



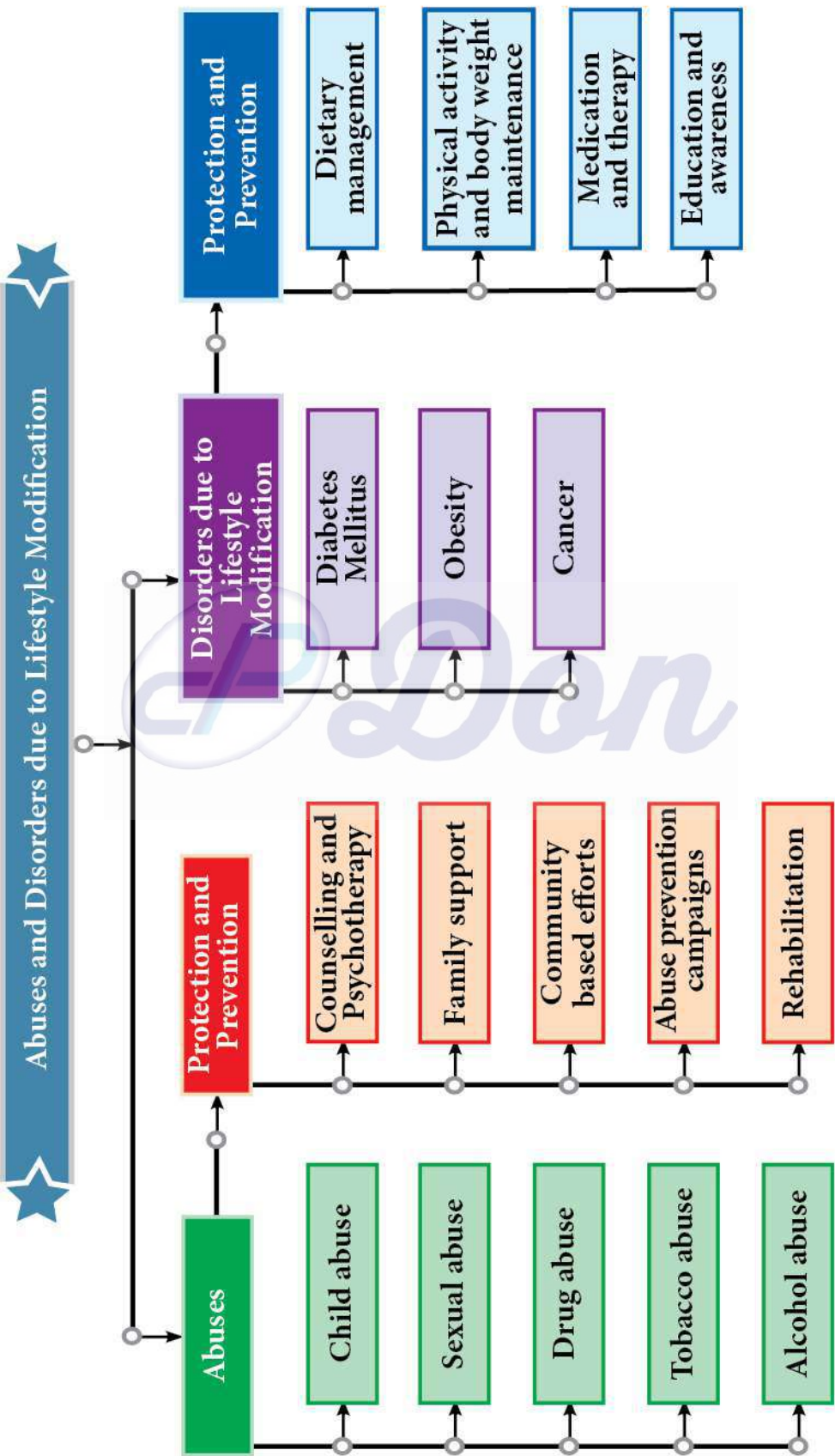
# UNIT 21

## Health and Diseases

### POINTS TO REMEMBER

- ☞ A person who is habituated to a drug due to its prolonged use is called **drug addict**. This is called drug addiction or drug abuse.
- ☞ There are certain drugs called **psychotropic drugs** which acts on the brain and alter the behaviour, consciousness, power of thinking and perception.
- ☞ **Abuse** refers to cruel, violent harmful or injurious treatment of another Human being.
- ☞ **Tobacco** is obtained from the tobacco plant *Nicotiana tobaccum* and *Nicotiana rustica*.
- ☞ '**Nicotine**' is an alkaloid present in tobacco. Nicotine is a stimulant which is highly harmful and a poisonous substance.
- ☞ Powdered tobacco is taken through nose, it is called **snuffing**.
- ☞ The dependence of alcohol is called alcoholism and the addict is termed as alcoholic. It is called **alcohol abuse**.
- ☞ **Diabetes mellitus** is a chronic metabolic disorder.
- ☞ **Hyperglycemia** is increased blood glucose level, resulting from inadequate insulin secretion.
- ☞ **Polyurea**: Increased urine output
- ☞ **Polydipsia**: Loss of water leads to thirst
- ☞ **Glycosuria**: Excessive glucose excreted in urine
- ☞ **Polyphagia**: Excess hunger
- ☞ **Obesity** is abnormal increase in body weight
- ☞ **Hypercholesterolemia** (High blood cholesterol) and high blood pressure (Hypertension)

MIND MAP



Don

- ❧ **Ischemia** (deficient blood supply to heart muscle) and myocardial infarction is death of the heart muscle tissue
- ❧ **Coronary heart disease** (CHD) is caused by deposition of cholesterol in the blood vessels
- ❧ **Atherosclerosis** is a disease in which plaque builds up inside your arteries.
- ❧ The study of cancer is called **Oncology**.
- ❧ The cancerous cells migrate to distant parts of the body and affect new tissues. This process is called **metastasis**.
- ❧ The presence of **HIV virus** can be confirmed by Western Blot analysis or Enzyme Linked Immunosorbent Assay (ELISA)
- ❧ International Day against Drug Abuse and Illicit Trafficking - **June 26**.
- ❧ Narcotic Drugs and Psychotropic Substances **Act** was introduced in **1985**.
- ❧ **POCSO** – Protection of Children from Sexual Offences
- ❧ **NCPCR** – National Commission for Protection of Child Rights
- ❧ **Emphysema** is the reduction of the gaseous exchange area of the lungs.
- ❧ **Metastasis** is the cancerous cells migrate to distant parts of the body and affect new tissues. This process is called **metastasis**.
- ❧ **Psychotropic drugs** act on the brain and alter the behaviour, consciousness and power of thinking perception. (mood altering drugs)
