through transplantation of blood and organs and what are some of them? Suggest few measures to keep away from such diseases.**

**Ans:** Some of the diseases transmit through transplantation of blood and body organs. If blood or organs of an infected person is taken by a healthy, such diseases transmit to the healthy one. Hepatitis B, malaria, HIV/AIDS, and many of the communicable diseases can transmit in this mode. Organ transplantation such as kidney, eyes, etc and blood is responsible for such infection. Preventive measures should be taken to avoid transmission of such diseases. One of the most important preventive measures is making sure that donor of blood is not infected by any diseases. Another one is that before transplanting any body organs to a receiver, organ donor has to be examined very well to make sure that s/he is not infected by any diseases.

**Q19. Can diseases spread through syringe and sharp objects? How? Write with examples and advise on how to prevent them.**

**Ans:** Many communicable diseases can spread through the use of syringe and some other pointed as well as sharp objects. Especially if such objects are contaminated by substances or germs that carry certain diseases, their use can cause those diseases to healthy persons. For example, suppose a syringe is used by a person infected with HIV/AIDS and the same syringe is used by another person, the second person can be infected with HIV/AIDS. A number of diseases can spread in this way. Some examples are syphilis, gonorrhoea, hepatitis B, C, D and HIV/AIDS. Such diseases can be avoided by taking some precautions. Some preventive measures against such diseases are listed below.

- Not sharing used syringe or other pointed and sharp objects especially those which come in contact with body. Some examples of such tools are razor, blade, needles etc.

- Keeping away from drug abuse is another preventive measure against such mode of diseases transmission. Drug abusers share syringe sometimes and such diseases can transfer.
- We have to sterilize the needles and tools before tattooing and body piercing.

**Q.20. Introduce roundworm as a communicable disease. Enlist its symptoms and point out some preventive measures.**

**Ans:** A disease of intestine caused by a round shaped worm is called roundworm. It is transmitted through infected water or food. Hook worm and bigger roundworm are the main worms which infect humans in this disease. Following are major symptoms of this disease.

- i. Stomach pain
- ii. Indigestion
- iii. Desire to vomit
- iv. Vomiting
- v. Cough
- vi. Occasional appearance of worm in stool
- vii. Chance of appearance of worm from inside mouth or nose

There are some helpful preventive measures against this disease. Cleanliness is the major prevention against this disease. Everything we eat should be cleaned well. Hand should be washed well with soap and water after using latrine and before eating. Raw fruits and vegetable have to be washed very well several times before eating. Surrounding should be cleaned well.

**Q.21. If you had got diarrhoea, what symptoms would you face? Point out.**

**Ans:** If I had got diarrhoea, I would have following symptoms.

- i. I would have stomach pain
- ii. I would pass loose stool.
- iii. I would experience weakness of muscles in hands and legs. I would possibly face muscle cramp.
- iv. I would have desire of vomiting and vomiting could occur too.
- v. My stomach may fill with air.
- vi. Stool would be odourous.
- vii. This disease may lead me to dehydration.

**Q.22. Highlight meaning of dehydration and describe its symptoms. What should be done in such a condition?**

**Ans:** Dehydration means a condition in which human body lacks enough water in it. In other words, when a person loses water from their body and does not drink enough water, that condition is dehydration. Dehydration, if not cared well, can lead a victim even to death. Following are some noticeable symptoms of dehydration.

- i. Thirst, dry inside of mouth
- ii. Skin starts to wrinkle.
- iii. Amount of urine reduces.
- iv. Upper part of an infant suffering from dehydration may sink down.
- v. Eyeballs sink down.

Dehydration can be fatal if not cared well. Too much lack of water in body can even take away life. Therefore, a person suffering from dehydration has to consume plenty of liquid. Water should be drunk plenty and minerals can add to revitalization of body.

**Q23. What is dysentery? What are its types? What cause them? What are their common symptoms?**

**Ans:** Dysentery is a food and waterborne disease which can infect people of any ages, though children are attacked more. It is caused by microscopic germs in which there is presence of blood and mucus-looking substance in the stool. This disease can be divided into two types; amoebic and bacillary. Two types of dysentery are amoebic and bacillary. Amoebic dysentery is caused by protozoa named *entamoeba histolytica* whereas bacillary is caused by a bacterium called *shigella*. Bacillary dysentery is known as *ragatmasi* in Nepali language. Some common symptoms of both types of dysentery are as follows.

- i. Stomach pains.
- ii. There is frequent desire to pass stool but only little amount passes.
- iii. Blood may appear in both types of dysentery but there is more chance of that in bacillary dysentery.
- iv. Dehydration may occur.
- v. Desire to vomit and even vomiting may occur.

**Q24. What is amoebic dysentery? Show its symptoms.**

**Ans:** Amoebic dysentery is one of the two types of dysentery cause by a microorganism called amoeba a protozoan germ. Specific name of the causative microorganism of amoebic dysentery is *entamoeba histolytica*. It is highly infectious. Although it is not live threatening in most of the cases, it can be very serious and may even take life if not taken a good care of. Following is the list of major signs and symptoms of amoebic dysentery.

- i. Stomach pain
- ii. Frequent desire to pass stool but little amount of it
- iii. Weakness and tiredness of body
- iv. Stool may contain blood, mucus and air bubbles.
- v. Lack of appetite and desire to vomit
- vi. Dehydration may occur.

**Q25. Define bacillary dysentery along with showing its symptoms.**

**Ans:** This is one of the two types of Dysentery that is caused by a bacterium called *shigella*. There is appearance of blood in stool and that is why it is also known as *ragatmaasi* in Nepali language. Like amoebic dysentery, it can also be very serious and life threatening if not taken a good care of, though does not take life in most of the cases. Signs and symptoms must be studied well and victims needs to be taken to hospital as soon as possible. Following are major signs and symptoms of bacillary dysentery.

- i. Stomach pain
- ii. Frequent occurrence of passing of stool but little mount of it

- iii. Appearance of blood in stool
- iv. Fever may accompany.
- v. After some time, only blood may appear in stool.
- vi. Possibility of dehydration
- vii. Unease while passing stool

**Q.26.** *What are some common causes of food and water borne diseases? List them out.*

**Ans:** Food and water borne disease are those which infect people when they happen to eat or drink infected food or water. Various disease carrying agents can be infecting food and water that humans consume. Because such causative agents such as virus, bacteria, fungi, protozoa etc cannot be seen with naked eyes, people think such food or water to be clean and they consume it. Such act may cause infection of food and water borne diseases. Those disease-carrying germs can infect people's food and water mostly due to wrong human activities and carelessness. One major cause of such diseases is to open defecation. Another cause if unwise throwing of household waste and excreta. Similarly, such diseases can transmit also because of lack of personal hygiene, due to drinking impure water, lack of hand washing habit and because of eating fruits, vegetables and salads without properly washing and cleaning. Other causes include lack of cleanliness of water sources, due to eating undercooked meat and drinking under-boiled milk, among others.

**Q.27.** *It is said that only a little care can prevent a lot of food and water borne disease. What are few major preventive measures for them? Enlist them.*

**Ans:** It is quite true that a little more care can be taken which help to avoid a wide range of diseases. This fact specially applies to food and water borne diseases. If some measures are taken, most of the food and water borne diseases can be avoided. There are a number of easy preventive measures. One measure is that hand washing habit should be developed, especially after using latrine and before eating. Similarly, open defecation should be completely stopped. Cooking food well before eating should also be done. Everybody must have a very good personal hygiene. Surrounding should be kept clean and hygienic. Cleaning and washing of fruits, vegetables and salads very well before eating can also help to avoid such diseases. Household litters and human excreta should not be thrown here and there. Latrine should be used properly all the time. All should keep water sources clean. Sewage should not be mixed to water sources. Food and water should be kept covered all the time to avoid contamination.

**Q.28.** *Define airborne diseases and introduce common cold and its symptoms.*

**Ans:** Airborne diseases are those which transmit from one person to others through air. Diseases causing germs pass from one person to others through respiration. In other words, the diseases that infect humans when they breathe in air infected by diseases carrying germs are called airborne disease. Common cold is an airborne disease that is a disease which is found worldwide and communicates very easily and quickly. It is a not a

fatal disease but causes a great discomfort to victims. It is caused due to a germ called *rhinovirus*. It affects nose, throat and chest of the victim. It transmits generally because of cold, lack of hygiene, coming in contact with diseased, smoke and dust. There is no specific medicine or common cold till date but can be controlled through some ways. Following are its symptoms.

- i. irritation of throat
- ii. itching of nose
- iii. headache
- iv. itching of eyes
- v. sneezing and running nose
- vi. Fever may accompany
- vii. Pain in muscles and joints
- viii. Reduced sense of smell and taste

***Define hepatitis B. What are its modes of transmission?***

This is a disease of liver. It can even lead to liver cancer and ultimately to death. This disease does not show much of symptoms until it reaches very serious stage. For that reason, this disease is also called 'silent killer'. Hundreds of thousands of people die each year in the world due to this disease. Following are various modes of transmission of hepatitis B disease.

- i. It transmits if an infected person donated blood to a healthy one.
- ii. Due to use of unsterilized tools used for tattooing
- iii. Due to use of unsterilized syringes, blades, needles, surgical equipment and so on
- iv. If infected person becomes pregnant, this disease transfers to the baby.
- v. Due to transplantation of organs of infected person
- vi. Due to sharing of tooth brush, towel, razor and etc with infected person
- vii. if a mosquito which has bitten an infected person bites a healthy person

***Present the symptoms of hepatitis B and few preventive measures for this disease.***

Hepatitis B disease has various signs and symptoms once its attack people. In the initial stage, victim feels unusual tiredness. There is no much appetite. Lack of appetite grows afterwards. There is a pain in stomach. After that yellow colour starts to develop in eyes and skin. Yellowness grows as the disease grows. There is chronic infection of liver. Infection in liver can turn into liver cancer and lack of care and timely treatment may end up in death of the diseased person too. This disease can be prevented by the following measures.

- i. Refraining from drug abuse and sharing of syringe
- ii. Taking a good care of personal health and hygiene

- iii. Not having tattoo if possible, if want to have, sterilizing the tools before using them
- iv. Not sharing tooth brush, razor, blade, needle etc
- v. Proper disposal of used syringes and body piercing tools such as needles
- vi. Using sterilized tools for acupuncture, scaling of teeth and such
- vii. Taking vaccine against the disease

**Q.31.** Introduce non-communicable diseases in a small paragraph. Why are non-communicable diseases sometimes called lifestyle diseases?

**Ans:** Type of diseases that are not caused by infectious agents and are not transmitted from person to person is called non-communicable diseases. These diseases originate in a person because of several risk factors and progress slowly. They are also known as chronic diseases. Non-communicable diseases are the major health problems and cause a huge economic burden. The incidence of non-communicable diseases is seen more in low- and middle-income countries than in high-income countries. Another interesting fact is that almost three-fourth of deaths worldwide caused by non-communicable disease occur in these countries. The exact cause of these diseases is not known till now but there are many factors which are found to contribute to the origin and progression of these diseases. These factors are called the risk factors of non-communicable diseases. Non-communicable diseases are sometimes called lifestyle diseases too because their main causes are unhealthy lifestyle of people. For example, eating too much carbohydrate and fat causes obesity (excessive fatness) which can result in heart diseases.

**Q.32.** Describe some of the risk factors of non-communicable diseases.

**Or,** What are some of the major causes of non-communicable diseases? Describe in short.

**Ans:** There are several causes or risk factors responsible for the occurrence of non-communicable diseases. These risks may be different according to the type of diseases, but the general risk factors that occupy a major proportion among others are age, genetics, unhealthy diets, physical inactivity, exposure to tobacco and its smoke, use of alcohol, unhealthy life style, pollution, presence of

**Prescribe some preventive and controlling measures for non-communicable diseases.**

Non-communicable are those diseases which do not transfer from one person to others but are caused due to various factors such as heredity, age, lifestyle, substance consumption and environment among others. They are often referred to as lifestyle diseases because many of such diseases are caused due to people's lifestyle. Following are some of the measures to be taken for preventing such non-communicable diseases.

- Regular physical exercise should be done to remain physically as well as mentally fit.
- We should keep away from alcohol consumption.
- Drug and tobacco consumption has to be totally prevented.
- We have to consider our eating habit all the time. High calorie and imbalanced diet should not be eaten.
- We should sleep enough but not too much.
- Stress should be managed very well.
- Body posture has to be maintained all the time.

**Q4. Define cancer and show its major causes.**

Ans: Cancer is a chronic disease most of which cannot be cured. It is called *arbudh rog* in Nepali language. Cancer is a condition in which there is overgrowth of cells in particular organs of our body. Though it can be caused in any part of human body to both genders, it has been found to prevail more frequently in breast and cervix in women and penis, urethra and testicles in men. More than one hundred cancers have been found out converted into glucose and level of sugar increases in blood. This condition is known as diabetes. This disease can be usually found in persons above the age of 40 but some people below that age may also develop it.

SN	Symptoms of Diabetes	SN	Preventive Measures of Diabetes
1.	High hunger and thirst	1.	Healthy and balanced diet
2.	Frequent urination	2.	Regular physical exercise
3.	High level of glucose in urine and blood	3.	Controlling obesity
4.	weak, gets <i>helicobacter pylori</i>	4.	Refraining from alcohol and consumption

**Q5. What symptoms are seen in cancer? Also advise some ways to prevent cancer.**

Ans: There are various signs and symptoms of cancer. Cancer can attack various organs and they may have various symptoms. In cervical cancer, blood appears even after menopause. A small blister appears and continues growing in genital in cervical and prostate cancer. Some wounds do not recover for prolonged time. That can be a symptom of cancer in any organ. Moles and corns of human body may change colour

and size. There is appearance of some augment which can be felt inside breast in breast cancer. Blood may appear in stool in colorectal cancer. Cancer can be avoided to much extent by adopting some preventive measures such as keeping away from tobacco and alcohol consumption and timely treatment of injuries and wounds. Similarly, other preventive measures against cancer include consulting doctor if a wound remains in body for very long time. Maintaining environmental cleanliness, eating healthy and balanced diet and controlling hepatitis B can also help in preventing cancer.

**Q.36. Introduce heart attack and brain stroke and enlist their causes.**

- Ans:** Heart attack is a condition in which heart suddenly stops functioning due to sudden interruption of blood supply to heart. Likewise, brain stroke is a condition in which brain cannot function properly because of interruption in blood supply to brain. Heart diseases and other problems associated with heart lead to heart attack and brain stroke. They can even lead to death. Following are the common causes of heart attack and brain stroke.
- Due to blockage of blood circulation due to clotting of blood or storage of fat inside vessels supplying blood to cardiac muscles
  - Due to clotting of blood or storage of fat in vessels supplying blood to brain
  - Due to hemorrhage (breaking of blood vessel) of blood vessels resulting in huge internal bleeding

**Q.37. Make separate lists to show symptoms of heart diseases and brain stroke.**

- Ans:** Symptoms of heart diseases and brain stroke are shown in the following table.

**Q.32. Describe some of the risk factors of non-communicable diseases.**

**Or,** *What are some of the major causes of non-communicable diseases? Describe in short.*

- Ans:** There are several causes or risk factors responsible for the occurrence of non-communicable diseases. These risks may be different according to the type of diseases, but the general risk factors that occupy a major proportion among others are age, genetics, unhealthy diets, physical inactivity, exposure to tobacco and its smoke, use of alcohol, unhealthy life style, pollution, presence of toxic materials in the environment, etc. For example, the continuous exposure to the smoke of tobacco increases

**Q.38. State few common preventive measures for heart diseases and brain stroke.**

- Ans:** Heart diseases and brain stroke can take lives. They are very serious diseases. Therefore necessary preventive measures should be adopted to avoid them following are some important preventive measures for heart diseases and brain stroke.

- Keeping away from tobacco, alcohol and drug consumption
- Regular physical exercise
- Regular and balanced healthy diet

- iv. Reducing consumption of fat, salt and spicy food
- v. Controlling obesity
- vi. Managing mental stress
- vii. Consumption of fruit and vegetable regularly
- viii. Regular check up of blood pressure

**Q9. Describe rheumatic fever and rheumatic heart diseases.**

Rheumatic fever is a disease that cause pain in the joints of hands and legs. These joint get painful sensation and swollen in this disease. Some children face pain in throat after they get tonsillitis and pharyngitis. After 1 to 4 weeks of the beginning of such throat pain, they can have a fever. Problem seen in joints accompanied by fever is called rheumatic fever. Rheumatic fever is caused by a germ of the type Group A beta-hemolytic streptococcal. This disease is generally caused in children from five to fifteen years of age. Rheumatic heart disease is a disease in which problems occur in valves of heart. As much as 50% of the children having rheumatic fever develop problems in valves of heart. This condition is known as rheumatic heart disease. Rheumatic fever has only pain in joints and fever whereas, rheumatic heart disease is a condition in which heart valves are damaged. There is throat pain in beginning of these diseases. Therefore, doctor must be consulted if symptoms such as throat pain, sore throat, pain in joints and fever accompany.

**Q10. Highlight what diabetes is. Also enlist its symptoms and preventive measures.**

- Ans: Diabetes is a physical condition in which there is high level of sugar in blood. If insulin is not produced in pancreas, carbohydrate cannot be converted into glucose and level of sugar increases in blood. This condition is known as diabetes. This disease can be usually found in persons above the age of 40 but some people below that age may also develop it.

Symptoms of Diabetes	SN	Preventive Measures of Diabetes
1. High hunger and thirst	1.	Healthy and balanced diet
2. Frequent urination	2.	Regular physical exercise
3. High level of glucose in urine and blood	3.	Controlling obesity
4. Body becomes weak, gets thinner and dizziness occurs because of lack of glucose.	4.	Refaining from alcohol and tobacco consumption
5. Blood clotting delays	5.	Reducing consumption of high carbohydrate food
6. Problems are seen in eyes, heart and kidney	6.	Avoiding getting injured
7. Wounds do not heal quickly	7.	Regular medication as per doctor's prescription

**Q.41. Give an introduction to chronic obstructive pulmonary disease and its causes.**

**Ans:** Disease which causes difficulty in breathing and consistent cough due to contraction of blood vessels inside lungs is called chronic obstructive pulmonary disease. It is caused due to exposure to cold, dust, smoke as well as pneumonia, allergy, bronchitis, roundworm and such other reasons. Around 8 million people suffer from this disease in the world per year according to WHO. It victimizes old children and old than it does young people. Its main causes are as listed below.

- Smoking
- smoke produced while cooking
- smoke mixed in environment emitted by industries and vehicles
- dust
- chemical substances

**Q.42. State what symptoms are seen in chronic obstructive pulmonary diseases (COPD). Also enlist some preventive measures for this disease.**

**Ans:** Various signs and symptoms are seen in chronic obstructive pulmonary disease (COPD). If such symptoms are seen in patient, doctor should be consulted. Following are the symptoms and preventive measures of chronic obstructive pulmonary disease.

SN	Symptoms of COPD	SN	Preventive Measures for COPD
1.	heaviness of chest	1.	Refraining from smoking
2.	cough and cough discharge	2.	Drinking a lot of fluids
3.	heavy and quick breathing even when doing simple works, climbing up etc	3.	Living in place having fresh air
4.	speed of breathing and pulse increases	4.	Being safe from cold
5.	difficulty breathing while sleeping	5.	Wearing warm clothes
6.	restlessness	6.	Keeping away from allergens
7.	Death can occur in acute case of this disease if not given oxygen on time.	7.	Giving oxygen to patient if they feel much difficulty breathing

**Q.43. Shade light on meaning of environmental diseases in a paragraph with examples.**

**Ans:** Environmental diseases mean those which are caused due to environmental factors like pollution and such. In other words, they are the diseases which transmit to humans due to the presence of pollutants, toxic substances, and such other contaminants in environment. Such diseases are directly related to our physical and social environment. Because of human activities such as industrialization, urbanization, operation of vehicles, release of chemical pollutants by factories, hospitals, households and such other causes, there is prevalence of unwanted substances in our

surrounding which pose a threat to human health. They cause several diseases some of which we will discuss below. There are various examples of environmental diseases such as diarrhoea, cholera and viral influenza among others.