- ❧ **Hyperglycemia** means elevated blood glucose levels.
- ❧ **Insulin** is the hormone produced by pancreas which controls blood sugar levels.
- ❧ **Oncology** study of cancer is called Oncology.
- ❧ **Carcinogen** cancer causing agents are called carcinogen.
- ❧ **Retrovirus** is the group to which HIV belongs to.
- ❧ **Detoxification** : The first phase of treatment in drug de-addiction is detoxification. The drug is stopped gradually and the addict is helped to overcome the withdrawal symptoms.
- ❧ **Chemotherapy** is the administration of anti cancerous drugs to treat cancer.
- ❧ Interferons are the biological response modifiers used to activate immune system and destroy tumours.



## Textbook Evaluation

### I. Choose the most suitable answer from the given four alternatives and write the option code and corresponding answer:

1. Tobacco consumption is known to stimulate secretion of adrenaline. The component causing this could be ★ ★  
 a) Nicotine                      b) Tannic acid                      c) Curcumin                      d) Leptin
2. World 'No Tobacco Day' is observed on  
 a) May 31                      b) June 6                      c) April 22                      d) October 2
3. Cancer cells are more easily damaged by radiations than normal cells because they are ★ ★  
 a) Different in structure                      b) Non-dividing  
 c) Mutated Cells                      d) Undergoing rapid division
4. Which type of cancer affects lymph nodes and spleen? ★ ★  
 a) Carcinoma                      b) Sarcoma                      c) Leukemia                      d) Lymphoma
5. Excessive consumption of alcohol leads to ★  
 a) Loss of memory                      b) Cirrhosis of liver  
 c) State of hallucination                      d) Suppression of brain function
6. Coronary heart disease is due to  
 a) Streptococci bacteria                      b) Inflammation of pericardium  
 c) Weakening of heart valves                      d) Insufficient blood supply to heart muscles
7. Cancer of the epithelial cells is called  
 a) Leukemia                      b) Sarcoma                      c) Carcinoma                      d) Lipoma
8. Metastasis is associated with  
 a) Malignant tumour                      b) Benign tumour                      c) Both (a) and (b)                      d) Crown gall tumour
9. Polyphagia is a condition seen in  
 a) Obesity                      b) Diabetes mellitus                      c) Diabetes insipidus                      d) AIDS
10. Where does alcohol effect immediately after drinking? ★ ★  
 a) Eyes                      b) Auditory region  
 c) Liver                      d) Central Nervous System