**Why are environmental diseases called so? What are some causes of them? Describe.**

Environmental diseases are called so because various substances present in environment cause such diseases. Major causes of such diseases are presence of pollutants, toxic substances, and such other contaminants in environment. Such diseases are directly related to our physical and social environment. Because of human activities such as industrialization, urbanization, operation of vehicles, release of chemical pollutants by factories, hospitals, households and such other causes, there is prevalence of unwanted substances in our surrounding which pose a threat to human health. On the other hand, due to our social environment too, humans catch particular diseases which are also termed as environmental diseases. They are those which are related to people's socio-cultural environment like their life style, eating habit, drug abuse and lack of physical exercise among others.

**Describe the meaning and nature of cholera. What is the causative agent of cholera?**

Cholera is an infectious disease of intestine that causes severe watery diarrhoea, which can lead to dehydration and even death if not treated. It is transmitted through food and water contaminated with *Vibrio cholerae* bacterium that is the causative agent of this disease. Cholera is mostly prevalent in developing countries than in developed countries and is an indicator of unhygienic social life. Cholera has been causing epidemics in different parts of the world at different times. Transmission of this disease occurs through when the bacterium infects the intestine of human beings. The contamination of food or water with the stool of humans causes the transmission of this disease.

**If one of your friends was suffering from cholera, what symptoms would be seen in them? Also suggest some treatment methods that you would use.**

If one of my friends was suffering from cholera, they would have various distinctive symptoms. They would have too much diarrhoea with fishy smelling "rice watery stool". Diarrhoea could have come with vomiting. They could be victim of dehydration. Symptoms of dehydration would be seen. Dry mouth, too tiredness, weakness, cold skin, wrinkled skin would be other symptoms which are common with dehydration. In cholera muscle cramping may also occur. For their treatment, I would prepare oral rehydration solution (*jeevanjal*) and make them drink in ratio of water lost through diarrhoea. I would rush them to hospital where they would be given antibiotic medicines. Zinc supplement can also be given with doctor's advice because that can help in severe diarrhoea and cholera in children.

***Q.47. What are the preventive measures and treatment cholera?***

**Ans:** Cholera is an infectious disease that causes severe watery diarrhoea, which can lead to dehydration and even death if not treated on time. It is transmitted through food and water contaminated with *Vibrio cholerae* bacterium. Purification of water before drinking, cooking or washing is the most important preventive measure against this disease. The purification methods may include boiling, chemical purification, effective filtration and ultra violet sterilization among others. Proper disposal and treatment of infected fecal wastes is prevention. Different oral vaccines can be used. Oral Rehydration Solution (ORS) must be given to patient for treatment, which helps to overcome dehydration. Having zinc supplements with antibiotics reduce the duration and seriousness of diarrhoea in children.

***Q.48. Introduce dengue fever and mention its causative agent. What is the mode of transmission of this disease?***

**Ans:** Dengue is a mosquito-borne disease. It is an illness characterized by fever that affects infants, young children and adults. It occurs mostly in tropical areas and especially in the Indian Sub-continent, Southeast Asia, Southern China, Mexico, Africa and some countries of Central and South America. The causative agent of dengue fever is Dengue virus. It is transmitted through the bite of mosquitoes infected with Dengue virus. The mosquito that spreads dengue is *Aedes aegypti*. Whenever the female *Aedes aegypti* mosquito bites the infected human for blood meal the virus also gets transmitted along with the blood. The same mosquito when bites a healthy person releases the virus in the blood stream of the healthy person, thus causing the disease. Dengue is not transmitted directly from person-to-person.

***Q.49. What are the symptoms of dengue?***

**Ans:** Dengue is a serious illness caused by dengue virus. When a person is infected by this virus, various signs and symptoms are seen. Such signs and symptoms of dengue fever are listed below.

**Signs and Symptoms of dengue fever**

<b>SN</b>	<b>Symptoms of Severe Case of Dengue</b>	<b>SN</b>	<b>Symptoms of Severe Case Called Dengue Hemorrhagic Fever</b>
1.	Mild to high fever	1.	Fever
2.	Severe headache	2.	Abdominal pain
3.	Nausea (desire of vomiting)	3.	Continuous-vomiting
4.	Pain behind the eyes	4.	Bleeding
5.	Muscle and joint pain	5.	Difficulty in breathing
6.	Rashes over the body		

**Q50. How can we prevent from dengue?**

Ans: Dengue is a highly infectious disease and can take lives if not treated on time. There is no vaccine for the prevention of this disease. Therefore, proper preventive measures should be taken to avoid this disease. Destroying mosquito habitat by covering standing water where the mosquito larva grows is one of the best precautions against this disease. It prevents growth of mosquito which is the carrier of this disease. Similarly, preventing exposure to mosquito bites by using mosquito nets and repellants and wearing full sleeves is another preventive measure for dengue.

**Q51. Define dehydration and enlist its symptoms as well as things to do if someone is suffering from it.**

Ans: Dehydration means a condition in which human body lacks enough water in it. In other words, when human body loses water from it and does not receive enough water intakes, that condition is dehydration. Dehydration, if not cared well, can lead a victim of diarrhoea even to death. Following are some noticeable symptoms of dehydration.

- i. Thirst, dry inside of mouth
- ii. Skin starts to wrinkle.
- iii. Amount of urine reduces.
- iv. Upper part of an infant suffering from dehydration may sink down.
- v. Eyeballs sink down.

Person suffering from dehydration needs to drink plenty of water frequently. Oral Rehydration Solution (ORS) treatment helps to overcome dehydration.

**Q52. Introduce viral influenza and write about the mode of transmission of this disease too.**

Ans: This disease infects people due to influenza virus that spreads from infected person to a healthy person through air from coughs and sneezes or from direct contact with respiratory secretions like sharing drinks and utensils. It can also spread by touching surfaces contaminated by the virus and then touching mouth and eyes. This disease can take form of epidemic disease sometimes. Therefore, in such a situation when it has taken form of epidemic, it can easily transfer from person to person in crowded areas such as market place, public vehicles and such others. The causative agent is Influenza A and B virus. The virus spreads from infected person to a healthy person through air from coughs and sneezes or from direct contact with respiratory secretions like sharing drinks and utensils. It can also spread by touching surfaces contaminated by the virus and then touching mouth and eyes.

**Q53. What signs and symptoms would be seen if you had been infected with viral influenza? How would you treat and prevent this disease?**

Ans: Viral influenza is a very highly infectious disease that transmits from one person to another very easily. If I had been infected with viral influenza, I would have several distinctive symptoms. I would have fever along with

such as taking rest and having plenty of fluids. I would take medicines to lower fever if fever was very high, but with doctor's consultation only. If required, I would also have some anti-viral medicine. To prevent this disease, I would wear a mask while being with infected people or in a crowd. I would wash hand after touching suspected materials. I could also take yearly vaccination to prevent.

<b>(C) Long Questions-Answers</b>	<b>7 Marks Each</b>
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**Q.1. *Describe any two non-communicable diseases, their symptoms and preventive and controlling measures.***

**Ans:** There are a number of non-communicable diseases which have their own causes, symptoms and preventive as well as controlling methods. Two of the non-communicable diseases, their symptoms, preventing and controlling methods are described and listed below.

**a) Cancer**

Cancer is a condition in which there is overgrowth of cells in particular organs of our body. Though it can be caused in any part of human body to both genders, it has been found to prevail more frequently in breast and cervix in women and penis, urethra and testicles in men. More than one hundred cancers have been found out till date. Such disease is non-communicable. Many of the cases of cancer have been found to be caused due to use of tobacco.

**Symptoms of cancer**

Following are some of the prominent symptoms of cancer.

- i. In cervical cancer, blood appears even after menopause
- ii. A small blister appears and continues growing in genital in cervical and prostate cancer
- iii. Some wounds do not recover for prolonged time. That can be a symptom of cancer.
- iv. Moles and corns of human body may change colour and size.
- v. There is appearance of some augment which can be felt inside breast in breast cancer.
- vi. Blood may appear in stool in colorectal cancer.

**Prevention and control**

- i. Refraining from tobacco and alcohol consumption
- ii. Prompt treatment of injuries and wounds
- iii. If a wound remains in body for prolonged period even after efforts of treatment, doctor should be consulted.

dust, smoke as well as pneumonia, allergy, bronchitis, roundworm and such other reasons. Around 8 million people suffer from this disease in the world per year according to WHO. it victimizes old children and old than it does young people.

#### **Causes**

- i. Smoking
- ii. smoke produced while cooking
- iii. smoke mixed in environment emitted by industries and vehicles
- iv. dust
- v. chemical substances

#### **Symptoms**

- i. heaviness of chest
- ii. cough and cough discharge
- iii. heavy and quick breathing even when doing simple works, climbing up etc
- iv. speed of breathing and pulse increases
- v. difficulty breathing while sleeping
- vi. restlessness
- vii. Death can occur in acute case of this disease if not given oxygen on time.

#### **Prevention and Control**

- i. Refraining from smoking
- ii. Drinking a lot of fluids
- iii. Living in place having fresh air
- iv. Being safe from cold
- v. Wearing warm clothes
- vi. Keeping away from allergens
- vii. Giving oxygen to patient if they feel much difficulty breathing

**Describe any two diseases communicated through environment with their causative agent, symptoms and preventing and treatment measures.**

: There are particular diseases which infect humans because of polluted environment. Causes, symptoms, prevention and controlling methods of two of such diseases are presented below.

#### **a). Viral Influenza**

Viral influenza is a communicable respiratory disease caused by Influenza virus. The virus attacks the upper and lower respiratory tracts, and during complications, may also affect other organs and systems.

Influenza is also called "flu". It occurs more often in the winter season due to the closer distance among people. Such flu sometimes spread over a large area and takes huge number of lives.

**Causative agent:** The causative agent is Influenza A and B virus.

**Signs and Symptoms**

- Fever with chills and shivering
- Cough and nasal congestion
- Runny nose, sneezing and watery eyes
- Reddened eyes, mouth, throat and nose
- Headache, body ache and tiredness
- Rashes in the body
- In children, abdominal pain and diarrhoea (called "stomach flu")

**Treatment**

- Rest
- Drink plenty of fluids.
- Take fever controlling and pain killing medicines like paracetamol to reduce fever and body aches
- Take antiviral drugs

**Prevention**

- Wearing a mask while being with infected people or in a crowd.
- Hand washing after touching suspected materials.
- Yearly vaccination for those at high risk.

**b) Dengue**

Dengue is a mosquito-borne disease. It is an illness that affects infants, young children and adults. It occurs mostly in tropical areas and especially in the Indian sub-continent, Southeast Asia, Southern China, Mexico, Africa and some countries of Central and South America.

**Causative agent:** The causative agent of dengue fever is Dengue virus.

**Signs and Symptoms:**

In mild cases,

- Mild to high fever
- Severe headache
- Nausea
- Pain behind the eyes
- Muscle and joint pain
- Rashes over the body

In severe cases, called Dengue Hemorrhagic Fever

- Fever
- Abdominal pain
- Continuous vomiting
- Bleeding
- Difficulty in breathing

should

..... to treat dengue. People with dengue

- Rest
- Drink plenty of water
- Reduce the fever using fever controlling drugs like paracetamol
- Visit a doctor

### **Prevention**

There is no vaccine for the prevention of this disease. Prevention can be done by:

- Destroying mosquito habitat by covering standing water where the mosquito larva grows.
- Preventing from the exposure to mosquito bites by using mosquito nets and repellants and wearing full sleeves.

### **Write short notes on the following.**

#### **1. Communicable diseases**

Communicable diseases are those illnesses which transfer from one person to another or catch a person through some means. Such diseases in most of the cases are caused by microorganisms which transmit from infected person to healthy people by several means. Such means can be *reservoirs* such as be air, water, food, and some disease carriers such as insects. Some examples of communicable diseases are tuberculosis, cholera, malaria, jaundice, typhoid, diarrhea, and others. Infected water, food, air, and body fluids of diseased person like saliva, blood, cough, sperm, cervical mucus and others are the means of communication of such diseases. If a healthy person comes in contact with diseased through clothes, closeness, sex and etc, the healthy person becomes vulnerable to such diseases.

**Reservoirs = something that reserves/ stores germs (in this context)**

#### **1. Non-communicable diseases**

Non communicable diseases are those diseases which are not caused by infectious agents and are not transmitted from person to person. These diseases originate in a person because of several risk factors and progress slowly. They are also known as chronic diseases. Non communicable diseases are the major health problems and cause a huge economic burden. There are many risk factors that contribute to the non-communicable diseases. These risks vary according to the type of diseases, but the general risk factors that occupy a major proportion among others are age, genetics, unhealthy diets, physical inactivity, exposure to tobacco and its smoke, use of alcohol, unhealthy life style, pollution, presence of toxic materials in the environment, etc. For example, the continuous exposure to the smoke of tobacco increases the likelihood of getting lungs cancer. There are many non-communicable

diseases but the four main types are *cardiovascular diseases*, *cancers*, *chronic respiratory diseases* and *diabetes*.

**Cardiovascular** = diseases affecting the circulatory system like heart attack and stroke

**Cancers** = diseases due to uncontrolled multiplication of cells of the body; like breast cancer and pancreas cancer

**Chronic respiratory diseases** = long lasting and slowly progressing diseases of respiratory system; like chronic obstructive pulmonary disease and asthma

**Diabetes** = disease due to the inability of body to utilize sugar

**Q.3. Causes of communicable diseases**

**Ans:** The causes of communicable diseases include environmental pollution and lack of sanitation. When water, air, food, etc have been contaminated by germs because of pollution, their consumption communicates diseases. Likewise, due to lack of personal and community sanitation, diseases spread. We do not have proper solid and liquid waste management. That fact also contributes largely for the spread of communicable diseases. Such diseases are very common in such a poor and backward countries like Nepal. They sometimes take form of epidemic and take many lives. Even minor diseases like diarrhea take epidemic form and kill many people in our remote areas frequently.

**Q.4. Measures against communicable diseases**

**Ans:** Following are some important measures to prevent communicable diseases.

- i. Environment should be kept clean and unpolluted.
- ii. Liquid and solid wastes must be managed properly.
- iii. All must have the regular habit of cleaning their houses and surrounding very well.
- iv. Spread of parasites like mosquito, flea, housefly and others has to be controlled.
- v. Water should be purified before drinking.
- vi. *Open defecation* has to be ended.
- vii. Vaccinations must be taken timely.
- viii. Regular health check up must be done.

**Open defecation** = urinating or passing stool in open space, not in latrine

**Q.5. Diabetes**

**Ans:** Diabetes is a physical condition in which there is high level of sugar in blood. If insulin is not produced in pancreas, carbohydrate cannot be converted into glucose and level of sugar increases in blood. This condition is known as diabetes. This disease can be usually found in persons above the age of 40 but some people below that age may also develop it.

**Symptoms**

- i. High hunger and thirst
- ii. Frequent urination

- iii. High level of glucose in urine and blood
- iv. Body becomes weak, gets thinner and dizziness occurs because of lack of glucose
- v. Blood clotting delays
- vi. Problems are seen in eyes, heart and kidney
- vii. Wounds do not heal quickly

**Prevention and control**

- i. Healthy and balanced diet
- ii. Regular physical exercise
- iii. Controlling obesity
- iv. Refraining from alcohol and tobacco consumption
- v. Reducing consumption of high carbohydrate food
- vi. Avoiding getting injured
- vii. Regular medication as per doctor's prescription

**Heart attack and brain stroke**

Heart diseases and other problems associated with heart lead to heart attack and brain stroke. They can even lead to death. These diseases are caused due to blockage of blood circulation due to clotting of blood or storage of fat inside vessels supplying blood to cardiac muscles. They can also be caused due to clotting of blood or storage of fat in vessels supplying blood to brain. Another cause of such diseases can be due to hemorrhage (breaking of blood vessel) of blood vessels resulting in huge internal bleeding. One of the symptoms of heart attack is deep painful sensation in the middle of chest. Similarly, high sweating and desire to vomit in the middle of such chest pain. Quick breathing, dizziness, and fainting also occur. Likewise, symptom of brain stroke is that one part of body or face gets paralyzed. Other symptoms include weak limbs or their paralysis, sudden stoppage of speech or unclear speech, Imbalance of body, lack of ability to walk and see and headache and fainting.

**Prevention and control of heart attack and brain stroke**

Heart diseases including heart attack are caused generally due to unhealthy lifestyle. Similar causes are there for brain stroke too. Preventive and controlling measures are also similar for heart and brain diseases. Such measures are listed below.

- i. Refraining from tobacco, alcohol and drug consumption
- ii. Regular physical exercise
- iii. Regular and balanced healthy diet
- iv. Reducing consumption of fat, salt and spicy food
- v. Controlling obesity
- vi. Managing mental stress
- vii. Consumption of fruit and vegetable regularly
- viii. Regular check up of blood pressure

**Causes of cancer**

Cancer is a non-communicable disease which is caused by several factors. Coming in constant contact with chemical substances such as tobacco and smoke can cause cancer. Exposure to physical elements such as radiation

and ultraviolet rays can also cause cancer. Organic matters such as smoking too can cause cancer. Similarly, Hepatitis B causes cancer of liver. Human papilloma virus causes cervical cancer in women. Likewise, bacteria induced infection such as stomach cancer can be caused by helicobacter pylori. Mentioned above are the major causes of cancer.

**(E) Write clear difference between the following.**

**Q.1. Rheumatic Fever and Rheumatic Heart Diseases**

**Ans:** Differences between rheumatic fever and rheumatic heart diseases have been shown in the following table.

SN	Rheumatic fever	SN	Rheumatic heart disease
1	Joints of hands and legs receive pain and swelling in this disease.	1	Problem is seen in valves of heart in this disease.
2	It is a disease of only joints, not heart.	2	It is a disease which damages heart valves.
3	During the course of this disease, there is fever in the patient.	3	This condition may continue even after fever has gone.
4	It generally occurs in children after they get tonsillitis and pharyngitis.	4	It occurs generally after rheumatic fever occurs.
5	This fever is the initial stage. If not treated on time, it can proceed to rheumatic heart disease.	5	It is followed by rheumatic fever. When that disease is untreated, this disease has possibility of infecting the patients.

## Unit 8

# Adolescence, Sexual and Reproductive Health Education

Specification Grid of the Unit

SL	Level	Type	Number	Marks
1	Knowledge			
2	Understanding			
3	Application	Short	1	4
4	High ability	Very short + Long*	1+1	1+7
Long question may or may not be asked from the chapter.		Total	3	12

### Ways with the Lesson

- Adolescence is a stage of human life occurring between childhood and adulthood.
- Adolescents have to be given awareness of their changes and knowledge to avoid hazards related to their health and personality, especially related to their sexuality and reproductive health.
- Sex and reproductive education has many scopes. Among them, two very important scopes are education on sexually transmitted diseases and safe motherhood.
- Diseases which transmit from person to person through sexual activities are called sexually transmitted diseases (STDs).
- HIV/AIDS, syphilis, gonorrhoea and chancroid are some of the very serious sexually transmitted diseases. Among many of the causes of transmission of such diseases, unsafe sexual activity is the major one.
- HIV/AIDS is a fatal condition. Once somebody gets it, it cannot be cured. Similarly, other STDs are very serious even some of them are even fatal if not identified and cured on time.
- Prevention is always better than cure. Therefore, it is always the best to avoid any circumstances which can cause STDs in us. Avoiding unsafe sex, sex with multiple partners, sharing of injection, sharing of clothes and such other activities are better avoided if one tries to prevent STDs.

- Safe motherhood is the condition of a woman being safe from any danger during her pregnancy, childbirth and postnatal period.
- There are some necessary conditions which are called the pillars of safe motherhood. They are the conditions which help make motherhood safer. Some of them are family planning, antenatal care, obstetric care, postnatal care and abortion care.
- To make motherhood safe, safe motherhood education is vital. Safe motherhood education provides education on some very important matters. Some of them are care for pregnant woman, high risk pregnancy, problems during pregnancy, abortion and such.
- Apart from above mentioned, maternal and child care is another matter connected with safe motherhood. Maternal and child health care is the care given to a woman during her pregnancy and during and after her childbirth as well as to her baby.
- Care for pregnant woman, safe delivery and natal care, care for postnatal mother, breastfeeding and nutrition, immunization and such are some of the care to be given as maternal and child health care.

(A) Very Short Questions-Answers	I Mark Each
<b>Q.1. What is meant by adolescence?</b>	
Ans: Adolescence is a stage of human life occurring between childhood and adulthood.	
<b>Q.2. What is the duration of adolescence according to World Health Organization (WHO)?</b>	
Ans: Duration of adolescence according to world Health Organization (WHO) is 10 to 19 years of age.	
<b>Q.3. What is the main underlying feature of adolescence?</b>	
Ans: Main underlying features of adolescence are that there are seen many physical, psychological, emotional and social changes during this period of human life.	
<b>Q.4. What kind of crisis can affect adolescents?</b>	
Ans: Confusion, discomfort, stress and such other emotional crises can affect adolescents.	
<b>Q.5. Why is adolescence taken as a vulnerable age?</b>	
Ans: Adolescence is taken as a vulnerable age because they can involve in drugs, sexual activities, crime, can be victim of emotional crises and may face several problems because of their curiosity and immaturity.	
<b>Q.6. Why is sexual and Reproductive education necessary for adolescents?</b>	
Ans: Sexual and reproductive education is necessary for adolescents to get them rid of confusions and risks regarding such matters and to make them prepared for their future family role.	
<b>Q.7. What is meant by STD?</b>	
Ans: Sexually transmitted diseases (STDs) are infectious diseases that spread from person to person through unsafe sex.	

- Q9.** apart from unsafe sex.  
Ans: Sharing of syringe is a major cause of infections such as HIV/AIDS apart from unsafe sex.
- Q10.** List out various modes of transmissions of STDs.  
Ans: Various modes of transmission of STDs are unsafe sexual activities, sharing of syringe, transplantation of blood or organs and so on.
- Q11.** Write the full form of HIV.  
Ans: Full form of AIDS is acquired immune deficiency syndrome.
- Q12.** What does AIDS stand for?  
Ans: AIDS stands for Acquired Immune Deficiency Syndrome.
- Q13.** What does human immunodeficiency virus do to human body?  
Ans: Human immunodeficiency virus destroys immunity power; power to fight against diseases.
- Q14.** Clarify what AIDS is.  
Ans: Condition after HIV has attacked human body when it starts to show various symptoms because of not being able to fight any diseases is known as AIDS.
- Q15.** How to avoid HIV/AIDS? Suggest any two measures.  
Ans: Two measures to avoid HIV/AIDS are not to involve in unsafe sex and to avoid sharing of syringe.
- Q16.** Which year was AIDS first diagnosed in the world and where?  
Ans: AIDS was first diagnosed in the world in 1981 AD in America.
- Q17.** What are two root causes of spread of HIV/AIDS in Nepal?  
Ans: Sex trade within Nepal and Nepalese workers working in India getting infected there coming to Nepal and infecting others are two root causes of HIV/AIDS in Nepal.
- Q18.** What is a symptom of HIV/AIDS in the beginning?  
Ans: There is flu-like symptom which may not appear in some of the infected in the beginning of HIV/AIDS.
- Q19.** What is window period with regard to HIV/AIDS?  
Ans: Initial period after HIV infection in which some of the infected do not experience any symptoms at all is called its window period.
- Q20.** Where in the body is HIV present?  
Ans: HIV is mainly present in blood, sperm, vaginal discharge, saliva and other bloody fluids.
- Q21.** What has government managed for the welfare of HIV/AIDS patients?  
Ans: Government of Nepal has managed for providing free treatment through various health institutions for the wellbeing of HIV/AIDS infected.
- Q22.** What does the flu-like symptom include in initial stage of HIV/AIDS?  
Ans: The flu-like symptom in initial stage of HIV/AIDS includes fever, chills, rash, night sweating, muscle ache, sore throat and tiredness, among others.

**Q.23. Define syphilis.**

Ans: Syphilis is an infectious sexually transmitted disease caused by a bacterium called *Treponema pallidum*.

**Q.24. When does primary stage of syphilis occur?**

Ans: Primary stage of syphilis occurs about three to four weeks after being infected.

**Q.25. What is the major symptom of primary stage of syphilis?**

Ans: A small, round sore which appear in body after being infected with syphilis (or chancroid) which is called chancre is a major symptom of primary stage of syphilis.

**Q.26. Which part of the body can chancre appear in the primary stage of syphilis?**

Ans: Chancre can appear in the primary stage of syphilis on the part of body where chancroid has infected.

**Q.27. What are few underlying symptoms of secondary stage of syphilis?**

Ans: Few underlying symptoms of secondary stage of syphilis are skin rashes which do not itch and are generally at palms and soles and sore throat.

**Q.28. Which stage of syphilis is called latent stage and why?**

Ans: Third stage is called latent stage of syphilis because symptoms are not much seen and disease remains in latent or hidden form in most of the patients.

**Q.29. Which is the tertiary stage of syphilis?**

Ans: Tertiary stage of syphilis is the fourth and the last stage of this disease.

**Q.30. State any two measures to be prevented from syphilis.**

Ans: Avoiding having unsafe sex and having multiple sex partners are two measures to prevent syphilis.

**Q.31. What is the causative agent of syphilis?**

Ans: Causative agent of syphilis is a bacterium called *Treponema pallidum*.

**Q.32. What is the causative agent of gonorrhoea?**

Ans: Causative agent of gonorrhoea is a bacterium called *Neisseria gonorrhoeae*.

**Q.33. Write one each of symptoms of gonorrhoea in men and women.**

Ans: Pain in lower abdomen in women and painful or swollen testicles in men are one symptom each in men and women gonorrhoea.

**Q.34. What is the initial symptom of chancroid?**

Ans: Initial symptom of chancroid is that a sore which is called chancre or ulcer appears near external reproductive organs.

**Q.35. What is the causative agent of chancroid?**

Ans: Causative agent of chancroid is a bacterium called *Haemophilus ducreyi*.

**Q.36. Write the meaning of safe motherhood?**

Ans: Safe motherhood is condition in which a woman is safe from any complications during her pregnancy, childbirth and neonatal period.

**Q.37. What are the pillars of safe motherhood?**

Ans: There are some knowledge and services that can make motherhood safe, which are known as pillars of safe motherhood.

**Q.48. Define abortion.**

Ans: Abortion is act of coming out of a fetus from the womb by medication or by natural causes before it is able to survive independently.

**Q.49. Define spontaneous and induced abortion.**

Ans: Spontaneous abortion, also known as miscarriage and pregnancy loss, is the natural death and coming out of a fetus before it is able to survive independently.

**Q.50. What is prenatal care?**

Ans: Prenatal care means health care given to a pregnant woman so that she can have safe motherhood.

**Q.51. What is obstetric care?**

Ans: Obstetric care is a health and general care given to a woman during her childbirth.

**Q.52. What is postnatal care?**

Ans: Health care given to a woman and her baby recently after her childbirth is called postnatal care.

**Q.53. Define high risk pregnancy.**

Ans: High-risk pregnancy is a condition of pregnancy when there are possible complications that could affect the mother, the baby, or both.

**Q.54. What is required for management of high risk pregnancies?**

Ans: High-risk pregnancies require management by a specialist to help ensure the best outcome for the mother and baby.

**Q.55. How is age of woman related to high risk pregnancy? Write in a sentence.**

Ans: Age of women is related to high risk pregnancy because pregnancy can be of high risk if the woman is too young or too mature.

**Q.56. Pregnancy at what age is considered high risk pregnancy?**

Ans: Pregnancy below 18 years and after 35 years of age are taken as high risk pregnancy.

**Q.57. What are few other conditions which invite high risk pregnancy apart from mother's age?**

Ans: Mother's weight being lower than 40 kg, mother's history of multiple miscarriages, and mother being infected with STDs are few other conditions of high risk pregnancy apart from mother's age.

**Q.58. What is preeclampsia?**

Ans: Preeclampsia is a disease that includes high blood pressure, urinary protein, and swelling in pregnant woman, which can be dangerous or even fatal for the mother or baby if not treated.

**Q.59. Define gestational diabetes.**

Ans: Gestational diabetes is a type of diabetes that develops during pregnancy.

**Q.60. What is meant by ordinary problems of pregnancy? Write with example.**

Ans: Ordinary problems of pregnancy are minor problems that may occur with many women during their pregnancy, such as slight bleeding, slightly swollen nipples, tiredness, headache etc.

- Q.51. Give the meaning of serious problems during pregnancy with example.**  
Ans: Serious problems of pregnancy are those unusual and complicated problems during pregnancy which can be very serious, even fatal are called serious problems of pregnancy such as long abdominal pain, uncontrolled bleeding, high blood pressure and etc.
- Q.52. Define abortion and enlist its types.**  
Ans: Abortion is the coming out of a foetus from the womb by medication or by natural causes before it is able to survive independently. Its two types are spontaneous and induced abortions.
- Q.53. What is a main reason of spontaneous abortion?**  
**Or,**  
**Write a prominent reason of miscarriage.**  
Ans: Fatal genetic problems or problems related to genetic causes are main reason of miscarriage.
- Q.54. What is spontaneous abortion?**  
Ans: Spontaneous abortion also known as miscarriage and pregnancy loss is the natural death of an embryo or foetus before it is able to survive independently.
- Q.55. Define induced abortion.**  
Ans: Induced abortion is the intentional termination of a pregnancy before the foetus can live independently.
- Q.56. What are some of the reasons why abortion is carried out?**  
Ans: Sometimes, a woman aborts her baby out of her wish. Some other times, she needs to abort because the conception was due to forced sex to incest. In some cases, abortion is necessary if pregnancy or childbirth is possible to cause any danger in mother's physical and/ or mental health.
- Q.57. Give a clear meaning of maternal and child health care.**  
Ans: The health services provided to women during pregnancy, delivery and breastfeeding period and to the children under the age of the five with an aim of improving their health condition are together called maternal and child health care.
- Q.58. What is meant by immunization?**  
Ans: Immunization is a process of taking a medication orally or through injection which can prevent infection of certain diseases.
- Q.59. Write the full form of T.T., B.C.G., T.B. and D.P.T.**  
Ans: Full forms of the given abbreviations are presented as follows.  
T.T. = Tetanus  
B.C.G. = Bacillus of Calmette and Guerin  
T.B. = Tuberculosis  
D.P.T. = Diphtheria, Pertussis and Tetanus
- Q.60. What is the significance of sex and reproductive education to adolescents?**  
Ans: Adolescents have to be given sex and reproductive education to make them aware of their changes and knowledge to avoid hazards related to their health and personality, especially related to their sexuality and reproductive health.

- Q.51.** *Give the meaning of serious problems during pregnancy with example.*  
Ans: Serious problems of pregnancy are those unusual and complicated problems during pregnancy which can be very serious, even fatal are called serious problems of pregnancy such as long abdominal pain, uncontrolled bleeding, high blood pressure and etc.
- Q.52.** *Define abortion and enlist its types.*  
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|| 1.0 different types of sexually transmitted diseases, most of which transmit through unsafe sex.

**Q.5. Introduce HIV/AIDS.**

Ans: HIV stands for human immune deficiency virus. It is a virus that can transmit into human body through different mediums and cause AIDS. AIDS stands for Acquired Immune Deficiency Syndrome. It has been one of the fastest growing fatal diseases. AIDS is caused by a virus called Human Immune Virus (HIV). When this virus attacks human body and destroys the immunity power, people become vulnerable to many other diseases. The presence of HIV in human body is termed as HIV positive and when other symptoms are seen due to this virus, AIDS is caused. AIDS was first diagnosed in America around 1981 A.D. It was first diagnosed in Nepal seven years later in four people. There are around 39,249 AIDS patients in Nepal till date. Though there is no cure for AIDS, the life of AIDS patients can be prolonged with the use of medicines that increase immunity power in the body. The AIDS virus is present in the blood, saliva, sperm, genital fluids and other body fluids and this virus is easily transmitted to healthy person due to unsafe sex. Therefore, AIDS is easily acquired by people who are engaged in sex trade. In Nepal, girls who are trafficked to India and workers who work in foreign countries are the main carriers of AIDS.

**Q.6. Unsafe sex is the main cause for STDs. Justify the statement with relevant examples.**

Ans: Unsafe sex refers to sexual activity in which precautions are not taken to reduce the risk of spreading sexually transmitted diseases. Basically, unsafe sex includes having sex at minor age, improper or no use of condoms during sex, sex with multiple partners without appropriate precautions. STDs can also transfer due to transmission of contaminated blood and body fluids and use of unsterilized syringes or other equipment that directly contact with blood or other parts. Among many possible causes of STD transmission, unsafe sex is the biggest one. There are different types of sexually transmitted diseases, most of which transmit through unsafe sex.

transfer through organ transplantation or infection via syringe if syringe is shared by a healthy person with an infected. A baby born from an infected mother also has high possibility of getting HIV. These are the main ways in which HIV transfers from person to person.

**Q. Enlist the symptoms of HIV/AIDS.**

- a: Some people may experience a flu-like right after HIV virus enters the body. But some people may not feel sick during this stage, which is referred to as window period. Flu-like symptoms can include fever, chills, rash, night sweats, muscle aches, sore throat, fatigue, swollen lymph nodes, and mouth ulcer. These symptoms can last anywhere from a few days to several weeks. During this time, HIV infection may not show up on an HIV test, but people who have it are highly infectious and can spread the infection to others. Thus, this virus can be easily transmitted to other people if had unsafe sex. So it is advisable to have timely test for STDs after every unsafe sex to identify the contamination at the earliest. If the person has an HIV and is not treated, eventually the virus will weaken the body's immune system and it will progress to AIDS; the late stage of HIV infection.

**9. Girl trafficking and flesh trade are the main reasons for spreading HIV/AIDS in Nepal. Justify this statement.**

- b: Girl trafficking in Nepal is a serious problem mainly in remote areas of the country. Girl traffickers lure the girls, their parents and relatives in many ways and sell the trafficked girls to brothels in India and other countries. Such trafficked girls are forced into sex trade. Due to the open border between Nepal and India and lack of proper monitoring, large number of girls is being transported to India every year where they are forced to have sex with multiple people and get infected with AIDS. When they return to the country, they have a possibility that they involve in sexual activities with healthy persons here and transfer HIV. Similarly, Nepalese who work in India visit brothels there and some of them get infected with HIV. They return home and infect others through unsafe sexual activity. Likewise, large number of illegal brothels is run in major cities of Nepal. Due to proper monitoring and strict rules, it has taken a form of well established trade. At those centres, poor and unemployed girls are used as sex workers where they have to come in contact with multiple people who can have HIV/AIDS. It proves that girls trafficking and flesh trade are the main reasons of spreading HIV/ AIDS in Nepal.

**Q.10. How can AIDS be prevented? Explain in short.**

**Ans:** It is extremely necessary to adopt some measures to avoid being infected by HIV/ AIDS. The following are some of such measures.

- Sex with multiple partners should be avoided and condoms should be used properly every time.
- Illegal sex trade should be stopped and sex workers should be properly rehabilitated.
- Human trafficking should be stopped and guilty should be punished according to the law.
- Only sterile needle should be used to inject drugs.
- Only treated and pure blood should be transferred to the needy ones.
- HIV infected women should not give birth to child. Proper medical help should be taken if infection is diagnosed in later stage of pregnancy.
- Public awareness and sex education should be spread through every media so that people in every corner would be aware about STDs and AIDS.
- Government should be more responsible in eliminating unemployment and improving quality of life of people.

**Q.11. Briefly describe the major causes of spread of HIV/AIDS in Nepal.**

**Ans:** Among the various causes of spread of HIV/AIDS in Nepal, major ones are described below.

**a) Poverty and Unemployment**

Many of the poor people go to seek job in India and return home infected with HIV/AIDS due to unsafe sex with Indian sex workers there.

**b) Girl Trafficking for Sex Trade**

Girl trafficking and illegal sex trade spread in Nepal is also contributing for transmission of HIV/AIDS in Nepal.

**c) Illegal Sex Trade in Cities and Rural Areas**

Although prohibited, various cities and rural areas of Nepal have sex trade operated there which spreads these diseases.

**d) Lack of Awareness of Sex Education**

Not all people of Nepal are educated. Poor people from villages and remote areas are still unaware about sex education and preventive measures against STDs. Thus they are also contributing for the rapid growth of HIV/AIDS.

**e) Fear in AIDS Infected Patients to Discuss Their Condition**

HIV/AIDS infected victims of Nepal fear the hate of society and do not come out to discuss on such matters. This continues their lack of awareness of these diseases and they go on infecting others.

**i. How are girl trafficking and illegal sex trade spreading HIV/AIDS in Nepal? Explain.**

Girl trafficking in Nepal is a serious problem mainly in remote areas. Girl traffickers lure the girls and their parents and relatives in many ways and sell the trafficked girls to brothels in India and other countries. Due to the open border between Nepal and India and lack of proper monitoring, large number of girls is being transported to India every year where they are forced to have sex with multiple people and get infected with AIDS. Similarly, large number of illegal brothels is run in major cities of Nepal. Due to proper monitoring and strict rules, it has taken a form of well established trade. At those centres, poor and unemployed girls are used as sex workers where they have to come in contact with multiple people who can have HIV/AIDS. They are at high risk of being infected with it. Additionally, the people going to those brothels are likely to visit other brothels too and thus increase their possibility of getting infected.

**ii. Explain poverty and lack of awareness as main causes of HIV/AIDS spread in Nepal.**

Poverty and lack of awareness play vital roles in spread of HIV/AIDS in Nepal. Primarily, due to low income and unemployment, thousands of youths in Nepal are migrating to India and other countries in search of job. It is likely that they will be involved in unsafe sex during their stay there. When they return, and if they are infected with HIV/AIDS virus, then it is ultimately transmitted to their partner in Nepal. In the same way, there is lack of awareness among many Nepalese people of such diseases, their modes of transmission, consequences and preventive measures. Not all people of Nepal are educated. Poor people from villages and remote areas are still unaware about sex education and preventive measures against STDs. Thus they are also contributing for the rapid growth of HIV/AIDS. In this way, poverty and lack of awareness regarding these diseases are directly or indirectly assisting for the spread of HIV/AIDS. Due to that, many Nepalese people are being infected every year and are forced to die silent deaths.

**iii. How does HIV/AIDS transfer from one person to another? Enlist its various modes of transmission.**

HIV/AIDS transmit from person to person in different ways. Following list shows the major modes of transmission of HIV/AIDS.