#### Ans:

1. a)	Nicotine	6. d)	Insufficient blood supply to heart muscles
2. a)	May 31	7. c)	Carcinoma
3. d)	Undergoing rapid division	8. a)	Malignant tumour
4. d)	Lymphoma	9. b)	Diabetes mellitus
5. b)	Cirrhosis of liver	10. d)	Central Nervous System

**II. State whether True or False, if false write the correct statement**

1. AIDS is an epidemic disease. ★ ★ True
2. Cancer causing genes are called Oncogenes. ★ ★ True
3. Obesity is characterized by tumour formation. False  
Cancer is characterized by tumour formation.
4. In leukemia both WBCs and RBCs increase in number. False  
In leukemia only WBCs increase in number.
5. Study of cause of disease is called etiology. True
6. AIDS is not transmitted by contact with a patient's clothes. True
7. Type 2 diabetes mellitus results due to insulin deficiency. ★ ★ False  
Type 1 diabetes mellitus results due to insulin deficiency.
8. Carcinogens are cancer causing agents. True
9. Nicotine is a narcotic drug. False  
Nicotine is not a narcotic drug.
10. Cirrhosis is associated with brain disorder. False  
Cirrhosis is associated with liver disorder.

**III. Expand the following abbreviations ★ ★ ★**

- |            |   |          |
|------------|---|----------|
| 1) 1. IDDM | 2. HIV                                    | 3. BMI   |
| 4. AIDS    | 5. CHD                                    | 6. NIDDM |
| 1. IDDM    | - Insulin Dependent Diabetes Mellitus     |          |
| 2. HIV     | - Human Immunodeficiency Virus            |          |
| 3. BMI     | - Body Mass Index                         |          |
| 4. AIDS    | - Acquired Immuno Deficiency Syndrome     |          |
| 5. CHD     | - Coronary Heart Disease                  |          |
| 6. NIDDM   | - Non-Insulin Dependent Diabetes Mellitus |          |

**IV. Match the following**

- |                          |   |     |
|--------------------------|---|-----|
| 1) Sarcoma               | - a) Stomach cancer                     | (e) |
| 2) Carcinoma             | - b) Excessive thirst                   | (a) |
| 3) Polydipsia            | - c) Excessive hunger                   | (b) |
| 4) Polyphagia            | - d) Lack of blood flow to heart muscle | (c) |
| 5) Myocardial infarction | - e) Connective tissue cancer           | (d) |

**V. Fill in the blanks**

1. Cirrhosis is caused in liver due to excessive use of \_\_\_\_\_. ★ ★
2. A highly poisonous chemicals derived from tobacco is \_\_\_\_\_. ★ ★
3. Blood cancer is called \_\_\_\_\_. ★ ★
4. Less response of a drug to a specific dose with repeated use is called \_\_\_\_\_. ★ ★
5. Insulin resistance is a condition in \_\_\_\_\_ diabetes mellitus. ★ ★



## Health and Diseases

**Ans:**

1. Alcohol	4. Drug addiction (or) drug abuse
2. Nicotin	5.. Type-2 non-insulin dependent
3. Leukaemia	

**VI. Assertion and Reasoning**

In each of the following questions, a statement of Assertion is given and a corresponding Statement of Reason is given just below it. Of statements given below mark the correct answer as

- If both Assertion and Reason are true and Reason is the correct explanation of Assertion
- If both Assertion and Reason are true that Reason is not the correct explanation of Asssertion
- Assertion is true but Reason is false
- Both Assertion and Reason are false

1. **Assertion:** All drugs act on the brain.

**Reason:** Drugs disturb the functioning of the body and mind.

**Ans.** b) If both Assertion and Reason are true that Reason is not the correct explanation of Asssertion

2. **Assertion:** Excretion of excess glucose in urine is observed in a person with diabetes mellitus.

**Reason:** Pancreas is unable to produce sufficient quantity of insulin.

**Ans.** a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion

**VII. Analogy type questions.**

Identify the first words and their relationship and suggest a suitable word for the fourth blank

1. **Communicable: AIDS: Non communicable: Diabetes Mellitus**

2. **Chemotherapy: Chemicals: Radiation therapy: Rays**

3. **Hypertension: Hypercholesterolomia: Glycosuria: Hyperglycemia**

**VIII. Answer in a sentence**

1. **What are psychotropic drugs ?**

Psychotropic drugs acts on the brain and alters the behaviour, consciousness, power of thinking and perception.

2. **Mention the diseases caused by tobacco smoke. ★ ★**

Lung cancer, bronchitis and pulmonary tuberculosis, emphysema, Hypoxia, increased blood pressure, gastric and duodenal ulcers.

3. **What are the contributing factors for obesity?**

Obesity is due to genetic factors, physical inactivity, eating habits (overeating) and endocrine factors.

#### 4. What is adult onset diabetes?

Type-2 Non-Insulin Dependent diabetes.

#### 5. What is metastasis? ★ ★

The cancerous cells migrate to distant parts of the body and affect new tissues. This process is called metastasis.

#### 6. How does insulin deficiency occur? ★ ★

Insulin deficiency occurs due to destruction of  $\beta$ -cells of the pancreas.

### IX. Short answer questions

#### 1. What are the various routes by which transmission of human immuno deficiency virus takes place? ★ ★

HIV is transmitted generally by

- **Sexual contact** with infected person.
- Use of **contaminated needles** or syringes especially in case of intravenous drug abusers.
- By transfusion of **contaminated** / infected **blood** or blood products.
- From infected **mother to her child** through placenta.

#### 2. How is a cancer cell different from a normal cell? ★ ★

- Cancer is an abnormal and uncontrolled division of cells that invade and destroy surrounding tissues forming a tumor neoplasm (new growth).
- It is a heterogenous group of cells that do not respond to the normal cell division.
- The cancerous cells migrate to distant parts of the body and affect new tissues.

#### 3. Differentiate between Type-1 and Type-2 diabetes mellitus ★ ★

Factors	Type-I Insulin dependent diabetes mellitus (IDDM)	Type-II Non-insulin dependent diabetes mellitus (NIDDM)
Prevalence	10 - 20%	80 - 90 %
Age of onset	Juvenile onset (< 20 years)	Maturity onset (> 30 years)
Body weight	Normal or underweight	Obese
Defect	Insulin deficiency due to destruction of $\beta$ -cells	Target cells do respond to insulin
Treatment	Insulin administration is necessary	Can be controlled by diet, exercise and medicine

#### 4. Why is a dietary restriction recommended for an obese individual ?

- Low calorie, normal protein, vitamins and mineral, restricted carbohydrate and fat, high fibre diet can prevent overweight.
- Calorie restriction for weight reduction is safe and most effective.

#### 5. What precautions can be taken for preventing heart diseases? ★ ★

**Diet management:**

- Reduction in the intake of calories, low saturated fat and cholesterol rich food, low carbohydrates and common salt are some of the dietary modifications.



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- Diet rich in polyunsaturated fatty acids (PUFA) is essential.
- Increase in the intake of fibre diet, fruits and vegetables, protein, minerals and vitamin are required.

### Physical activity:

Regular exercise, walking and yoga are essential for body weight maintenance.

### Addictive substance avoidance:

Alcohol consumption and smoking are to be avoided.

## X. Long answer questions

### 1. Suggest measures to overcome the problems of an alcoholic.

#### Education and counselling:

Education and proper counselling will help the alcoholics to overcome their problems and stress, to accept failures in their life.

#### Physical activity:

Individuals undergoing rehabilitation should be channelized into healthy activities like reading, music, sports, yoga and meditation.

#### Seeking help from parents and peer groups:

- When a problematic situation occurs, the affected individuals should seek help and guidance from parents and peers.
- This would help them to share their feeling of anxiety, wrong doing and get rid of the habit.

#### Medical assistance:

- Individual should seek help from psychologists and psychiatrists to get relieved from this condition and to lead a relaxed and peaceful life.
- Alcohol de-addiction and rehabilitation programmes are helpful to the individual so that they could get rid of the problem completely and can lead a normal and healthy life.

### 2. Changes in lifestyle is a risk factor for occurrence of cardiovascular diseases. Can it be modified? If yes, suggest measures for prevention ★ ★ ★

Yes, lifestyle can be modified by the following measures:

#### Diet management:

- Reduction in the intake of calories, low saturated fat and cholesterol rich food, low carbohydrates and common salt are some of the dietary modifications.
- Diet rich in poly unsaturated fatty acids (PUFA) is essential.
- Increase in the intake of fibre diet, fruits and vegetables, protein, minerals and vitamin are required.

#### Physical activity:

Regular exercise, walking and yoga are essential for body weight maintenance

#### Addictive substance avoidance:

Alcohol consumption and smoking are to be avoided.



## XI. Higher Order Thinking Skills (HOTS)

### 1. What is the role of fat in the cause of atherosclerosis ?

- Atherosclerosis is a disease in which plaque builds up inside your arteries.
- Plaque is made up of fat, cholesterol, calcium, and other substances found in the blood.
- Over time, plaque hardens and narrows your arteries.
- It leads to sudden ischemia (deficient blood supply to heart muscle) and myocardial infarction (death of the heart muscle tissue).