- Due to unsafe sex with person infected with HIV/AIDS
- By using needles, knife and such tools used by HIV/AIDS infected person without sterilizing
- By using syringe used by HIV/AIDS infected person
- HIV/AIDS may transfer to child if born by infected mother.
- By taking blood of HIV infected person
- By sharing tattooing tools with HIV infected person

**Q.15. What are the symptoms of HIV/AIDS? Describe.**

Ans: Different people show different symptoms of HIV at different periods after the infection. But many of the signs and symptoms are similar. Some people may experience a flu-like right after HIV virus enters the body. But some people may not feel sick during this stage, which is referred to as window period. Flu-like symptoms can include fever, chills, rash, night sweats, muscle aches, sore throat, fatigue, swollen lymph nodes, and mouth ulcer. These symptoms can last anywhere from a few days to several weeks. During this time, HIV infection may not show up on an HIV test, but people who have it are highly infectious and can spread the infection to others. Thus, this virus can be easily transmitted to other people if had unsafe sex. So it is advisable to have timely test for STDs after every unsafe sex to identify the contamination at the earliest. If the person has an HIV and is not treated, eventually the virus will weaken the body's immune system and it will progress to AIDS; the late stage of HIV infection.

**Q.16. Enlist the major signs and symptoms of HIV/AIDS.**

Ans: There are various signs and symptoms of HIV/AIDS seen at different periods of infection. Some common signs and symptoms of these diseases are listed below.

- Rapid weight loss
- fever that is occurring repeatedly or high amount of night sweats
- Extreme and unexplained tiredness
- Prolonged swelling of the lymph glands in the armpits, around sex organs, or neck
- Diarrhoea that lasts for more than a week
- Sores of the mouth, anus, or genitals
- Pneumonia
- Red, brown, pink, or purple marks on or under the skin or inside the mouth, nose, or eyelids
- Memory loss, depression, and other neurologic disorders.

**Q.17. Show the preventive measures of HIV/AIDS in a clear list.**

Ans: HIV/AIDS is a disease that takes life for sure once a person is infected with it. Therefore, it is better avoided. Following are some of the preventive measures of HIV/AIDS.

- Sex with multiple partners should be avoided and condoms should be used properly every time.
- Illegal sex trade should be stopped and sex workers should be properly rehabilitated.
- Human trafficking should be stopped and guilty should be punished according to the law.
- Only sterile needle should be used to inject drugs.
- Only treated and pure blood should be transferred to the needy ones.

- Government should be more responsible in eliminating unemployment and improving quality of life of people.

**Q.8. Give an introduction to syphilis and enlist its modes of transmission.**

Ans: Syphilis is a sexually transmitted infection by a type of bacteria known as *Treponema pallidum*. First sign of syphilis is a small, painless sore. It can appear on sexual organs, rectum, or inside mouth. This sore is called chancre. People often fail to notice it right away. Syphilis can be challenging to diagnose. It can be infected without showing any symptoms for years. However, the earlier the diagnosis of infection, the better. Syphilis that remains untreated for a long time can cause major damage to important organs, like heart and brain. In a country like Nepal where people still fear for the prestige and are driven by taboo, syphilis can be dangerous and fatal at times. Syphilis is only spread through direct contact with syphilis chancres. It is not transmitted by sharing a toilet with another person, wearing another person's clothing or using another person's eating utensils. Following list also shows different modes of its transmission.

- It is directly transmitted by direct contact with a syphilis sore during vaginal, anal or oral sex.
- It is transmitted through infected blood, sputum and vaginal discharge.
- It is transmitted through infected mother to her unborn baby.

**Q.9. What are primary and secondary stages of syphilis? What are their symptoms?**

Ans: Primary stage of syphilis occurs about three to four weeks after being infected with the bacteria. It begins with a small, round sore called a chancre. A chancre is painless, but it's highly infectious. This sore may appear wherever the bacteria entered the body from, such as on or inside mouth, genitals, or rectum. Syphilis is transmitted by direct contact with a sore. This usually occurs during sexual activity, including oral sex. During second stage of syphilis, patients may experience skin rashes and sore throat. Rashes won't itch and are usually found on your victim's palm and soles, but they may occur anywhere on the body. Some people don't notice the rash before it goes away. Symptoms go away whether or not treatment is done. However, without treatment people are still infected. Secondary syphilis is often mistaken for another condition. Other symptoms of secondary syphilis include the headaches, swollen lymph glands, fatigue, fever, weight loss, hair loss and aching joints.

**Q.20. Describe the meaning of latent and tertiary stages of syphilis with their signs and symptoms.**

Ans: Stage of syphilis after secondary stage is latent or hidden stage. Primary and secondary symptoms disappear and there won't be any noticeable symptoms at this stage. However, patients are still infected with syphilis. The secondary symptoms can reappear and patients will remain in this stage for years before progressing to tertiary syphilis. Similarly, the last stage of infection is tertiary syphilis. Approximately 15 to 30 percent of people who don't receive treatment for syphilis enter this stage. Tertiary syphilis can occur years or decades after patient is initially infected. Tertiary syphilis can be life threatening. Some other potential outcomes of tertiary syphilis include blindness, deafness, mental illness, memory loss, destruction of soft tissue and bone, neurological disorders, such as stroke or meningitis heart disease, and neuro-syphilis, which is an infection of the brain or spinal cord.

**Q.21. How can syphilis be prevented? Suggest few measures.**

Ans: Syphilis is a dangerous disease. It has so many of very serious consequences. It can make people, mad, blind, deaf or all, and even take life. Once infected with syphilis, the patient may not notice its presence. A chancre appears and disappears frequently without being noticed. Any kind of rashes or sores should be treated immediately without hesitation and safe sex should always be practised. The best way to prevent syphilis is to practice safe sex. Using condoms during any type of sexual contact is a good idea. In addition, below measures can be some helpful tips for avoiding syphilis infection.

- Avoid having sex with multiple partners.
- Use a dental dam (a square piece of latex) or condoms during oral sex.
- Avoid sharing sex toys.
- Get screened for sexually transmitted infections and talk to your partners about their results.
- Sharing of needles should be avoided. Only sterilized needles should be used.

**Q.22. Introduce gonorrhoea and state how it basically transmits from person to person.**

Ans: Gonorrhoea is caused by *Neisseria gonorrhoeae*, a bacterium that can grow and multiply easily in the mucous membranes of the body. Gonorrhoea bacteria can grow in the warm, moist areas of the reproductive tract, including the cervix, uterus and fallopian tubes in women, as well as in the urethra in women and men. The bacteria can also grow in the mouth, throat and anus. Its main modes of transmission are as follows.

- It is transmitted mainly through vaginal, anal and oral sex.
- Bacteria are transmitted through vaginal and seminal fluids. Infection can show up in the genital tract, mouth or rectum.

Not all people infected with Gonorrhea have symptoms, so knowing when to seek treatment can be tricky. When symptoms do occur, they often appear from two to ten days after exposure, but can take up to 30 days.

**Q.23. What symptoms are seen in men and women in gonorrhoea? Show in a table.**

**Ans:** Symptoms of gonorrhoea seen in men and women are shown in following tables.

SN	Gonorrhea symptoms in men	SN	Gonorrhea symptoms in women
1.	Greenish yellow or whitish discharge from the penis	1.	It is transmitted mainly through vaginal
2.	Burning when urinating	2.	Bacteria are transmitted through vaginal and seminal fluids. Infection can show up in the genital tract
3.	Burning in the throat (due to oral sex)	3.	Not all people infected with Gonorrhea have symptoms
4.	Painful or swollen testicles	4.	It is transmitted mainly through vaginal
5.	Swollen glands in the throat (due to oral sex)	5.	Bacteria are transmitted through vaginal and seminal fluids. Infection can show up in the genital tract
		6.	Not all people infected with Gonorrhea have symptoms
		7.	It is transmitted mainly through vaginal
		8.	Bacteria are transmitted through vaginal and seminal fluids. Infection can show up in the genital tract
		9.	Not all people infected with Gonorrhea have symptoms

**Q.24. Prescribe some measures to be prevented from gonorrhoea.**

**Ans:** Gonorrhea is a sexually transmitted disease caused by a bacterium called *Neisseria gonorrhoeae*. It is a sexually transmitted disease involving unusual discharges from the urethra or vagina. It can be prevented by practicing safe sex and using condom every time. Major preventive measures are enlisted below.

- Practice safer sex.
- No sex until antibiotic treatment is completed to both of the partners.

- A follow-up test must be done to make sure that treatment has cleared the infection.
- All sexual partners need to be tested and treated, if found that they have got gonorrhoea. Even if partners have no symptoms they may be able to transmit infection to other sexual partners.

**Q.25. What is not much known but very serious disease chancroid? Mention its modes of transmission.**

**Ans:** Chancroid is a sexually transmitted disease that can have very serious consequences if not treated timely. Other serious sexually transmitted diseases like HIV/AIDS, syphilis and gonorrhoea are well known to many but chancroid is not much known to people. A bacterium called *Haemophilus ducreyi* causes the chancroid infection. It attacks the tissue and produces an open sore which is sometimes referred to as a chancroid or ulcer. This sore appears on or near the external reproductive organs. This condition affects men and women. The ulcer may bleed or produce an infectious fluid that can spread bacteria during oral, anal, or vaginal intercourse. Chancroid may also spread from skin-to-skin contact with an infected person. The infection of this disease is found most frequently in developing nations. The symptoms may vary in men and women, but typically they begin one day to several weeks after exposure. Main modes of transmission of Chancroid are unsafe sexual activities and sharing of sick person's clothing by healthy persons.

**Q.26. What sorts of signs and symptoms are seen in chancroid in men and women? Write them.**

**Ans:** Men may notice a small, red bump on the genitals that may change to an open sore within a day or two. The ulcer may form on any area of the genitals, including the penis and scrotum. Women may develop four or more red bumps (raised or swollen body part) on the vagina lips, between vagina and anus, or on the thighs. After the bumps become open, women may experience a burning or painful sensation during urination or bowel movements. Some other common signs and symptoms of chancroid are as follows.

- The ulcers can vary in size and are usually anywhere from 1 to 2 inches across.
- The ulcers have a soft center that's gray to yellowish-gray.
- The ulcers may bleed easily if touched.
- Pain may occur during sexual intercourse or while urinating.
- Swelling in the groin, which is where the lower abdomen and thigh meet, may occur.
- Swollen lymph nodes can break through the skin and lead to large abscesses, or collections of pus, that drain.

**Q27. If you were a doctor, what suggestions would you give to people for getting prevented from chancroid? Make a list of them.**

**Ans:** Chancroid is a highly infectious and dangerous sexually transmitted disease caused by a bacterium called *Haemophilus ducreyi*. The major symptoms are painful open sores on the genitals and, in some cases, swollen and tender lymph nodes in the groin. Symptoms may vary from person to person and gender to gender. But preventive measures are the same for all. Avoiding multiple sex partners and practicing safe sex is the best way to prevent from Chancroid. Following are some of the preventive measures.

- Using condoms during sexual contact
- Limiting the number of sexual partners and practicing safe sex
- Avoiding high-risk activities that may lead to getting chancroid or other sexually transmitted infections
- Alerting all partners if you develop the condition so that they may be tested and treated as well.

**Q28. List the symptoms of syphilis.**

**Ans:** Syphilis has following symptoms in different stages of it.

- Primary stage of syphilis begins with a small, round sore called a chancre. A chancre is painless, but it's highly infectious.
- During second stage of syphilis, patients may experience skin rashes and sore throat. Rashes won't itch and are usually found on your victim's palm and soles, but they may occur anywhere on the body. Headaches, swollen lymph glands, fatigue, fever, weight loss, hair loss and aching joints are some of the symptoms of secondary syphilis.
- Third stage of syphilis is latent or hidden stage. Primary and secondary symptoms disappear and there won't be any noticeable symptoms at this stage.
- Tertiary stage of syphilis has symptoms such as blindness, deafness, mental illness, memory loss, destruction of soft tissue and bone, neurological disorders, such as stroke or meningitis, heart disease, neuro-syphilis, which is an infection of the brain or spinal cord.

**Q29. Enlist measures to prevent and control syphilis.**

**Ans:** The best way to prevent syphilis is to practise safe sex. Using condoms during any type of sexual contact is a good idea. In addition, below measures can be some helpful tips for avoiding syphilis infection.

- Avoid having sex with multiple partners
- Use a dental dam (a square piece of latex) or condoms during oral sex
- Avoid sharing sex toys
- Get screened for sexually transmitted infections and talk to your partners about their results.
- Sharing of needles should be avoided. Only sterilized needles should be used.

**Q.30. Enlist symptoms of gonorrhoea in women.**

**Ans:** Symptoms of gonorrhoea in women and men are listed below.

**Gonorrhoea Symptoms in Women**

- Greenish yellow or whitish discharge from the vagina
- Lower abdominal or pelvic pain
- Burning when urinating
- Conjunctivitis (red, itchy eyes)
- Bleeding between periods
- Mark after intercourse
- Swelling of the vulva (vulvitis)
- Burning in the throat (due to oral sex)
- Swollen glands in the throat (due to oral sex)

**Q.31. What are the symptoms of gonorrhoea in men? List them out.**

**Ans:** The following are the symptoms of gonorrhoea in men.

- Greenish yellow or whitish discharge from the penis
- Burning when urinating
- Burning in the throat (due to oral sex)
- Painful or swollen testicles
- Swollen glands in the throat (due to oral sex)

**Q.32. What should be done to prevent and control gonorrhoea? Make a list of its measures.**

**Ans:** The following are preventive and controlling measures of gonorrhoea.

- Practice safer sex.
- No sex until antibiotic treatment is completed to both of the partners.
- A follow-up test must be done to make sure that treatment has cleared the infection.
- All sexual partners need to be tested and treated, if some sign of it are seen.
- Even if partners have no symptoms they may be able to transmit infection to other sexual partners.

**Q.33. What kinds of symptoms are seen in chancroid in men and women commonly? Make a list of them.**

**Ans:** Following is a list of symptoms seen in chancroid in men and women.

- The ulcers can vary in size and are usually anywhere from 1 to 2 inches across.
- The ulcers have a soft center that's gray to yellowish-gray.
- The ulcers may bleed easily if touched.
- Pain may occur during sexual intercourse or while urinating.
- Swelling in the groin, which is where the lower abdomen and thigh meet, may occur.
- Swollen lymph nodes can break through the skin and lead to large abscesses, or collections of pus, that drain.

Q34. What are some of the preventing and controlling measures of chancroid.

Ans: Following are some of the preventing and controlling measures of chancroid.

- Using condoms during sexual contact
- Limiting the number of sexual partners and practicing safe sex
- Avoiding high-risk activities that may lead to getting chancroid or other sexually transmitted infections
- Alerting all partners if you develop the condition so that they may be tested and treated as well.

Q35. Describe the importance of safe motherhood.

Ans: Safe motherhood is quite necessary for well being of a mother and her child. There can be several complications for a mother within her prenatal period, childbirth and postnatal period. There is still a trend of early marriage in our country, which is not appropriate in terms of child bearing and overall condition of health. Being pregnant before the age of 20 is risky for both mother and child. Due to lack of knowledge about proper care for pregnant women and due to the lack of enough facility in our country, many pregnant women are losing their lives. When there is no significant birth spacing between two children, the health of women is always in danger. Not all people are aware about the concept of birth control, so health of women deteriorates due to having multiple children, especially with very low birth spacing. Enough care should be given to them in order to have healthy and prosperous family. Such awareness is spread by concept of safe motherhood so that a woman can have proper care and health services during her motherhood. That is why safe motherhood is very important.

Q36. Why and what kind of awareness is necessary for pregnant women? Describe.

Ans: Health of a woman related to her motherhood is hugely influenced by her habits as well as support by her family. Pregnant woman should be given necessary awareness related to safe motherhood. The woman herself and her family must do the following things for her better care during pregnancy.

- She has to quit smoking and drinking alcohol because those habits can invite complications and baby to be born can be deformed because of alcohol and nicotine consumption.
- She must take proper medications.
- She must get a doctor's counselling about medical conditions, dietary supplements, and any prescription drugs that may be needed to be taken.
- Avoiding all contact with toxic substances and chemicals at home or work that could be harmful.

**Q.37. How often does a pregnant woman need to visit a doctor during her pregnancy? Show in a list.**

**Ans:** Pregnancy is a complicated process where the health of both mother and child is critical. Enough care about healthy habits should be given along with frequent hospital visit to ensure well-being of both. Doctors and other health personals should be visited by a pregnant woman frequently during her pregnancy. Following is a list to show at least how many times a pregnant woman should visit a doctor.

- First time: right after knowing about occurrence of pregnancy
- Second time: regular monthly visits up to 7<sup>th</sup> months of pregnancy
- Third time: Every two weeks in the seventh and eighth months
- Fourth time: Every week during ninth month of pregnancy
- Later visits may also include checking the baby's position and noting changes in pregnant woman's body to prepare for birth.
- Last month or the week of childbirth
- Apart from these times, doctor must be visited other times also if any complications arise.

**Q.38. Why can pregnancy below the age of 18 and above the age of 35 be dangerous?**

**Ans:** One of the most common risk factors for a high-risk pregnancy is the age of the mother-to-be. Women who are under age of 20 years or over 35 when they are going to face childbirth are at greater risk of complications than those between 20 and 35 years of age. The reproductive organs of a female are not properly developed to bear a child at the age below 20. Being pregnant at this age puts risk to the life of mother and child both. Abnormal child or under developed child may be born at this age. Similarly, conceiving after 35 also is not out of risk. Because of these reasons, pregnancy below 20 and above 30 years of age is dangerous.

**Q.39. Enlist the ordinary problems that arise during pregnancy.**

**Ans:** Pregnancy is a period from conception to birth. It is usually nine months long, where body goes through many changes. As fetus grows inside a mother's womb, a lot of physical, mental and hormonal changes occur inside a mother's body which is normal in many cases. However, the problem can be severe due to drastic and quite unnatural change. These types of serious problems should be consulted to the doctor as soon as possible and avoid complications.

- Slight bleeding
- Little swollen breasts or nipples
- tiredness
- Headaches
- Dizziness or vomiting

- Ques: **Ques:**
- Frequent change in mood
  - Frequent urination
  - Constipation
  - Pain in back
  - Itching on belly
  - Discharge from vagina
  - Swelling of gums

Ans: **Ques:** List the complications that can arise during high risk pregnancy.

Ans: Some women experience health problems during pregnancy. These complications can involve the mother's health, the foetus, or both. Even women who were healthy before getting pregnant can experience complications. Following complications make the pregnancy a high-risk pregnancy.

- Swelling of hand, feet and mouth
- Vomiting frequently
- Prolonged abdominal pain
- Uncontrolled vaginal bleeding
- High fever for long period of time
- High blood pressure
- Paleness of nail and tongue

These kinds of complications put risk to both mother and baby. Medical help should be sought as soon as possible to ensure safety of both.

Q41. **Ques:** List out the causes of induced abortion.

Ans: Induced abortion is that kind of abortion which is done with decision to abort baby growing in mother's womb. There can be various causes which make a couple or a woman to decide to kill own baby before it is born. In our country Nepal, this type of abortion is usually carried because of strong need of a son, rape, unprotected sex or due to unwanted pregnancy. In other cases, a doctor may request for induced abortion when there is probability of complications and life risk to mother and children both. It is always advisable to use proper contraceptives and birth controlling techniques rather than opting for abortion to terminate unwanted pregnancy.

Q42. **Ques:** Briefly explain importance of maternal and child health care.

Ans: Maternal and child health care is very important to keep both mother and child healthy. Following are the importance of maternal and child health

- It helps in clean and safe delivery to safeguard the life of both mother and child.
- It helps to properly monitor the essential immunization required for both mother and new born.
- It helps to assess family planning, pre-natal care and essential care during childbirth to reduce infant mortality rate.
- It helps to preserve reproductive right and equity for women and helps for planned and systematic life.