### 2. Eating junk food and consuming soft drinks results in health problems like obesity, still children prefer. What are the suggestions you would give to avoid children eating junk food/ consumption of soft drinks?

- These foods are high in sugar and fats and low in nutritional value. It is important to eat more balanced, whole foods and avoid junk food.
- These healthy eating habits will improve their physical, emotional and mental growth and development now and even in their adult years.

### 3. Regular physical exercise is advisable for normal functioning of human body. What are the advantages of practising exercise in daily life?

- Reduce the risk of heart attack.
- Manage your weight better.
- Have a lower blood cholesterol level.
- Lower the risk of type 2 diabetes and some cancer.
- Have lower blood pressure.
- Have stronger bones, muscles and joints and lower risk of developing disorders.

### 4. A leading weekly magazine has recently published a survey analysis which says that number of AIDS patient in the country is increasing day by day. The report says that the awareness among the people about AIDS is still very poor. You are discussing the magazine report in your class and a team of your class decides to help people to fight against the dreadful disease.

#### a) What problem do you face when trying to educate the people in your village near by your school?

#### b) How do you overcome the problem?

- We are all trained enough to see things objectively and not emotionally.
- People think that we are still not matured enough to talk about sex.
- Girls especially feel embarrassed to talk to people as they are abused by words and looks, while spreading the knowledge of awareness on AIDS.
- Based on structural training in seeing the cause and result of AIDS objectively, it is possible to overcome the issue.
- Ignorance will be more dangerous to adolescent people than knowledge of cause and effects of deadly disease AIDS.

## Health and Diseases

**XII. Value based questions****1. Once a person starts taking drugs or alcohol it is difficult to get rid of the habit. Why?**

Persons who consume these drugs become fully dependent on them, they cannot live without drugs.

- It does by switching on brain circuits that makes one feel wonderful or feel good.
- Physical addiction occurs once a person is unable to stop drinking because of anxiety, shakiness and on the more extreme end, seizures, severe shaking, confusion and hallucinations.
- At a chemical level, it hits multiple areas in the brain and at a psychological level, they are unable to function without it.

**2. Men addicted to tobacco lead to oxygen deficiency in their body. What could be the possible reason?**

Carbon monoxide of tobacco smoke binds to haemoglobin of RBC and decreases its oxygen carrying capacity causing hypoxia in body tissues.

**3. Name any three foods that are to be avoided and included in the diet of a diabetic patient. Why should it be followed?**

- Flax seeds containing insoluble fibre, Guavas, Tomatoes and Spinach are foods which help reduce blood sugar levels.
- Refined sugars (sucrose and glucose) should be avoided. Diet comprising whole grains, millets (jowar, bajra, ragi), green leafy vegetables, wheat and unpolished rice should be included in diet regularly.
- Saturated fat intake should be reduced.

**4. How can informational efforts change people's HIV knowledge and behaviour?**

- By screening of blood from blood banks for HIV before transfusion.
- Ensuring the use of disposable needles and syringes in hospitals and clinics.
- Having safe sex and using condoms.

**Additional Questions****I. Choose the most suitable answer from the given four alternatives and write the option code and corresponding answer:****1. This is the most common pancreatic endocrine disorder.**

- |           |                      |
|-----------|----------------------|
| a) AIDS   | b) Carcinoma         |
| c) Cancer | d) Diabetes mellitus |

**2. It spreads through contact of body fluids or blood. ★**

- |                      |            |
|----------------------|------------|
| a) Diabetes mellitus | b) Obesity |
| c) Carcinomas        | d) AIDS    |

**3. Lack of co-ordination of body organs is due to**

- |                      |                        |
|----------------------|------------------------|
| a) Diabetes mellitus | b) Alcohol consumption |
| c) Drug addiction    | d) Tobacco smoking     |



4. **Bronchitis and pulmonary tuberculosis is due to**
  - a) Tobacco smoking
  - b) Alcohol consumption
  - c) Drug addiction
  - d) Diabetes mellitus
5. **Emphysema is caused due to \_\_\_\_\_**
  - a) Diabetes mellitus
  - b) Alcohol consumption
  - c) Drug addiction
  - d) Tobacco smoking
6. **Liver cirrhosis is due to ★**
  - a) Diabetes mellitus
  - b) Alcohol consumption
  - c) Drug addiction
  - d) Tobacco smoking
7. **Destruction of  $\beta$ -cells of the pancreas causes**
  - a) Drug addiction
  - b) Alcohol consumption
  - c) Type-1 diabetes mellitus
  - d) Type-2 diabetes mellitus
8. **\_\_\_\_\_ or “good” cholesterol lowers risk of heart disease. ★**
  - a) HDL
  - b) LDL
  - c) Salt
  - d) Sugar
9. **\_\_\_\_\_ can be controlled by diet, exercise and medicine.**
  - a) Drug addiction
  - b) Alcohol consumption
  - c) Type-1 diabetes mellitus
  - d) Type-2 diabetes mellitus

**Ans:**

1. d)	Diabetes mellitus	6. b)	Alcohol consumption
2. d)	AIDS	7. c)	Type-1 diabetes mellitus
3. b)	Alcohol consumption	8. a)	HDL
4. a)	Tobacco smoking	9. d)	Type - 2 diabetes mellitus.
5. d)	Tobacco smoking		

**II. State whether True or False, if false write the correct statement**

1. **May 31<sup>st</sup> is observed as No Tobacco Day. ★** **True**
2. **Cardiovascular disease (CVD) is associated with diseases of the Liver. False**  
Cardiovascular disease (CVD) is associated with diseases of the heart and blood vessels.
3. **Low calorie, normal protein, vitamins and mineral, restricted carbohydrate and fat, high fibre diet can prevent cancer. False**  
Low calorie, normal protein, vitamins and mineral, restricted carbohydrate and fat, high fibre diet can prevent obesity.
4. **Obesity results from inadequate insulin secretion. ★** **False**  
Hyperglycemia results from inadequate insulin secretion
5. **UV rays cause DNA damage leading to cancer. True**
6. **Desirable level for blood sugar should be less than 200 mg/dl. False**  
Desirable level for blood cholesterol should be less than 200 mg/dl
7. **Malignant tumours are the cells which grow very rapidly and invade the surrounding cells. True**

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## III. Match the following

- |                         |                          |
|-------------------------|--------------------------|
| 1) Hypercholesterolemia | - a) Interferons         |
| 2) Hypertension         | - b) AIDS                |
| 3) Oncology             | - c) High cholesterol    |
| 4) Immunotherapy        | - d) High blood pressure |
| 5) ELISA                | - e) Cancer              |

(c)

(d)

(e)

(a)

(b)

## IV. Fill in the blanks

- The dependence of alcohol is called \_\_\_\_\_.
- Plaque leads to the narrowing of blood vessels leading to \_\_\_\_\_. ★
- Heavy smoking causes \_\_\_\_\_ cancer.
- Excessive exposure to sunlight may cause \_\_\_\_\_ cancer.
- Cancer causing viruses are called \_\_\_\_\_ viruses.
- \_\_\_\_\_ arise from epithelial and glandular tissues.
- \_\_\_\_\_ occur in the connective and muscular tissue.
- \_\_\_\_\_ are called blood cancers.
- \_\_\_\_\_ are characterized by an increase in the formation of white blood cells in the bone marrow and lymph nodes.
- Cancer causing agents are called \_\_\_\_\_.
- Excess hunger is called as \_\_\_\_\_.
- Polydipsia is increased \_\_\_\_\_. ★
- Increased urine output is called as \_\_\_\_\_.
- Insulin production by the pancreas is normal but its action is impaired is seen in \_\_\_\_\_.
- \_\_\_\_\_ is abnormal increase in body weight.

## Ans:

1. Alcoholism	9. Leukaemia
2. Atherosclerosis	10. Carcinogens
3. Lung	11. Polyphagia
4. Skin	12. Thirst
5. Oncogenic	13. Polyurea
6. Carcinomas	14. Type-2 Non-Insulin Dependent Diabetes mellitus.
7. Sarcomas	15. Obesity
8. Leukaemia	



## V. Assertion and Reasoning

In each of the following questions, a statement of Assertion is given and a corresponding Statement of Reason is given just below it. Of statements given below mark the correct answer as

- If both Assertion and Reason are true and Reason is the correct explanation of Assertion
  - If both Assertion and Reason are true that Reason is not the correct explanation of Assertion
  - Assertion is true but Reason is false
  - Both Assertion and Reason are false
- Assertion:** When tobacco smoke is inhaled, the chemicals get absorbed by tissues and causes harmful effects.

**Reason:** Benzopyrene and polycyclic hydrocarbons present in tobacco smoke carcinogenic causing lung cancer.

**Ans.** a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion
  - Assertion:** Obesity is abnormal increase in body weight.

**Reason:** Obesity is a complex multi factorial chronic disease developing from the influence of social, behavioural, Psychological, Metabolic and cellular factors.