**Q.43. What are the important points to be considered during delivery? Explain in short.**

**Ans:** Delivery is occasion when a mother gives birth to her child. A woman's body faces a lot of changes during her pregnancy. During delivery, there are more changes which occur in body to make child bearing possible. Sometimes complications may also arise during delivery which can bring risk to both mother and child. Therefore, precautions such as below have to be taken during delivery to make it safe.

- The pregnant woman should be rushed to the hospital as soon as labor begins or *birth attendants* should be sought if possible.
- The mother should be fed with luke-warm fluids, fruits and juices.
- There should be provision of clean toilet as near as possible
- She should be given love, support and positive feeling as she may feel depressed.
- Room and place of delivery should be clean and bright.
- Birth attendant should be conscious about her personal hygiene, especially hand and other delivery kits.
- Delivery kits should be properly sterilized and should be ready and available at the time of need.

**birth attendant = a person who helps a woman during her childbirth**

**Q.44. In what ways postnatal mother can be taken care of? Describe.**

**Ans:** Adequate care should be provided during postnatal phase of the mother so that she could take care of the baby and the family as a whole. Everybody in the family has to support a postnatal member. Following things have to be done for caring of a postnatal mother.

- Postnatal mother should be given enough nutritious food.
- She should be kept clean, especially around her breast and genitals.
- The new born should be washed within a day. Wet clothes can be used to wipe the body instead of using shower.
- Rest is crucial for new mothers who need to rebuild their strength. To avoid getting too tired, new mother needs to sleep when your baby sleeps and allow someone else to feed the baby with a bottle while the mother is sleeping.

- New mother should not involve in doing household works for few days. While walking and light exercise is beneficial, lifting heavy objects and other forms of physical labor should be strictly avoided until the body comes to normal form.

*Q.15. List any six points about caring the infants.*

*Ans:* An infant has to be taken care of very much well. It is not used to live outside her mother's womb. Therefore, it is at risk of many diseases and other complications. A good care should be given to an infant to avoid such complications in the following ways.

- The infant should be held inverted immediately after the birth so that mucus, water, etc. come out of nose and mouth which helps to clear the blockage.
- The nose and mouth of the infant should be cleaned by removing the mucus right after it is born.
- The infant should be kept warm; it should wear 1-2 layers more than an adult. Head, hand and feet should be covered to protect from cold.
- The body should be kept clean and moist. It is not necessary to wash the infant every day, but the body should be made warm immediately. The room should be warm while undressing baby.
- The newborn should be breastfed within 30 to 60 minutes of birth.
- Doctor should be visited very frequently to examine condition of the mother and the baby. Vaccination on time shouldn't be forgotten and it should be done with proper consultation of a doctor.
- The infant should sleep on his/her back or side.
- The infant should be kept away from smoke.
- It is not advised to expose the infant to direct sun.

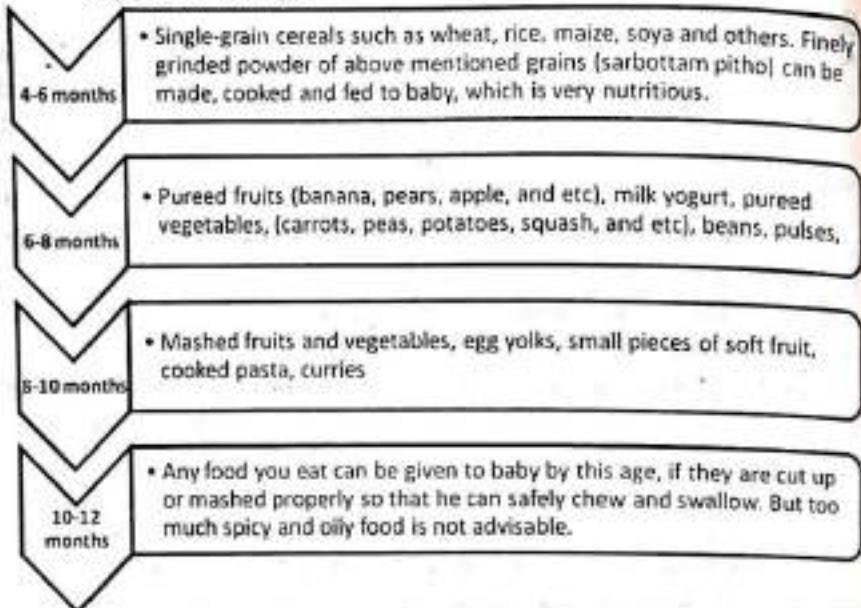
**Umbilical cord = a tube made up of tissue attached to a baby's belly through which it gets necessary nutrients inside its mother's womb**

**Q.46. "Breast feeding is the best feeding to infant." Justify the statement.**

*Ans:* Breast milk is the best food for a newborn, and its benefits are much higher than basic nutrition. Not only it contains all the vitamins and nutrients a baby needs in the first six months of life, the mother's milk is also full of disease-fighting substances that protect from numerous illnesses. The colostrum, which is present in the initial milk of mother, helps fight against germs and actually increases baby's immunity. A baby should be breastfed every 2 hours. Breastfeeding saves a newborn baby from a lot of illnesses such as pneumonia, cold, viruses and many more. It protects an infant from allergies. It may increase a baby's intelligence. It is found that breast milk helps to avoid obesity in baby. Due to these reasons, breastfeeding is the best feeding to infants.

**Q.47.** Prepare a chart showing the nutritious food needed for a child up to 1 year of age.

**Ans:** Following chart shows the nutritious food needed for an infant at different stages of its infancy.



**(C) Long Questions–Answers**

7 Marks Each

**Q.1.** Describe the causes of AIDS in Nepal.

**Ans:** Although it seems to have been controlled considerably, number of AIDS Victims is increasing day by day in Nepal. Following are the main causes of spread of AIDS in Nepal.

**a) Poverty and Unemployment**

Due to low income and unemployment, thousands of youths in Nepal are migrating to India and other countries in search of job. It is likely that they will be involved in unsafe sex during their stay there. When they return, and if they are infected with HIV/AIDS virus, then it is ultimately transmitted to their partner in Nepal.

**b) Girl Trafficking for Sex Trade**

Girl trafficking in Nepal is a serious problem mainly in remote areas. Girl traffickers lure the girls and their parents and relatives in many ways and sell the trafficked girls to brothels in India and other countries. Due to the open border between Nepal and India and lack of proper monitoring, large number of girls is being transported to India every year where they are forced to have sex with multiple people and get infected with AIDS.

c) **Illegal Sex Trade in Cities and Rural Areas**

Large number of illegal brothels is run in major cities of Nepal. Due to proper monitoring and strict rules, it has taken a form of well established trade. At those centres, poor and unemployed girls are used as sex workers where they have to come in contact with multiple people who can have HIV/AIDS. They are at high risk of being infected with it. Additionally, the people going to those brothels are likely to visit other brothels too and thus increase their possibility of getting infected.

d) **Lack of Awareness of Sex Education**

Not all people of Nepal are educated. Poor people from villages and remote areas are still unaware about sex education and preventive measures against STDs. Thus they are also contributing for the rapid growth of HIV/AIDS.

e) **Fear in AIDS Infected Patients to Discuss Their Condition**

In Nepalese society, HIV infected person are deemed as bad people and treated inhumanly. Though the Government has been providing free health services to those people, infected people do not come out easily and attend the treatment due to the social condition and taboos of the society. Thus they are more infected and transmit the same to other healthy people.

**Q.2. Describe the pillars of safe motherhood.**

**Ans:** Safe motherhood is condition in which a woman is safe from any complications during her pregnancy, childbirth and neonatal period. In a sense, it means ensuring that all women receive the care they need to be safe and healthy throughout pregnancy, childbirth and afterwards. Following are things which are related to safe motherhood often called pillars of it.

- **Family Planning:** everybody needs to be aware about the right age to get pregnant. Adolescents should get all the information about reproductive health including contraceptives, conception, sex education and sexually transmitted diseases. Women need to have proper nutrition for their proper development and maturity. They need to be well equipped with everything to be ready to be pregnant.
- **Antenatal care:** When a woman is pregnant, she needs to have support from her family, health care centre and any other possible people and places. Adequate and appropriate antenatal care from the health centre and adequate nutrition supplementation, rest, birth preparedness is required during pregnancy for safe motherhood.

Antenatal care = care given to a woman and an infant right after childbirth

- **Care during childbirth:** Safe motherhood possibly occurs when delivery of child happens by assistance of skilled *birth attendants*. Transportation facilities from home to health centre, skilled health workers, blood transfusion services, facilities for complicated

pregnancy, everything should be in place to ensure uneventful birth. This should be provisioned for every pregnant woman.

birth attendant = a person who helps a woman during her childbirth

- **Postnatal care:** Adequate care should be provided during postnatal phase of the mother so that she could take care of the baby and the family as a whole. Information and counseling about the contraceptives is equally important to women and her family in postnatal stage.
- **Abortion care:** Unwanted pregnancy should be terminated properly and safely within safe time period to avoid complications. Women should have ability for deciding whether to keep or terminate her pregnancy and family should give her proper counseling and support in the decision.

**Q.3. Explain the things to be considered to take care of a pregnant woman.**

**Ans:** Pregnancy is a complicated physical condition which must be taken care of by pregnant woman herself and her family. Following things should be done to take care of a pregnant woman.

The following things should be considered by a pregnant and her family for safe motherhood.

- I. A pregnant woman should visit doctor at least in the following times during pregnancy. These are the schedule (regular) visits except when there come some complications.
  - First time: right after knowing about occurrence of pregnancy
  - Second time: regularly up to 7<sup>th</sup> months of pregnancy
  - Third time: Every two weeks in the seventh and eighth months
  - Fourth time: Every week during ninth month of pregnancy
  - Later visits may also include checking the baby's position and noting changes in pregnant woman's body to prepare for birth.
  - Last month or the week of childbirth
  - Apart from these times, doctor must be visited other times also if any complications arise.
- II. Apart from regular consultation to health staff, pregnant women and her family must give due consideration to vaccination too. TT vaccine should be taken two times during pregnancy to prevent tetanus. First dose should be taken on first check up of pregnancy and second one between 1<sup>st</sup> to 9<sup>th</sup> months.
- III. A pregnant woman should eat more food than usual. There must be enough intakes of green vegetables, meat, milk, pulses and such by a pregnant woman. During pregnancy, she needs more food; both for her and her foetus. Therefore, a regular and enough nutritious food should be given to pregnant.
- IV. Heavy burden shouldn't be lifted and carried by a pregnant.
- V. Personal cleanliness should be seriously considered.

**Q.4. Make a table to show different immunization needed for a child.**

**Ans:** Following table shows the immunizations which has to be given to a child along with other related information.

Vaccine	Frequency	Stage		Against
B.C.G	1 time	Within 4-5 days of birth		T.B
D.P.T (TDaP)	3 Times	1.5 months after birth to 1 year	Every month after first given	diphtheria, pertussis (whooping cough), and tetanus.
Hepatitis B	3 Times	1.5 months after birth to 1 year	After one month of first vaccination, and after six months	Hepatitis B
Polio	3 Times	1.5 months after birth to 1 year	Every month after first vaccine	Polio
Measles	1 time	9 month to 1 year		Measles



# Community

Specification Grid of the Unit

SN	Level	Type	Number	Marks
1	Knowledge			
2	Understanding	Very Short + Short	1+1	1+4
3	Application			
4	High ability	Long *	1	7
* Long question may or may not be asked from the chapter.		Total	3	12

## Ways with the Lesson

- A field of study which deals with providing ideas on and services of health facilities to communities rather than to individuals is called community health. It is concerned with health of a particular community because health of people there is commonly influenced by many factors.
- Community health is very important because it encourages people to have clean environment around them, produces healthy manpower, increases a community's access to health services, encourages people for social services and much more.
- This branch of health science deals with many areas to make health of community people better. Some of the areas it deals with are inspection of food products, control of communicable diseases, environmental health, immunization programmes, control of malnutrition and so on.
- There are a number of institutions providing varieties of health services in Nepal. They provide preventive, promotive, curative and rehabilitative health services. They provide health services to individuals as well as to communities. Government of Nepal has established health service providing institutions at different levels across the country. Apart from those from government side, there are many of such institutions from private sector.
- A number of health service providing institutions are also functioning in Nepal voluntarily which are national and international nongovernmental organizations such as Red Cross, Paropakar Sanstha and such others.

planning service, immunization, HIV/AIDS control and so on. Community health makes people aware of the negative effects of narcotic substances and measures for preventing such which everyone in a community know and adopt in their lives.

(A) Very Short Questions–Answers	1 Mark Each
<b>Q.1.</b> <i>What is community health?</i>	
<b>Or,</b> <b>Ans:</b> Community health is the approach which focuses on the study and improvement of health in a community rather than in an individual person.	<b>Q.2.</b> <i>What do you understand by community health?</i>
<b>Ans:</b> Motivating the family members and others to set hygienic behaviour will be my personal effort to solve the problem of prevalence of disease in my community.	<b>Q.3.</b> <i>What will be your personal effort to solve the problems of prevalence of diseases in your community? [ISLC 2065 A, 2070 E]</i>
<b>Ans:</b> The community health depends on the cleanliness of environment and the prevalence of communicable diseases in the community.	<b>Q.4.</b> <i>Mention any two factors on which community health depends.</i>
<b>Ans:</b> The one point which justifies the importance of community health is the creation of healthy environment.	<b>Q.5.</b> <i>Write any one point which justifies the importance of community health. [ISLC 2068 B]</i>
<b>Ans:</b> The two importance of community health are cleanliness of environment and production of healthy manpower.	<b>Q.6.</b> <i>What does community health emphasize on?</i>
<b>Ans:</b> Community health emphasizes on the improvement of overall health in a community.	<b>Q.7.</b> <i>How does maintaining cleanliness help to improve community health?</i>
<b>Ans:</b> When the environment is kept clean, the reservoirs, which hold different infectious agents like bacteria and viruses, are destroyed and prevents the transmission of such agents. The reduction of the spread of these infectious agents thus improves the community health.	<b>Q.8.</b> <i>Write any two scopes of community health.</i>
<b>Ans:</b> Two scopes of community health are inspection of food products and control of communicable diseases and epidemics.	<b>Q.9.</b> <i>Write any two factors that cause health problems in individuals?</i>
<b>Ans:</b> Two factors that cause health problems in individuals are poor hygienic condition of individual and polluted environment.	<b>Q.10.</b> <i>How can inspection of food products contribute to health?</i>
<b>Ans:</b> Regular inspection of food products controls the sale of contaminated and low quality food products which prevents individuals from their consumption thus contributing to a better health of the individuals.	

*... be your personal effort to solve health problems of your community? Write one effort.*

[SLC 2066 B]

**Ans:** I will try my level best to keep my community neat and clean to avoid any epidemics.

**Q.13. Who is responsible to solve the major problems of the community?**

[SLC 2068 A]

**Ans:** The Members of the community themselves are responsible to solve the health problem of the community.

**Q.14. Why is healthy manpower necessary?**

**Ans:** Healthy manpower is necessary because only the healthy manpower can utilize the resources in the most efficient way to produce the desired result and further economic loss in treating and managing the unhealthy manpower is prevented.

**Q.15. Mention two diseases that spread through contaminated food.**

**Ans:** The two diseases that spread through contaminated food are typhoid and cholera.

**Q.16. How can the sale of contaminated food be prevented?**

**Ans:** The sale of contaminated food can be prevented through regular inspection by governmental bodies.

**Q.17. Give an example of natural calamity and one mitigating measure for it.**

**Ans:** Earthquake is an example of natural calamity whose mitigating measures include construction of earthquake resistant houses and buildings.

**Q.18. Define epidemic.**

**Ans:** Epidemic is the rapid spread of infectious disease to a large number of people within a short period of time.

**Q.19. What are the effects of epidemic?**

**Ans:** The epidemic of any disease can result in the loss of lives of a large number of people.

**Q.20. What are communicable diseases?**

**Ans:** Communicable diseases are those diseases that can be transmitted from one individual to another through various means.

**Q.21. Name any four communicable diseases.**

**Ans:** The four communicable diseases are typhoid, tuberculosis, HIV infection and diarrhoea.

**Q.22. Write different modes of spread of communicable disease**

**Ans:** The communicable diseases can spread through air (e.g. Tuberculosis),  
water (e.g. diarrhoea), insects (e.g. malaria) or physical contact with  
persons (e.g. HIV infection) among others.

**Q.23. Define environmental health.**

Ans: Environmental health is the study of relation of the health of a person to the environmental aspects.

**Q.24. Why should environment be kept clean?**

Ans: Environment must be kept clean to stop the spread of different diseases and to get the resources of environment (like air and water) in the purest form.

**Q.25. Write any two effects of pollution on environment?**

Ans: The two effects of pollution on environment are:

- i. Deterioration of quality of air and water.
- ii. Depletion of biodiversity.

**Q.26. What is immunization?**

Ans: Immunization is the process of increasing the capacity of the people to fight against diseases through vaccination.

**Q.27. Why is immunization important?**

Ans: Immunization is important because it prevents us from different diseases.

**Q.28. What are the types of immunization?**

Ans: There are two types of immunization- active immunization and passive immunization.

**Q.29. Define malnutrition.**

Ans: Malnutrition is the state of a body, due to the deficiency or excessive supply of any nutrients, which causes the body to function improperly and may even lead to death.

**Q.30. Name any two diseases caused by malnutrition.**

Ans: Marasmus and Kwashiorkor are the diseases caused by malnutrition.

**Q.31. What do you mean by nutrient and nutrition?**

Ans: Nutrients are the chemical compounds found in food that are essential for survival and growth of organisms whereas nutrition is the science of study of the interaction of nutrients with the body.

**Q.32. What is the importance of nutritious food?**

Ans: The nutritious food is important to maintain the standard of health, create a condition for proper functioning of their body and to fight against different diseases.

**Q.33. What do you mean by mitigation of natural calamities?**

Ans: Mitigation of natural calamities is the act of reducing the loss of life and property by lessening the impact of calamities.

**Q.34. What does health education focus on?**

Ans: Health education focuses on the aspects like environmental cleanliness, prevention from different disease and healthy habits.

**Q.35. Name any two diseases that are transmitted by the use of contaminated syringe.**

Ans: The two diseases that are spread by the use of contaminated syringe are HIV and hepatitis infection.

**Q.36. Define health services.**

**Ans:** Health services are those services that help to improve the status of health in a community.

**Q.37. What does health service include?**

**Ans:** Health services include the treatment of illness or disease, prevention of the spread of disease, promotion of better health and restoration of the people in the community affected by different diseases, illnesses or infirmities.

**Q.38. What are the basic types of health services?**

**Ans:** The basic types of health services are:

- i. Preventive health services
- ii. Curative health services
- iii. Promotive health services
- iv. Rehabilitative health services

**Q.39. What does preventive health service focus on?**

**Ans:** Preventive health service focuses on the mitigation and elimination of those factors that are potential threat to human health.

**Q.40. Write two preventive health service programmes being conducted in Nepal.**

**Ans:** Two preventive health service programmes being conducted in Nepal are diarrhoea and respiratory diseases control programmes and leprosy control program.

**Q.41. What do you mean by promotive health services?**

**Ans:** Promotive health services are those services that encourage the people to enrich the existing health status through nutrition, reproductive education, health education and information, etc.

**Q.42. Why are promotive health services given to people?**

**Ans:** Promotive health services are given to enhance the existing health status of the people.

**Q.43. Define curative health services.**

**Ans:** Curative health services are those services which are given to the people to cure the diseases.

**Q.44. How are curative health services provided?**

**Ans:** Curative health services are provided through health posts, clinics, medical centres, hospitals, etc.

**Q.45. What is the objective of curative health services?**

**Ans:** The objective of curative health services is to treat and manage the patients who already have the disease.

**Q.46. What are rehabilitative health services?**

**Ans:** Rehabilitative health services are those services that are provided to the people with some illness or injuries that help them to live a normal life.