**Ans.** a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion

## VI. Answer in a sentence

### 1. What is snuffing?

When **powdered tobacco** is taken **through nose**, it is called snuffing.

### 2. Name the plant from which the tobacco plant is obtained.

Tobacco is obtained from the tobacco plant *Nicotiana tobaccum* and *Nicotiana rustica*.

### 3. Name the radiations which cause cancer.

Ionizing radiations like X-rays, gamma- rays, radioactive substances and non-ionising radiations like UV rays cause DNA damage leading to cancer.

### 4. Name the chemical agents which cause cancer.

Nicotine, caffeine, products of combustion of coal and oil, pesticides, asbestos, nickel, certain dyes and artificial sweetners induce cancer.

### 5. Name the tests for AIDS.

Western Blot analysis or Enzyme Linked Immunosorbent Assay (ELISA)

### 6. How is coronary heart disease formed?

Coronary heart disease is formed by the **deposition of cholesterol** in the blood vessels.

### 7. What is AIDS?

**AIDS** is a severe viral disease and is caused by Human Immunodeficiency Virus (**HIV**).

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## 8. What is the desirable cholesterol level?

Desirable level for blood cholesterol should be **less than 200 mg/dl** for Indians.

## VII. Short answer questions

## 1. What are the objectives of POCSO Act?

- Objectives of the POCSO Act, 2012
  - a. To **protect children** from the offences of sexual assault
  - b. Sexual harassment
  - c. Pornography
- To **establish Special Courts** for speedy trial of such offences.

## 2. What is addictive drug? ★

- A drug that modifies the physical, biological, psychological or social behaviour of a person by stimulating, depressing or disturbing the functions of the body and the mind is called addictive drug.
- These drugs interact with the central nervous system and affect the individual physically and mentally.

## 3. What are psychotropic drugs?

- There are certain drugs called psychotropic drugs which acts on the brain and alter the behaviour, consciousness, power of thinking and perception.
- They are referred as mood altering drugs.

## 4. What is detoxification?

- The drug is stopped gradually and the addict is helped to overcome the withdrawal symptoms.
- The addict undergoes severe physical and emotional disturbance.
- This is taken care by specific medication.

## 5. What is drug dependence? Mention the types. ★

- Persons who consume these drugs become fully dependent on them, they **cannot live without drugs**. This condition is referred as drug dependence.
- **Physical and mental dependence:** Dependence on the drug for normal condition of well being and to maintain physiological state.
- **Psychological dependence:** It is a feel that drugs help them to reduce stress.

## 6. What is Psychotherapy?

Individual and group counselling is given by psychologists and counsellors to the addicts. The treatment includes efforts to reduce the addict's stress, taught new ways to solve everyday's problems, adequate diet, rest and relaxation.

## 7. What is Rehabilitation?

Addicts are given proper vocational training so that they can lead a healthy life and become useful members of the society.

## 8. Write short notes on carcinoma.

Carcinomas arise from **epithelial and glandular tissues**. They include cancers of skin, lung, stomach and brain. About **85%** of the **tumours** are **carcinomas**.



**9. What is Sarcoma? ★**

- Sarcoma is a type of cancer which occurs in the connective and muscular tissue.
- They include the cancer of bones, cartilage, tendons, adipose tissue and muscles.
- These form **1%** of all tumours.

**10. What is Leukaemia?**

- Leukaemia are characterized by an **increase** in the formation of **white blood cells** in the bone marrow and lymph nodes.
- Leukaemia are called blood cancers.
- Most common type of cancer which also affect children **below 15 years** of age.

**11. What is carcinogen? Mention their types.**

**Cancer causing agents** are called carcinogens. They are physical, chemical agents, ionizing radiations and biological agents.

**12. What is immunotherapy?**

Interferons are used to **activate the immune system** and help in destroying the tumours.

**13. What is Benign tumour?**

Benign tumours or Non malignant tumours which remain confined in the organ affected and do not spread to other parts of the body.

**14. What is Malignant tumour? ★**

Malignant tumours are mass of proliferating cells which grow very rapidly invading and damaging the surrounding normal tissues.

**15. What is chemotherapy?**

Chemotherapy involves **administration of anticancerous drugs** which prevent cell division and are used to kill cancer cells.

**16. What is radiation therapy?**

Tumour cells are irradiated by lethal doses of radiation while protecting the surrounding normal cells.

**17. How is the presence of HIV confirmed?**

The presence of HIV virus can be confirmed by **Western Blot analysis** or **Enzyme Linked Immunosorbent Assay (ELISA)**.