**Q.47. How does rehabilitative health service help people?**

**Ans:** Rehabilitative health services help the people to lead a normal life again and to be established in the society.

- Q.51.** Health service offered by health post and sub health post is prevalent in Nepal.
- Q.52.** *Mention any one of the major health problems of Nepal. [SLC 2065 E]*
- Ans:** Any one major health problem of Nepal is prevalence of communicable / infectious diseases.
- Q.53.** *Name any two central level governmental hospitals.*
- Ans:** Two central level governmental hospitals are Bir Hospital and Kanti Children's Hospital.
- Q.54.** *Name one institution each to provide general and specific health services.*
- Ans:** The institution which provides general health services is Bir Hospital and the institution which provides specific health services is Mental Hospital.
- Q.55.** *What are the characteristics of central level hospitals?*
- Ans:** The characteristics of central level hospitals are
- They are equipped with advanced machineries and equipment
  - They have highly skilled and professional medical staffs
- Q.56.** *What are the functions of regional health directorate?*
- Ans:** The functions of regional health directorate are to provide health services and perform other administrative duties as specified in their respective region.
- Q.57.** *How many beds are required in a regional hospital?*
- Ans:** A regional hospital requires 150 beds in minimum.
- Q.58.** *How many zonal hospitals are there in Nepal?*
- Ans:** There are 10 zonal hospitals in Nepal.
- Q.59.** *How many beds are there in a zonal hospital?*
- Ans:** There are 50 to 150 beds in a zonal hospital.
- Q.60.** *What are health institutions at zonal level?*
- Ans:** The health institutions at zonal level are zonal hospitals, zonal ayurvedic clinics and zonal Ayurvedic dispensaries.
- Q.61.** *What is the type of hospital which has 50 to 150 beds? [SLC 2063 A]*
- Ans:** It is a zonal hospital if it has the bed numbers within 50 to 150.
- Q.62.** *What is the minimum bed capacity of district hospital?*
- Ans:** The minimum bed capacity of district hospital is 25.
- Q.63.** *When was Nepal Red Cross Society established in Nepal? [SLC 2063 D]*
- Ans:** Nepal Red Cross society was established in Nepal in 4th September, 1963 A.D. (Bhadra, 19th 2020 B.S.).
- Q.64.** *Which health institution works as the regulatory body at district level?*
- Ans:** District Health Office works as the regulatory body at district level.

**Q.63. How many district hospitals are there in Nepal?**

**Ans:** There are 65 district hospitals in Nepal.

**Q.64. Write any two functions of primary health centres.**

**Ans:** The two functions of primary health centres are to provide basic health services and to treat the cases of minor accidents and injuries.

**Q.65. Which institution provides health services at Ilaka level?**

**Ans:** Health posts provide health services at Ilaka level.

**Q.66. What is the major duty of women health volunteers?**

**Ans:** The major duty of women health volunteers is to provide family planning services, basic treatment services for simple diarrhoeal and respiratory diseases, and health education services.

**Q.67. Write name of any one Ayurvedic health service provider in Nepal.**

**[SLC 2069 E]**

**Ans:** Nardevi Ayurvedic Hospital is an ayurvedic health service provider in Nepal.

**Q.68. When was Paropakar Sanstha established?**

**Ans:** Paropakar Sanstha was established in 10<sup>th</sup> Ashwin 2004 B.S.

**Q.69. Who is the founder of Paropakar Sanstha?**

**Ans:** The founder of Paropakar Sanstha is Dayabir Singh Kansakar.

**Q.70. What is the main aim of Paropakar Sanstha?**

**Ans:** The main aim of Nepal Paropakar Sanstha is to provide free health services to the poor and needy people.

**Q.71. Write any one service-oriented activity of Nepal Red Cross Society.**

**[SLC 2065 BJ]**

**Ans:** One service-oriented activity of Nepal Red Cross Society is emergency relief work during natural disaster.

**Q.72. What is the objective of Family Planning Association of Nepal?**

**Ans:** The major objective of Family Planning Association of Nepal is to provide counseling and other services regarding health care and family planning.

**Q.73. Name any two voluntary health agencies working in Nepal.**

**Ans:** The two voluntary health agencies working in Nepal are Nepal Red Cross Society and Paropakar Sanstha.

**Q.74. Name the voluntary organization working in the field of heart diseases?**

**Ans:** The voluntary organization working in the field of heart diseases is Nepal Heart Foundation.

**Q.75. Name the voluntary organization working in the field of tuberculosis?**

**Ans:** The voluntary organization working in the field of tuberculosis is Nepal Anti-Tuberculosis Association (NATA).

**Q.76. For which disease is DOTS implemented?**

**[SLC 2066 E, 2070 C, JEC 2070]**

**Ans:** DOTS is implemented for Tuberculosis.

**Q.77. When was Nepal tuberculosis Association established? [PABSON 2070]**

**Ans:** Nepal Tuberculosis Association was established in 2010 B.S.

**Q.8. What is the main function of Nepal tuberculosis Prevention Organization?**

Ans: The main function of Nepal Tuberculosis Prevention Organization is to diagnose the Tuberculosis diseases among the people and treat them.

**Q.9. Write the name of an effective treatment approach of tuberculosis in Nepal.**

Ans: Treating under direct observation is an effective treatment approach of tuberculosis in Nepal.

**Q.10. What is the main aim of Nepal Cancer Relief Society?**

Ans: The main aim of Nepal Cancer Relief Society is to fight against the spread of cancer in Nepal.

**Q.11. Write name of any one health service agency which is available in your community. [SLC 2066 C]**

Ans: Family Planning Association of Nepal (FPAN) is one health service agency which is available in my community.

**Q.12. Name the ministry that is working in health sector of Nepal.**

Ans: The ministry that is working in the health sector of Nepal is Ministry of Health (MoH).

**Q.13. Write any one responsibility of your own which will be helpful to solve the health problem of your community. [SLC 2066 D, 2070 D]**

Ans: Personal and environmental sanitation is one major and foremost responsibility of mine which will be helpful to solve health problem of my community.

**Q.14. List any two health programmes that are being conducted in Nepal?**

Ans: The health programmes that are being conducted in Nepal are Expanded Programme on Immunization (EPI) and Vitamin A Deficiency and Blindness Control Project.

**Q.15. What vaccines are included in Expanded Programme on Immunization (EPI)?**

Ans: The vaccines included in Expanded Programme on Immunization (EPI) are BCG, DPT, Oral Polio vaccine and Measles vaccines.

**Q.16. What is Expanded Programme on Immunization (EPI)?**

Ans: Expanded Programme on Immunization (EPI) is the programme started by World Health Organization that provides vaccination against different diseases to the children.

**Q.17. Write any two functions of Expanded Programme on Immunization (EPI).**

Ans: The two functions of Expanded Programme on Immunization (EPI) are:

- i. To create awareness programmes against different diseases.
- ii. To conduct vaccination programmes through trained personnel.

**Q.18. What is the main aim of Community Based Integrated Management of Childhood Illness (CBIMCI) programme?**

Ans: The main aim of Community Based Integrated Management of Childhood Illness (CBIMCI) programme is to reduce the child mortality.

**Q.89. What is the major activity that is being conducted under Community Based Integrated Management of Childhood Illness (CBIMCI) programme?**

**Ans:** The major activity being conducted under Community Based Integrated Management of Childhood Illness (CBIMCI) programme is the management of the diseases affecting children.

**Q.90. Why is family planning and maternal child health important?**

**Ans:** The family planning and maternal child health care is important to manage the growing population and to promote and preserve the health of mother and child.

**Q.91. Name any two vaccines given in Nepal.**

**Ans:** The two vaccines given in Nepal are DPT and BCG.

**Q.92. What are the full forms of DPT and BCG?**

**Ans:** The full form of DPT is Diphteria Pertusis and Tetanus and that of BCG is Bacillus Calmette Guerin.

**Q.93. What diseases do DPT and BCG provide immunity against?**

**Ans:** DPT provides immunity against diphtheria, pertussis (Whooping cough) and tetanus, and BCG provides immunity against tuberculosis.

**Q.94. What is the age of administration of oral polio vaccine?**

**Ans:** The oral polio vaccine is administered at 6, 10 and 14 weeks after birth.

**Q.95. Which vaccine is given at birth?**

**Ans:** BCG vaccine is given at birth.

**Q.96. What is family planning?**

**Ans:** Family planning is the practice of controlling the number of children one has and the interval between the births of their children.

**Q.97. What is maternal child health?**

**Ans:** Maternal child health is the approach of proving health care to the new mother and child.

**Q.98. What are the diseases caused by deficiency of Vitamin A?**

**Ans:** The diseases caused by deficiency of Vitamin A are night blindness and retarded physical and mental growth.

**Q.99. What is the mode of spread of HIV?**

**Ans:** HIV is mainly transmitted through sexual contact, transfusion of infected blood and from infected mother to the child.

**Q.100. Write the full form of HIV and AIDS.**

**Ans:** The full form of HIV is Human Immunodeficiency Virus and the full form of AIDS is Acquired Immuno-deficiency Syndrome.

**Q.101. How does HIV infection affect the human body?**

**Ans:** The infection from HIV causes weakening of immune system by destruction of the cells that fight against external infectious agents.

**Q.102. What is the vector of malaria?**

**Ans:** Female anopheles mosquito is the vector of malaria.

**Q.103. What is the causative agent of malaria?**

**Ans:** The causative agent of malaria is *Plasmodium* spp.

**Q.104. What is the main aim of National Health Education Information and Communication Centre?**

Ans: The main aim of National Health Education Information and Communication Centre is to contribute to the achievement of high standard health of the people.

**Q.105. Define addiction.**

Ans: Addiction is a condition when a person intakes any substances or engages in any activity that can be pleasurable but the continued use of which becomes compulsive and interferes with ordinary life.

**Q.106. Write two reasons behind smoking.**

Ans: The reasons behind smoking are peer pressure and copy of elder ones.

**Q.107. Give any two reasons behind drug addiction.**

Ans: The two reasons behind drug addiction are mental tension and peer pressure.

**Q.108. Mention any two immediate effects of smoking.**

Ans: The two immediate effects of smoking are disturbance in digestive system and change in brain wave pattern.

**Q.109. Mention any two long term effects of smoking.**

Ans: The two long term effects of smoking are chances of cancer and increase in blood pressure.

**Q.110. What are the two effects on health due to drug addiction?**

Ans: Weakening of immune system and the chances of HIV and hepatitis infections are the two effects of drug addiction on health.

**Q.111. How does drug addiction affect the society?**

Ans: Because of drug addiction the rate of crimes, such as theft, robbery and fighting, increases in the society and also the younger ones in the society may adopt these habits, which badly affects the society.

**Q.112. How does drug addiction affect the economic aspect of a family?**

Ans: The drugs are relatively expensive and once when a person is addicted to any drugs he/she spends all the money to buy those drugs. Even it is seen that the persons steal the valuable materials from their home and sell them to buy the drugs. In this way the drug addiction affects the economy of the family.

**Q.113. What are the preventive measures for drug addiction?**

Ans: The preventive measures for drug addiction are to create public awareness, to formulate strict laws against smuggling of drugs and to avoid friendship of those who are addicted to drugs.

**Q.114. Write any two measures to prevent from alcohol consumption.**

Ans: The two measures to prevent from alcohol consumption are providing health education on the drawbacks of alcohol and banning the advertisement of alcohol.

**(B) Short Questions-Answers** **4 Marks Each**

**Q.1.** *What is community health? Write any three importance of it.*  
*[SLC 2059 B, 2065 A, 2066 D, JEC 2069,  
N-PABSON 2069, PABSON 2070]*

**Ans:** Community health is the science and art of delivering a unified and balanced integration of curative, preventive and promotional health services.

*Three importance of community health:*

- The study of community health helps to keep the healthy environment :* The prevalence of most communicable diseases are due to the poor sanitation. Most of the people throw their waste product in the open street which will create the problem of poor sanitation. If we study the community health, we analyze the community health problem as methods of controlling them.
- Healthy manpower can be produced through improvement in the community health :* If an individual keeps himself healthy, he could contribute to his country otherwise his birth might be useless. Therefore, such types of spirit can be developed through the study of community health.
- Study of community health encourages people for social services:* If communities organize health camps, cleanliness campaign and many different activities. When they are benefited from those activities they are praised by the community members. If people know the main secret of achieving community health through their joint effort they will involve in such activities. Establishment of Nepal Red Cross Society, Nepal Paropkar Association, Local Health Clinics and Clubs are some of the examples of such effort.

**Q.2.** *Describe in brief about the importance of community health.*

**Ans:** Community health is the approach which focuses on the study and improvement of health in a community rather than in individual person. It is one of the most important factors in achieving a good health status through the collective effort in the community. The community health enables us to maintain a clean environment, produce healthy manpower, provide access to health services and facilities, and encourage performing social service activities. Since all of these are the key factors in maintaining community healthy, the concept of community health is very important.

**Q.3.** *List the importance of community health and describe any one of them in brief.*

**Ans:** Community health is very important for the well being of a community against various diseases and for health related useful concepts. The importance of community health is as follows:

- i. **Cleanliness of environment:** The concept of community health focuses on the maintenance of clean environment because environment is one of the most crucial aspects that determine human health. To control the spread of different diseases and to get the environmental resources in their pure form, the community health teaches us to keep our environment clean and healthy. Thus, community health is very important to maintain a clean environment and a healthy community.
- ii. **Production of healthy manpower**
- iii. **Access to health services and facilities**
- iv. **Encouragement for social work**

**Q.4. "Prevention is better than cure". Explain this statement.**

**Ans:** Prevention means to protect ourselves from the occurrence of any harmful situations. Prevention, in the sense of prevention against diseases is applying various measures to avoid catching of diseases. Cure means to treat one of a disease that has caught them. Between the two options of preventing diseases and curing them after being infected, the first one is always preferable. Preventing oneself from diseases is always better than curing. If we do not prevent ourselves then different diseases attack us and hamper our bodily status and disturb our daily works. Even if we can cure ourselves, still we have to give our time fighting with the diseases and hamper our daily routine. Amounts of our money, time and energy are spent if we catch diseases. It is always a good idea not to let our body come in contact with the diseases than to treat from them. In addition to this, the measures to cure patients are more costly and the management of patients requires more resources than the measures to prevent from them. Therefore, prevention is always better than cure.

**Q.5. How are environment and health related?**

**Ans:** Environment includes all the elements that are found in surroundings of human beings. It is from the environment that the human beings obtain all the necessary resources for their survival and for conduction of developmental activities. When the environment is clean human beings can get all those resources in the uncontaminated form and can have a good health but when the environment is polluted then there will be prevalence of different diseases in the environment which eventually affects the human beings. In this manner environment directly affects the human health. Health of human beings also determines the status of the environment. If there are unhealthy persons in a community then the environment is contaminated from different bacteria and viruses released by them. These contaminants pollute in the environment and again affect the health of other individuals in the community. Thus, environment and health are related to each other.

**Q.6. Make clear the concept of community health and describe its importance briefly. Discuss the role of community in solving the major health problems encountered in Nepal.** [SLC 2063 A, 2068 C]

**Ans:** Community health can be defined as a science or an art of preventing the disease, promoting the health and curing the diseases through the effective participation of the people of the community.

Community health is important in the society to manage the sanitation in the unified way, to prevent the diseases in a collaborative way and to promote the health condition of the people in a constructive way.

Its importance can be listed as follows:

- i) It is important to create a healthy environment;
- ii) It is important to prepare healthy manpower in the community;
- iii) It is important to make the health institutes available in the community when the community people are aware about their health, they themselves become active to establish and contribute for the health services.
- iv) It is important to arise the feeling of social service among the people. People understand that the health problems of community can not be solved by the individuals only. They start to be unified for the collective effort to solve the health problems. Several organizations are established and / for disseminated in the community with the motto of social service.

A person or a family cannot solve various problems relating to health. The community provides different facilities and services for people such as supply of drinking water, arrangement of sewage, sanitation of public places, construction of public toilet, establishment of hospital, management of elderly home, play grounds, parks, etc. So, the community encourages to awareness programme to solve the health problems of the society. Therefore, community has the responsibility for health care and solution of health problems.

**Q.7. What is meant by scopes of community health? List the scopes of community health.**

**Ans:** Scopes of community health means those areas in which the community health has its influence over. They are those fields in which the community health focuses on to maintain a proper health of the community.

The scopes of community health are listed below:

- a) Inspection of food products
- b) Control of communicable diseases and epidemics
- c) Environmental health

- d) Immunization programmes
- e) Control of malnutrition
- f) Control of injuries and accidents
- g) Preparedness from natural calamities and risk mitigation
- h) Health education
- i) Control of drug addition

**Q.8. How does community health help in providing health services of the people?** [SLC 2068 B]

**Ans:** Community health helps in providing the health service to the people by the following ways:

- i) Community health makes the people aware about different diseases.
- ii) Community health provides free health service to the people.
- iii) Community health improves the health condition by organizing different health campaign.
- iv) Community health helps to maintain healthy environment and hygienic sanitation.
- v) Community health encourages people to engage in social activities and services.

**Q.9. What is community health? Explain its contribution in Nepalese community?** [SLC 2069 C]

**Ans:** Community health refers to the science and art of preventing diseases, prolonging life and promoting health through effective organized community efforts. Community health includes preventive, promotive, curative and rehabilitating health services. Community health focuses on active community participation by utilizing locally available materials and expertise to protect and uplift health of the community people. The community health care system should be based on the principle of decentralization so that the health services could be accessible to the gross root people of the community.

Community health covers various areas like balanced diet, safe drinking water, safe disposal of waste, good housing and many more. Though this, the Nepalese community had been contributed a lot. Some contributions of community health in Nepalese community are explained below on the basis of several points:

- 1) It creates awareness about health related issues among the people of Nepalese community.
- 2) It encourages and emphasizes active participation of local people in each and every health related activity so that it develops a sense of 'we/our feeling' among the community members.
- 3) Health service system is based on local health needs of the people so people of Nepalese community remain healthy.

- programmes, every people become healthy.
- 6) It has indirectly promotes the economic status of the community by utilizing local materials and human resources.
  - 7) In Nepalese community, corruption has decreased; delivery services and maintenance services are easily available because of the community health.

Therefore, these are some contribution of community health in Nepalese community.

**Q.10. *Describe any two scopes of community health.***

**Ans:** The scopes of community health are those areas in which the community health has its influence over. Some of the scopes of community health are inspection of food products, control of communicable diseases and epidemics, environmental health, immunization programme, etc.

One of the scopes of community health is to control diseases and epidemics. The prevalence of different communicable diseases in a community hampers the health of the people of that community. If there is any communicable disease in a society then it is a prime concern of community health to stop it from spreading and becoming an epidemic. The communicable diseases and epidemic can result in the loss of lives of a large number of people. Thus, it is a scope of the community health to control the communicable diseases and the epidemics.

Another scope of community health is conduction of immunization programmes. Immunization programmes aim at preventing the occurrence of diseases in the community through vaccinations. It is very much important to get immunized because the incidence of different diseases is increasing at a rapid rate and it is better to be prevented from the diseases than be cured. Thus, immunization programmes concentrate to improve the health of the community through preventive measures.

**Q.11. *How can health problems be solved through health education?***

*(SLC 2061 C, 2070 A)*

**Ans:** Community health refers to the science and art of preventing diseases, prolonging life and promoting health through effective and organized community efforts. Community health includes preventive, promotive, curative and rehabilitating health services.

contributions of community health below on the basis of several points.