**18. What is cancer? ★**

Cancer is an abnormal and uncontrolled division of cells that invade and destroy surrounding tissue forming a tumour or neoplasm.

**19. What is obesity?**

Obesity is the state in which there is an **accumulation of excess body fat** with an abnormal increase in body weight.

**VIII. Long answer questions****1. What are the adverse effects of drug on adolescents?**

Adverse effects of drug use among adolescents are:

- Drop in academic performance, absence from school or college.
- Lack of interest in personal hygiene, isolation, depression, fatigue and aggressive behaviour.
- Deteriorating relationship with family and friends.
- Change in food and sleeping habits.

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- Fluctuation in body weight and appetite.
- Always looking out for an easy way to get money for obtaining drugs.
- Prone infections like AIDS and Hepatitis-B.

### 2. Explain the harmful effects of tobacco. ★

When smoke is inhaled, the chemicals get absorbed by the tissues and cause the following harmful effects:

- Benzopyrene and polycyclic hydrocarbons present in tobacco smoke is carcinogenic causing lung cancer.
- Causes inflammation of throat and bronchi leading to conditions like bronchitis and pulmonary tuberculosis.
- Inflammation of lung alveoli, decrease surface area for gas exchange and cause emphysema.
- Carbon monoxide of tobacco smoke binds to haemoglobin of RBC and decreases its oxygen carrying capacity causing hypoxia in body tissues.
- Increased blood pressure caused by smoking leads to increased risk of heart disease.
- Causes increased gastric secretion which leads to gastric and duodenal ulcers.
- Tobacco chewing causes oral cancer (mouth cancer).

### 3. What are the harmful effects of alcohol?

Prolonged use of alcohol depresses the nervous system, by acting as a sedative and analgesic substance. Some of the harmful effects are:

- Nerve cell damage resulting in various mental and physical disturbances.
- Lack of co-ordination of body organs.
- Blurred or reduced vision, results in road accidents.
- Dilation of blood vessels which may affect functioning of the heart.
- Liver damage resulting in fatty liver which leads to cirrhosis and formation of fibrous tissues.
- Body loses its control and consciousness eventually leading to health complications and ultimately to death.

### 4. What are the symptoms of AIDS?

- Infected individuals become immunodeficient.
- The person becomes more susceptible to viral, bacterial, protozoan and fungal infections.
- Swelling of lymph nodes, damage to brain, loss of memory, lack of appetite and weight loss, fever, chronic diarrhoea, cough, lethargy, pharyngitis, nausea and headache.

### 5. How will you control and prevent the spreading of HIV? ★

The following steps may help in controlling and prevent the spreading of HIV infection.

- Screening of blood from blood banks for HIV before transfusion.
- Ensuring the use of disposable needles and syringes in hospitals and clinics.
- Advocating safe sex and advantages of using condoms.
- Creating awareness campaign and educating people on the consequences of AIDS.
- Persons with HIV/AIDS should not be isolated from the family and society





## Unit Test - 21

## Health and Diseases

Time : 1 hr

Marks : 30

**I. Choose the most suitable answer and write the code with the corresponding answer.** $5 \times 1 = 5$ 

- Tobacco consumption is known to stimulate secretion of adrenaline. The component causing this could be  
a) Nicotine                      b) Tannic acid                      c) Curcumin                      d) Leptin
- Cancer cells are more easily damaged by radiations than normal cells because they are  
a) Different in structure                      b) Non-dividing  
c) Mutated Cells                      d) Undergoing rapid division
- Cancer of the epithelial cells is called  
a) Leukemia                      b) Sarcoma                      c) Carcinoma                      d) Lipoma
- Metastasis is associated with  
a) Malignant tumour                      b) Benign tumour  
c) Both (a) and (b)                      d) Crown gall tumour
- Bronchitis and pulmonary tuberculosis is due to  
a) Tobacco smoking                      b) Alcohol consumption  
c) Drug addiction                      d) Diabetes mellitus

**II. Answer the following questions in one or two lines.** $5 \times 2 = 10$ 

- What are the objectives of POCSO Act?
- What are psychotropic drugs?
- Write short notes on carcinoma?
- What is immunotherapy?
- What is AIDS and how is it caused?

**III. Answer the following questions in brief.** $2 \times 4 = 8$ 

- What is drug dependence? Mention the types.
- What is carcinogen? Mention their types.

**IV. Answer the following questions in detail.** $1 \times 7 = 7$ 

- i) Suggest measures to overcome the problems of an alcoholic.  
ii) What is the role of fat in the cause of atherosclerosis ?