- 1) It creates awareness about health among Nepalese community.
- 2) It encourages and emphasizes each and every health related 'we/our feeling' among the community.
- 3) Health service system is based on the people of Nepalese community.
- 4) The people can easily utilize the services and their expertise.
- 5) Due to more sustainable, affordable programmes, every people become healthy.
- 6) It has indirectly promotes the economic development by utilizing local materials and human resources.
- 7) In Nepalese community, corruption and maintenance services are available for community health.

Therefore, these are some contributions of community health in Nepalese community.

**Q.12. Write short note on health services.**

**Ans:** Health services are those services that help in the promotion of health in a community. They include the services that prevent the spread of disease, promote a better health condition in the community affected by different diseases, treat persons with diseases. They can be classified into curative and rehabilitative health services provided at different levels by different agencies provided by governmental bodies, non-governmental organizations and international organizations.

According to World Health Organization, all the services dealing with the diagnosis and treatment, prevention, promotion, maintenance and restoration of health.

**Q.13. Why should we produce healthy manpower?**

**Ans:** Human resource is one of the great resources of a country. A healthy resource is necessary to utilize the natural resources for the development. A country can't develop without a healthy population. A country which has healthy and skilled manpower can develop even though it is poor in natural resources. For example, Japan has become successful because of healthy manpower. Education, skill and creative power can't work unless the mind is sound. Healthy mind exists only in a healthy body.

Health problems have occurred due to famines, wars, etc. Some diseases have been eradicated. Some new diseases have appeared now as great health problems.

Some diseases may be cured easily. But many diseases are infected assuming that they are not serious. There are great health problems due to social customs.

**Major health problems of Nepal.**

[Source: *Health and Community Health ... 265* C, PABSON 2069]

Population of Nepal. Rapid population growth lessens health facilities and services. Population growth causes many health problems. According to the census of 2028 the population was 25,555,983. But it increased to 27,500,000 in 2051 B.S. The population growth rate is 2.25% in 2058 B.S. The population will double in 52 years. It will be very difficult for a country to provide enough drinking water, residence, food, etc. It increases the number of patients, especially of alcoholics, and it also increases the number of patients with mental disorders.

Health problems in Nepal. Health services help in the prevention of diseases. Preventive health services are the potential threat to public health. These services include clean environment, control of epidemics, etc. Some preventive health services delivered in Nepal are family planning, national immunization programme, leprosy control programmes, etc.

**Q.14. Write short note on health services delivered in Nepal.**

Health services delivered in Nepal are as follows:

- Family planning programmes
- National immunization programmes
- Leprosy control programmes
- Tuberculosis control programmes
- Maternal and child health programmes
- Primary health care programmes
- Non-communicable diseases control programmes
- Mental health programmes
- Rehabilitation programmes
- Health education and promotion programmes
- Health research programmes
- Health information systems
- Health administration and management

can accomplish his work well and on time. So healthy manpower is the wealth of a nation and demand of the world. Development will be faster if there is healthy manpower. So we should produce healthy manpower.

- Q.14.** *What does high infant mortality rate indicate? What is the status of infant mortality rate in Nepal? Explain in brief.* [ISLC 2065 AJ]

**Ans:** Infant mortality rate is the number death of infant per 1000 live births in a year. The high infant mortality rate is one of the major health problems in Nepal. It is also one of the causes of population growth. High infant mortality rate indicates low socio-economic development of a country.

In Nepal, the infant mortality rate is even worse among the SAARC countries. According to the census of 2001, the infant mortality rate is 64 out of 1000 infants in Nepal. Even the rate is still high in comparison to the developed countries. People produce more number of children because they have no guarantee of the survival of their children. Lack of health services, early marriage, illiteracy and poor environmental sanitation are some of the causes of high infant mortality rate in Nepal. It is still increasing in Nepal.

- Q.15.** *"Lifestyle of Nepali people is a major health problem of Nepal." Justify.* [ISLC Model Question 2065]

**Ans:** Mass of Nepalese do not have health awareness. They run their life following unhealthy manners.

The people in rural areas eat low calorie and work more or beyond their capacity. So, they suffer from various kinds of diseases like gastritis, ulcer and so on.

Unlike this, many people in urban areas eat more and work less consequently, they become the victim of high sugar, high blood pressure and so on. In the same way, some of the urban dwellers spend their life in stress. Hence, they are often caught by high sugar in blood, high blood pressure, neurological diseases.

A big number of Nepali people use tobacco and alcohol. They are the causes of various kinds of diseases. Such substances and liquors cause both mental and physical hazards. Likewise, such items stimulates many other diseases. Resultantly, the people fall the prey of several diseases. At the same time many people of irregular habit of going to bed and wake up from the bed. Therefore, they suffer from insomnia and stress related diseases.

- Q.16.** *Prevalence of infectious diseases is the major health problem of Nepal. Prove this statement.* [ISLC 2062 E, 2067 D, 2068 C]

**Ans:** Due to lack of sanitation, safe drinking water, healthy and nutritious food, Nepal is facing a problem of communicable and infectious diseases like diarrhoea, dysentery, cholera, typhoid, etc. About 45,000 children are dying per year due to diarrhoea in Nepal.

Few decades ago, more deaths used to occur due to famines, smallpox and malaria. Nowadays, these diseases have been eradicated. But, the diseases like Hepatitis 'B', HIV/AIDS have appeared now as great problems.

The diseases like leprosy, tuberculosis may be cured easily. But people do not show such diseases even if they are infected assuming that they would be hated by the society.

Thus, Nepal has been facing many great health problems due to ignorance, poor sanitation, illiteracy and social customs.

**Q7. Rapid population growth is one of the major health problems of Nepal. Justify this statement. [SLC 2060 B, 2062 A, 2065 C, PABSON 2069]**

**Ans:** Population growth is the main health problem of Nepal. Rapid population growth causes a shortage in food supply lessens health facilities and health services. Apart from these, rapid population growth causes diseases, malnutrition and unhealthiness. According to the census of 2028 B.S., the total population of Nepal was 11,555,983. But it increased to 1,84,91,097 in 2048 and 2,31,51,423 in 2058 B.S. The population growth rate of 2048 B.S. was 2.1% and it increased to 2.25% in 2058 B.S. The population is further increased to 2,64,94,504 in 2068 B.S. with annual growth rate of 1.35%. If it is continuous, population will be double in 52 years. And if population grows like this, it will be very difficult for a country like ours to manage food, cloths, drinking water, residence, education health services and facilities. This increases the number of diseases, malnutrition which in turn cause negative impact on public health. Besides, many Nepalese are smokers and alcoholics, and it also has a negative impact on public health.

**Q8. Explain in brief the preventive health services**

**Ans:** Preventive health services are those services that help in the prevention of diseases rather than providing treatment. The preventive health services focus on the elimination of those factors that are the potential threat to human health. Providing preventive health services is the most effective way to maintain a healthy community at the lowest cost. These services include awareness programs, immunizations, cleanliness of environment, health education, control of spread of diseases and epidemics, etc. Some of the preventative health services that are being delivered in Nepal are family planning and maternal health programmes, national immunization programmes, diarrhoea and respiratory diseases control programmes, national tuberculosis control programmes, etc.

**Q9. List the preventative health services that are being delivered in Nepal.**

**Ans:** The preventative health services that are being delivered in Nepal are as follows:

- Family planning and maternal health programmes
- National immunization program
- Diarrhoea and respiratory diseases control programmes
- National tuberculosis control programmes

**a) Promotive health services**

**Ans:** The promotive health services are those services which are given to enhance the existing health status of the people. It includes nutrition, reproductive education, health education and information, etc. One of the major aspects of promotive health services is the public policy that addresses health determinants such as income, housing, food security, employment, quality working condition, safe motherhood, etc. These health services are given to promote existing health status of people, as its name suggests.

**b) Curative health services**

**Ans:** Curative health services are those services which are given to the people to cure the diseases. Even if people become conscious about their health and hygiene and promote their health, they can fall sick sometimes. Various diseases can catch them and they may need to seek treatment. The health service given to people on such situations is called curative health. These services aim to treat and manage the patients who already have the disease. These services require knowledgeable, trained and skilled manpower and are more costly than the preventive health services.

**Q.21. Explain in brief the rehabilitative health services.**

**Ans:** Rehabilitative health services are those services that are provided to the people with some illness or injuries, which help them to lead a normal life. These kinds of services are necessary for the re-establishment of the people who are separated from their family or from the community because of some diseases or accidents. The rehabilitation services are also provided to the people who have become addicted to drugs or are victims of some habits that can threaten their physical, psychological or social health. Rehabilitative health services aim at making victims overcome the injuries, disabilities, addiction or such other possible circumstances. People who have received such health services are supposed to lead a healthy and normal life even after getting accidents, injuries, addiction and trauma created by such events in their life.

**Q.22. List any three important causes of malnutrition in children in Nepal.**

*ISLC 2062 E, 2067 D, 2068 C*

**Ans:** Malnutrition is a state in which the body do not get proper amount of nutrients from the food stuff. Malnutrition is one of the major health problems of Nepal. According to the report of Department of Health services 2011 AD, 29% of children below five years of age were chronically malnourished. There are various causes behind malnutrition in children in Nepal. Some of them are as follows.

- a) Because of poverty the parents cannot provide their children with nutritious and sufficient food.
- b) There is lack of knowledge about food and selection of food.
- c) There is lack of food storage and preservation. So the nutrients are lost from the food.

**Q.23. "Illiteracy and ignorance are some of the major health problems of Nepal." Explain the statement.**

*[SLC 2057, 2065 B, 2066 A,  
SEDIPS 2069, JEC 2070]*

**Ans:** Illiteracy and ignorance are some of the major health problems of Nepal. Due to the lack of education, the people can't take proper care of their children. This causes the children suffer from any communicable diseases. Due to ignorance, the people follow the traditional way of life. If there is a disease of any kind in any family, they apply 'Jhar-Fook' and 'Dhami-Jhankri' (witch doctors) instead of medical treatment. This leads the people to suffer from disease. Hence, illiteracy and ignorance lead to increase the population growth to which the country cannot provide the health facilities properly. Therefore, illiteracy and ignorance are some of the major health problems of Nepal.

**Q.24. Explain any two major health problems of Nepal and write the measures to overcome them.**

*[SLC 2063 C, 2066 D]*

**Ans:** Nepal is a country facing many health problems. Several health problems are making the health profile of the country very low. Out of the various problems lack of health education and rapid growth of population are the two major problems.

- i) **Lack of health education:** Health education is a preventive measure of health problems. People educated with health know the prevention of communicable and several non-communicable diseases. They believe in the scientific ways of treatment of disease and always try for the promotion of health status. But in Nepal quite a large percentage (34.1%) people are illiterate. Out of the 65.9% literate people around 80% of them have studied up to SLC or below. There was not compulsory health paper in the school before 2054 B.S. Therefore, lack of health education among the literate ones is also a burning health problem of Nepal.

To solve this problem, health education should be imparted in the informal education and adult education too. Publicity about the mode of transmission of diseases, ways of their prevention and promotion of health status of people should be published through various media. Conservation of toilets and their proper utilization should be encouraged.

- ii) **Rapid growth of population:** Population growth is rapidly taking place in this country. Since the fourth census of Nepal, the population has been increasing. Population of Nepal in 2058 B.S. is more than four folds (2,31,51,423) than that of the first (56,38,749)

census. Now in 2068 B.S. it is reached to 2,64,94,504. Annual population growth rate is 1.35%. The population of Nepal is going to be doubled in 2063 A.D. reaching 53 million. The existing health services and facilities are quite less in comparison to the population, for example around 6000 people per doctor and around 3,800 people per hospital bed are available. Poverty and high maternal and infant mortality are also cause due to rapid population growth.

More children per family should be discouraged made encouragement should be given by the government by the nation to small family in this regard. Well equipped abortion centers should be provided. Extra fees or obligations should be charged to the couple giving more birth.

**Q.25. Write the major health problems of Nepal and write any three measures to solve those problems.** *[ISLC 2063 B, 2068 D]*

**Ans:** There are various health problems in our country. The status of the health of the people is much lower in comparison with other countries. Though there are various health institutions in our country, around ninety percent diseases are communicable diseases in Nepal. Around 30,000 children in Nepal die due to diarrhoea and around 5000 children die due to pneumonia diseases. Around 65% women from the age group 15-49 are found suffered from malnutrition and around 80% lactating mothers are suffered from malnutrition. Though there are several health problems in Nepal, the major health problems can be written as follows:

- i) Rapid population growth
- ii) Malnutrition
- iii) High maternal mortality rate
- iv) Prevalence of communicable disease
- v) Lack of health services and facilities
- vi) High child mortality rate
- vii) Poverty
- viii) Lack of health education

The existing health services should be initiated to solve from the various levels. Some three ways to solve these problems can be done in the following ways:

- a) Rapid population growth should be controlled strictly. Awareness about the disadvantages of rapid population should be raised among the couples. The government should make strict rules to encourage the parents having only two children. Extra fees or obligations should be charged to the parents having many children. Sufficient abortion centres should be operated in many places. In this way rapid population growth can be controlled.
- b) Imparting health education to all people we can solve the problem of health. Health education can be made compulsory in all levels of school, campus and university. It can be included in informal education and adult education too.

- c) Child mortality can be reduced conducting intense immunization programmes, distributing the porridge in these localities from where there is existing high child mortality rate. In the primary health centres another post of pediatrician can be designated to disseminate the timely service to the children.
- Q.26. **Mention the characteristics of health institutions at central level health.**
- Ans: The characteristics of central level health institutions are as follows.
- They provide the highest level health services ranging from curative to rehabilitative health service delivery.
  - They are equipped with advanced machineries and equipment which can be used for treatment of simple to complicated treatments.
  - They have highly skilled and professional medical staffs who can give expert services.
  - They provide either general or specialized health services at affordable prices, compared to such big hospitals established by private sectors.
  - They are mostly located in urban areas where there is centre of population and where there is higher demand of health services and facilities.
- Q.27. **List the central level government hospitals of Nepal.**
- Ans: There are only few hospitals of central level in Nepal but they are equipped with various simple to specialist services that they deliver in comparatively affordable prices. The central level governmental hospitals in Nepal are as follows:
- Bir Hospital
  - Kanti Children's Hospital
  - Surkraraj Tropical and Infectious Hospital
  - Mental Hospital
  - IndraRajyaLaxmi Maternity Hospital
  - SahidGangalal National Heart Centre
  - B.P. Koirala Cancer Hospital
  - B.P. Koirala Institute of Health Sciences
- Q.28. **What are the functions of health service delivering institutions at regional level?**
- Ans: The government of Nepal has managed for a hospital in each development region, which is equipped with advanced equipments and highly skilled medical staff that can provide treatment to a wide range of diseases and medical urgencies. Such are the regional level health institutions. The functions of health service delivering institutions at regional level are as follows:
- To implement the policies and directions obtained from Ministry of Health
  - To plan, implement and supervise health programmes in the respective region

- o Promotion of diagnostic, curative and preventive heart care services
- o Assisting heart patients for treatment
- o Rehabilitation of heart patients to lead healthy life style
- o Advocacy and public awareness
- o Heart health in formal and non-formal education
- o Skill training to service providers and communities
- o Extending support to NGOs and others on strategic issues
- o Networking and collaborations

*How is Nepal Anti-Tuberculosis Association contributing to improvement of health in Nepal?*

Nepal Anti-Tuberculosis Association is operating through its 35 branches in different districts of Nepal and is carrying out its activities in co-operation with various national, international and local organizations. It has also been working with government of Nepal in implementing tuberculosis project, raising public awareness against tuberculosis and teaching people about preventive measures towards the control of the diseases. It is also carrying out activities for identification of persons infected with tuberculosis and to cure him/her, and conduction of BCG vaccination and DOTS programmes. As mentioned above, it fulfills various functions. Its main functions are listed below.

- Identifying persons infected with tuberculosis and to cure him/her
- Raising public awareness about tuberculosis.
- Conducting BCG vaccination programmes
- Conducting DOTS programmes through mobilization of district branches and volunteers
- Working with government of Nepal in implementing projects and various programmes

DOTS = directly observed treatment short course, a system of treating patients of some diseases like tuberculosis in health staff's direct supervision until the disease is cured or controlled

*Q40. Shade light on prevalence of communicable diseases as a major health problem of Nepal.*

Prevalence of communicable diseases is a big problem of health in Nepal. Several communicable diseases spread in Nepal time to time and some of which take form of epidemic. In some cases, such communicable diseases take many lives of many people. Diarrhoea, cholera, dysentery, tuberculosis, leprosy, roundworm and such affect health of many people here. In the past there used to be many other diseases which used to take thousands of lives, such as smallpox, malaria etc which have been eradicated now. But still, some of the diseases that have been eradicated once appear somewhere occasionally. That creates a threatening situation to people's health. Lack of sanitation, health education and services are the main causes of spread of such diseases. On the other hand, some diseases are more common in Nepalese society. Due to that, sick feel

- To co-ordinate with health centres at zonal and district level
- To provide laboratory and operation services
- To refer the patients to central level hospitals whose treatment is not possible there

**Q.29.** *What are zonal level health institutions? Mention the functions of health institutions at zonal level.*

**Ans:** The institutions that are established in each zone with the aim of providing health services throughout the zone are the zonal level health institutions.

The functions of health institutions at zonal level are as follows.

- i. To provide expert level health services
- ii. To provide treatment to the patients referred by district level health centers
- iii. To refer the patients to regional or central level if treatment is not possible there
- iv. To conduct various programmes regarding preventive and promotive health services
- v. To implement the directions received from the regional and central level

**Q.30.** *List the functions of district level health institutions.*

**Ans:** Government of Nepal has managed for establishing one district level hospital in each district. They provide a number of health services and facilities to the people of that districts. The functions of district level health institutions are as follows

- i. To provide general medicine care through doctors and other health staffs
- ii. To conduct O.P.D., indoor and emergency services
- iii. To implement the programmes prepared at central and regional level
- iv. To monitor and evaluate the health organization within the districts
- v. To control the communicable diseases and epidemic seen in the districts

**Q.31.** *What are the major functions of primary health care centres?*

**Ans:** Each electoral constituency has health institution of its level established by the government of Nepal. Such an institution is called primary health care centres. The functions of primary health centers are as follows:

- To provide basic health services including maternity services.
- To control and treat diarrhoeal diseases.
- To provide regular and mobile immunization services.
- To treat the cases of minor accidents and injuries.
- To conduct programmes regarding family planning.
- To treat patients referred from health posts and sub-health post.

**Q32. Mention the basic functions of health posts.**

**Ans:** A district is divided into a number of Ilakas and there is a provision of an Ilaka level health institution in Nepal to be established by the Government of Nepal. Such an institution is called health post. According to population and its density of a district, there is provision of establishing at least 6 health posts in each district of Nepal. Functions of health posts are as follows

- i. To provide basic health services.
- ii. To provide home services for maternity health services.
- iii. To provide school health services within the schools under the respective Ilaka, V.D.C. and town.
- iv. To treat minor wounds and injuries.
- v. To conduct programmes of preventive health services.

**Q33. What are the functions of sub-health posts?**

**Ans:** The functions of sub-health posts are as follows:

- i. To create awareness in people about different infectious diseases.
- ii. To treat minor wounds and injuries.
- iii. To provide basic first aid services.
- iv. To mobilize members of community, women health volunteers and members of NGOs in different health programmes.
- v. To conduct awareness programmes regarding environmental cleanliness.

**Q34. Write short note on Nepal Red Cross Society.**

**Ans:** Nepal Red Cross Society was established in 19<sup>th</sup> Bhadra 2020 B.S. It is one of the largest humanitarian organizations in Nepal. The functions of Nepal Red Cross Society are to arrange for emergency relief services for disaster victims, to serve war-victims in times of armed conflict, to contribute to the promotion and improvement of health condition, and to perform other functions of community development and public welfare. It performs its duties through a network of District Chapters (DCs) and cooperation communities under them, and through students and youth volunteers of Nepal Junior and Youth Red Cross Circles at schools, colleges and communities. Its main aim in Nepal and across the world is to serve war-victims, both civilians and army personnel, in times of armed conflict, and to work in the fields identified by the Geneva Conventions, including Tracing, in times of peace. Similarly, it has been working for contributing to promote and improve health condition, preventing of diseases and reducing suffering in Nepal.

**Q35. Describe briefly about Nepal Paropakar Sanstha.**

**Ans:** Nepal Paropakar Sanstha was established in 10<sup>th</sup> Ashwin 2004 B.S. by Dayabir Singh Kansakar. It is the oldest social service organization of Nepal with the main aim of providing free health services to the poor and needy people. Apart from health services it has also established schools and orphanages. The major functions of Nepal Paropakar Sanstha are to

provide free ambulance services, to conduct blood donation programmes, distribute free medicines in different parts of Nepal, provide first aid treatment and conduct health camps and free health services to needy people. This organization has also established Paropakar Indra Rajya Laxmi Devi Prasuti Griha maternity hospital at Thapathali, Kathmandu with the aim of providing maternity health services to women.

**Q.36. What are the functions of Nepal Family Planning Association of Nepal?**

**Ans:** Family Planning Association of Nepal was founded in 2016 B.S. (1959 A.D.) aiming to improve quality of lives of poor, marginalized and vulnerable people in underprivileged areas. It provides counseling and other services regarding health care and family planning. The functions of Family Planning Association of Nepal are as mentioned below.

The functions of Nepal Family Planning Association of Nepal are as follows:

- i. Provide counselling services regarding family planning
- ii. Providing counselling and other health services to the couples who are unable to have baby.
- iii. Combating unsafe abortion.
- iv. Conducting awareness programmes regarding family planning.
- v. Conserving and promoting sexual and reproductive health of women.

**Q.37. What is the role of Nepal Cancer Relief Society?**

**Ans:** Nepal Cancer Relief Society is a non-profit community based nationwide social organization established on 21<sup>st</sup> Bhadra 2039 B.S. by late princess Jayanti Rajya Laxmi Devi Shah. The aim of this organization is to fight against the spread of cancer in Nepal. This organization works to prevent and cure cancer, to provide rehabilitative services to cancer patients, to support the curative aspect of cancer sufferer and to detect the cancer early for prevention. The organization provides preventive services through different awareness programmes and curative services through different institutions like Bhaktapur Cancer Hospital and NCRC Lahan Cancer Care Centre in Siraha district.

**Q.38. Introduce Nepal Heart Foundation and its functions.**

**Ans:** Nepal Heart Foundation was established in 2045 B.S. (1988 A.D.). It is a non-governmental organization that works to promote awareness among the people to reduce the incidence of heart disease. Nepal Heart Foundation also conducts other national programs regarding the prevention of heart disease. Some of the national programmes by Nepal Heart Foundation are save the children heart programme, heart attack control programme, heart patient rehabilitation programme, heart diseases treatment fund and Go Red for women special programme. The objectives of Nepal Heart Foundation are as follows:

- Promotion of diagnostic, curative and preventive heart care services
- Assisting heart patients for treatment
- Rehabilitation of heart patients to lead healthy life style
- Advocacy and public awareness
- Heart health in formal and non-formal education
- Skill training to service providers and communities
- Extending support to NGOs and others on strategic issues
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**Q. Shade light on prevalence of communicable diseases as a major health problem of Nepal.**

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compelled to hide their disease which further spreads it. There must be better sanitation, health awareness and services for controlling such disease.

**Q.41. What is malnutrition? How is it affecting health of Nepalese people? Describe briefly.**

**Ans:** Malnutrition refers to health condition in which there is lack of proper and enough nutrition in body resulting in acute lack of body weight and possibly lower mental abilities. Lack of enough and nutritious food is the main cause of malnutrition. Nepal is a big victim of this health problem. Children below 5 years of age have reduction of their required body weight by 37.4 % in average in Nepal as of 2014 AD. Malnutrition does not only affect infant and children but also others including pregnant women and old. Lack of enough food stuff, lack of distribution of food stuff in impoverished and remote areas, poverty, lack of awareness and spread of communicable diseases are some of the causative factors of high prevalence of malnutrition in Nepal. Poverty alleviation, food distribution and employment generation can curb this problem to much extent.

**Q.42. Discuss high infant and maternal mortality rates as an alarming health problem of Nepal.**

**Ans:** A great many children die in Nepal before they can reach one year of age. This condition is called infant mortality. There is high infant mortality in Nepal. This situation give rise to high population growth here because parents cannot be sure if all of their children will survive. And consequently, they tend to bear more babies. This increases population of country and mother as well as infant does not get proper care and health services. Nepal has infant mortality rate of 33 per thousand as of 2016 AD. High maternal mortality is another major health related problem of Nepal. This is a serious problem of developing countries. Great many women die in such country like ours due to complications of pregnancy and childbirth. It was observed that in the decade of 1990, there were half a million maternal deaths every year in worldwide. Situation has improved considerably in Nepal recently because of increased access of Nepalese to health services and facilities. Awareness has also increased in Nepal. As of 2016, maternal mortality rate of Nepal is 170 per 100000.

**Q.43. How have population growth and poverty been affecting health of Nepalese people? Discuss.**

**Ans:** Population growth is a major causative factor of health problems in Nepal. High growth of population is creating further lack of health services and facilities in the country. It is widening the ratio of population and health staff. It also increases poverty and minimizes people's access to health services and facilities. At the same time, high growth of population creates lack of food stuff, increases pollution and lowers sanitation. That way, population growth has been increasing health problems in Nepal. Many of the Nepalese cannot get enough nutritious food to eat everyday because of poverty. It is observed that 23.5 percent of the Nepalese are

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*education and health services in Nepal as major causes of health related problems.*

Ans: Although health education is given to Nepalese people through formal and non-formal education programmes, it has not been spread very well. In lack of health education, people don't have knowledge of proper sanitation and personal hygiene. People don't have ideas of preventive and controlling measures against health problems. This fact is also the reason of various superstitious beliefs in Nepalese. They believe on with doctors more than they believe on medical doctors. On the other hand, health services are also lacking in Nepal. Health services available in Nepal are very insufficient in comparison to the existing population. It is estimated that out of 100, only 20 Nepalese people are receiving health services and facilities. Because of lack of budget, good health service has not been able to be provided to all Nepalese. There are no health institutions in many of the rural areas of Nepal. Even if there is any, there is no medical staff or medicine there. Because of this situation, people are dying even due to minor diseases such as diarrhoea. Health services should be extended far more than how much the country has got now to solve this problem.

**Q45. What are the policies and programmes that are being implemented in Nepal?**

Ans: Various programmes are framed and implemented in Nepal time and often for betterment of people's health. The policies and programmes that are being implemented in Nepal are as follows:

- i. The provision of health, as a fundamental right in Article 35 of the Constitution of Nepal, 2072, has been ensured.
- ii. Different laws, rules and regulations are being implemented for the protection and promotion of health of citizens.
- iii. The National Health Policy 2071 has been enforced for enhancing the health status of the Nepalese people.
- iv. The 14<sup>th</sup> Periodic Plan also includes mission, goals strategies and programmes regarding health of the people.
- v. Different programmes such as Extended Programme on Immunization, Vitamin A Deficiency and Blindness Control Project, etc. are being conducted.

**Q46. Explain briefly about Extended Programme on Immunization (EPI).**

Ans: Extended Programme on Immunization (EPI) is an immunization programme which was started by World Health Organization. Under this programme the Government of Nepal is providing free immunization services against various dangerous diseases. The major objective of this

programme is to protect the children from infection and hence death from Tuberculosis, polio, diphtheria, whooping cough, tetanus and measles. EPI programme is being conducted in all 75 districts of Nepal and has been providing vaccines such as BCG, DPT, Oral Polio vaccine and Measles vaccines. This programme is considered as the most effective public health programme. This programme also focuses on encouraging the public for vaccination creating awareness programmes against 6 major dangerous diseases (Tuberculosis, Polio, Diphtheria, Whooping cough, Tetanus and Measles) of the community.

**Q.47. What are the functions of EPI programme?**

**Ans:** Extended Programme on Immunization (EPI) is an immunization programme which was started by World Health Organization. The functions of EPI programme are as follows.

- i. Encourage the public for vaccination.
- ii. Create awareness programmes against 6 major dangerous diseases (as mentioned above) of the community.
- iii. Conduct vaccination programmes through trained personnel in rural areas.
- iv. Conduct TT vaccination programmes in schools.
- v. Provide TT vaccine to the pregnant women.

**Q.48. Give the age of administration of major vaccines.**

**Ans:** The age of vaccination of major vaccines are as follows:  
BCG is given at birth.

DPT is a course of three times; at 6, 10 and 14 weeks.

Oral polio is administered at 6, 10 and 14 weeks.

Measles Rubella is given at 9 and 12 months.

**Q.49. What are the functions of Community Based Integrated Management of Childhood Illness (CBIMCI) programme?**

**Ans:** The main functions of Community Based Integrated Management of Childhood Illness (CBIMCI) programme are as follows:

- i. To provide training to the health workers at community level.
- ii. To aware people for having delivery of child done only in health centers.
- iii. To provide counseling health services to the mother and the children under 5 years of age.
- iv. To develop the educational materials regarding the infections in neonates and infants and to distributes them for public knowledge.
- v. To aware people about the diseases affecting children like pneumonia, diarrhoea, mal nutrition, measeals, etc.

**Q.50. What are the duties of women health volunteers?**

**Ans:** The duties of women health volunteers are as follows:

- i. To provide information and counselling services to pregnant women and women who have recently given birth,
- ii. To improve the health of neonates, infants and children under 5 years of age.

- iii. To provide oral rehydration, zinc capsules, iron capsules and other simpler medicines to the mother and children.
- iv. To provide family planning services
- v. To provide basic treatment services for simple diseases like diarrhoeal and respiratory diseases,
- vi. To provide health education services.

**Q51. How are HIV and Hepatitis transmitted by drug addiction?**

Ans: Drug addiction itself does not transmit the HIV and Hepatitis infections. There are drugs which are taken through syringe. During the process of taking drugs the persons share the common syringe and if one of the persons in that group is infected with either HIV or hepatitis virus then the virus from the blood of the infected person is transmitted to the needle of the syringe or may even remain along with the blood products in the syringe and subsequent use of the same syringe transfers the virus to other healthy persons initiating the infection. Thus drug addiction has the probable chances of transmitting dangerous diseases like HIV and hepatitis.

**Q52. List the functions of HIV/AIDS Control Programme.**

Ans: The functions of HIV/AIDS Control Programme are as follows:

- i. To identify the people with HIV/AIDS through blood tests and to provide treatment to them.
- ii. To create awareness through different means about HIV/AIDS and other STDs.
- iii. To formulate national policies to control HIV/AIDS.
- iv. To conduct various programmes for rehabilitation of AIDS patients.
- v. To create awareness about the ways to be prevented from transfer of these disease.

**Q53. What is smoking? What are its risk factors?**

Ans: Smoking refers to the regular compulsive habit of inhaling tobacco smoke. Smoking has severe consequences to human health. Not only of smokers, but the health of non-smokers also gets hampered because of smoking. People who are often exposed to tobacco smoke because of being close to the smokers are called passive smokers. Health of passive smokers is also at danger due to smoke. Some of the people don't know adverse consequences of smoking but some others continue this habit even after knowing the consequences. According to a research done by world Health Organization, over 5 million people die because of diseases caused by smoking in the world annually. Smokers have 12 times higher risk of getting lungs cancer compared to non-smokers. Similarly, they have 3 times more risk of heart problems and 1.5 times more risk of brain stroke and asthma. Tobacco has over 4000 chemical substances among which nicotine, ammonia, carbon dioxide are some. Let's discuss on why people get this addiction.

**Q.54. What are the causes of smoking?**

**Ans:** Smoking refers to an addiction of inhaling tobacco smoke. The causes of smoking are listed below.

- Peer pressure
- Young people smoke to look mature
- Copy of relatives and older ones
- Influenced by the attractive advertisement
- Lack of knowledge behind consequences of smoking
- Lack of strict laws

**Q.55. What are the effects of smoking?**

**Ans:** The effects of smoking can be categorized under immediate effects and long term effects which are mentioned below:

a) Immediate effects

- Disturbance in digestive system
- Pattern of the brain waves changes
- Smoking bothers people around
- Increase in blood pressure
- Decrease in the size of liver and leads to fast breath
- Increase stress
- Less oxygen carried by the blood during exercise

b) Long term effects

- May result to lung infection or lung cancer
- Mouth cancer
- Fingernails and the skin on your fingers may have yellow staining
- High blood pressure and may result to heart attack
- Ability to smell and taste will be declined
- Stomach ulcer

**Q.56. What are the ways to preventive measures against smoking?**

**Ans:** The preventive measures against smoking are as follows:

- Provide the health education on the drawbacks of smoking
- Not making friends who are smokers
- Regulating the strict law on public smoking
- Advertisement should be banned
- Organizing the awareness programmes

**Q.57. List the causes of and preventive measures against alcoholism.**

**Ans:** The causes of alcoholism are as follows:

- Peer pressure
- People sees family member, role model, etc. and copy that.
- Due to attractive advertisement.
- Lack of knowledge on drawbacks of alcohol.

- People think alcohol will remove stress.
- Young people do alcohol to look mature.

The preventive measures against alcoholism are:

- Provide the health education on the drawbacks of alcohol
- Not making friends who use alcohol
- Changing the tradition of consuming alcohol in home
- By not letting to sale the alcohol product in public areas
- Giving priority to fruits juice than alcohol
- Banned in advertisement of alcohol
- Creating public awareness programmes

**Q.58. What are the effects of alcoholism?**

**Ans:** Alcoholism is a very harmful habit which causes much harm to physical as well as mental health of humans. The effects of alcoholism are listed below.

**Immediate effects**

- Eye becomes red and body becomes fatigue
- Increase in heart beat
- Decrease in memorizing and thinking capacity leads to Decrease in perception and coordination
- Family disputes
- Drowsiness, vomiting, slurred speech, etc.

**Long term effects**

- Damage in liver
- Stomach and intestine ulcer
- High blood pressure, stroke, and may leads to heart attack
- Hampers the fertility of both male and female
- Disrupts normal brain development
- Brain cells dies, decreasing brain mass

**Q.59. What are the effects of drug addiction on health of individuals?**

**Ans:** Drug addiction is a compulsive habit of consuming harmful substances. The effects of drug addiction on health of individuals are as follows.

- Weaken the immune system
- May cause the disease like hepatitis 'B', 'C', HIV/AIDS etc.
- Pneumonia, bronchitis may be caused
- Decrease in thinking capacity
- Vomiting, dizziness
- Loss of appetite
- Loss of self-control

**Q.60.** What effects are seen on the socio-economic aspect due to drug addiction?

**Ans:** The effects of drug addiction on socio-economic condition of the abuser are as follows.

- Drug addict may cause persons to commit suicide
- Weakening family income
- Depreciate social status
- Increase in social evils and other criminal activities
- Weak relation among the family members
- Chances of learning by the younger ones

**Q.61.** List the measures to prevent from drug addiction.

**Ans:** Drug addiction should be prevented to avoid varieties of harm effects on human health. The measures to prevent from drug addiction are as follows.

- Public awareness programmes should be conducted.
- Avoid temptation and peer pressure
- Practice healthier living habits.
- Regulating the strict laws on the drug consumption and sale of drugs
- Educating students at school level regarding the effects of drug addiction
- Suggesting friend not to take drugs who are attracted towards drugs
- Complaining to the parents of the friends who are found to be taking drugs

**Q.62.** Define addiction and state what its effects are.

**Ans:** Addiction is an unavoidable involvement in any activities in spite of their negative results. It is a condition when a person intakes any substances or engages in any activity that can be pleasurable but continued use of which becomes compulsive and interferes with normal life. Prolonged use or misuse of any substances or adaptation of any habits more than as required can result in addiction. Addiction affects physical, mental, social, economic and moral aspects of life. Addiction, if not controlled initially, can have long term complications. It not only affects the person who is having it but also creates an adverse effect on the family and the society. Addiction can be of various types. Persons can be addicted to foods, drugs, gambling, internet, electronic devices, sex and so on. It is better to get rid of any sort of addiction as early as possible. Addiction to drugs has harmful effects on physical, mental and social health of addicts. At the same time it hampers their social status and economic condition. Gambling creates financial crisis. It can also imprison gamblers because gambling is illegal in our country. Addiction to video games that is popular nowadays can create eye problem, obsessive compulsive disorder, other health problems and kills valuable time. Similarly, other forms of addiction also have their bad consequences. Addiction is always best avoided.

**Long Questions-Answers**

**7 Marks Each**

**What is addiction and what can be its various forms? Describe.**

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- A) **Addiction to food stuff:** There is a growing trend of eating packaged food instead of cooked food nowadays. If such food stuffs are eaten regularly not thinking about health but just to satisfy our taste, that can be addiction to that particular food. Many of the children and youngsters have the habit of eating particular food especially packaged food which they feel compulsion for. This situation is addiction to food stuff, which is not good for health.
- B) **Addiction to gambling:** Gambling can make one bankrupt and has a negative effect on quality of life. There are different forms of gambling in the world to which many of the people are addicted to. Playing cards, casino, bingo, lottery, *juwa*, and such are some forms of gambling. Such habits must be avoided.
- C) **Addiction to internet and mobile phone:** There is a growing trend of using internet just for fun. Social networking sites are good for communication purpose but if overused, they can cause certain physical as well as psychological disorders. Not only that, they also kill people's creative and productive time. Similarly, use of mobile phone can also take a form of addiction. Playing games and hanging on different social sites in mobile phones can degrade people's health.
- D) **Addiction to sex:** Although sex is just a biological necessity required to continue creation, it is done for pleasure too. If done too much for pleasure, or done with multiple partners, it can be addiction to sex. One can be infected with STDs if they have above mentioned addiction. On the other hand, such person who has addiction to sex has lower social prestige too.

**Why do people get addicted to smoking? State the reasons and also state few ways to prevent addiction to smoking.**

- Smoking refers to compulsive habit of inhaling tobacco smoke that the addicts do several times in daily basis. People can have many reasons for this addiction. Some of the main reasons and ways to prevent it are listed below.

**(A) Very Short Questions-Answers** **1 Mark Each**

- which takes 1011.
- **Young people smoke to look mature:** Some start smoking from very young age, so that they can look and feel mature in front of others.
- **Imitation effect:** If some of the family members smoke, young members also start to imitate them and get addicted.
- **Influenced by the attractive advertisement:** Some advertisements lure young minds towards habit of smoking through their attractive slogans etc.
- **Lack of knowledge behind consequences of smoking:** some of the smokers don't know harsh effects of smoking and they begin it.
- **Lack of strict laws:** There is not strict implementation against smoking, especially in public areas, which encourages it.
- **Stress:** Some people falsely think that smoking helps them to get rid of their mental stress.

Addiction to smoking is always better avoided. There are few ways through which it can be avoided. They are listed below.

- Health education should be provided to all for making them aware of drawbacks of smoking.
- Friend circle of smokers should be avoided or given up.
- Smoking at public places should be strictly prohibited by law.
- Advertisement of cigarettes and other tobacco items should be banned by law.
- Programmes should be launched for mass awareness about effects of it.
- Elder members of family shouldn't send children to shops to buy cigarette, tobacco, *pan masala* etc

