

OFFICERS IAS ACADEMY

A SERIES

1. Consider the following statements regarding population growth.

- 1) Population Growth is the increased population, which is calculated by deducting total numbers of deaths from the total number of births in a particular region between two points of time.
- 2) Natural increase of population is calculated as = Births – Deaths + In Migration – Out Migration.

Choose the correct statements.

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. None of the above

Answer: d

Explanation:-

Natural increase:

Put simply, natural increase is the difference between the numbers of births and deaths in a population; the rate of natural increase is the difference between the birthrate and the death rate. Given the fertility and mortality characteristics of the human species (excluding incidents of catastrophic mortality), the range of possible rates of natural increase is rather narrow. For a nation, it has rarely exceeded 4 percent per year; the highest known rate for a national population—arising from the conjunction of a very high birthrate and a quite low death rate—is that experienced in Kenya during the 1980s, in which the natural increase of the population approximated 4.1 percent per annum. Rates of natural increase in other developing countries generally are lower; these countries averaged about 2.5 percent per annum during the same period. Meanwhile the rates of natural increase in industrialized countries are very low: the highest is approximately 1 percent, most are in the neighbourhood of several tenths of 1 percent, and some are slightly negative (that is, their populations are slowly decreasing).

Population growth:

The rate of population growth is the rate of natural increase combined with the effects of migration. Thus a high rate of natural increase can be offset by a large net out-

OFFICERS IAS ACADEMY

migration, and a low rate of natural increase can be countered by a high level of net in-migration. Generally speaking, however, these migration effects on population growth rates are far smaller than the effects of changes in fertility and mortality.

2. Identify the correctly matched pairs from the below statements about Demographic Transition Theory .

Sl.No	Stage	Fertility and Mortality	Natural Increase of Population
1	First	High Fertility & High Mortality	Nil or Negligible
2	Second	Low Fertility & High Mortality	Rapid Increase
3	Third	High fertility & Low Mortality	Stable or slow increase

- a. 1 only
- b. 1, 2 only
- c. 2, 3 only
- d. All the above

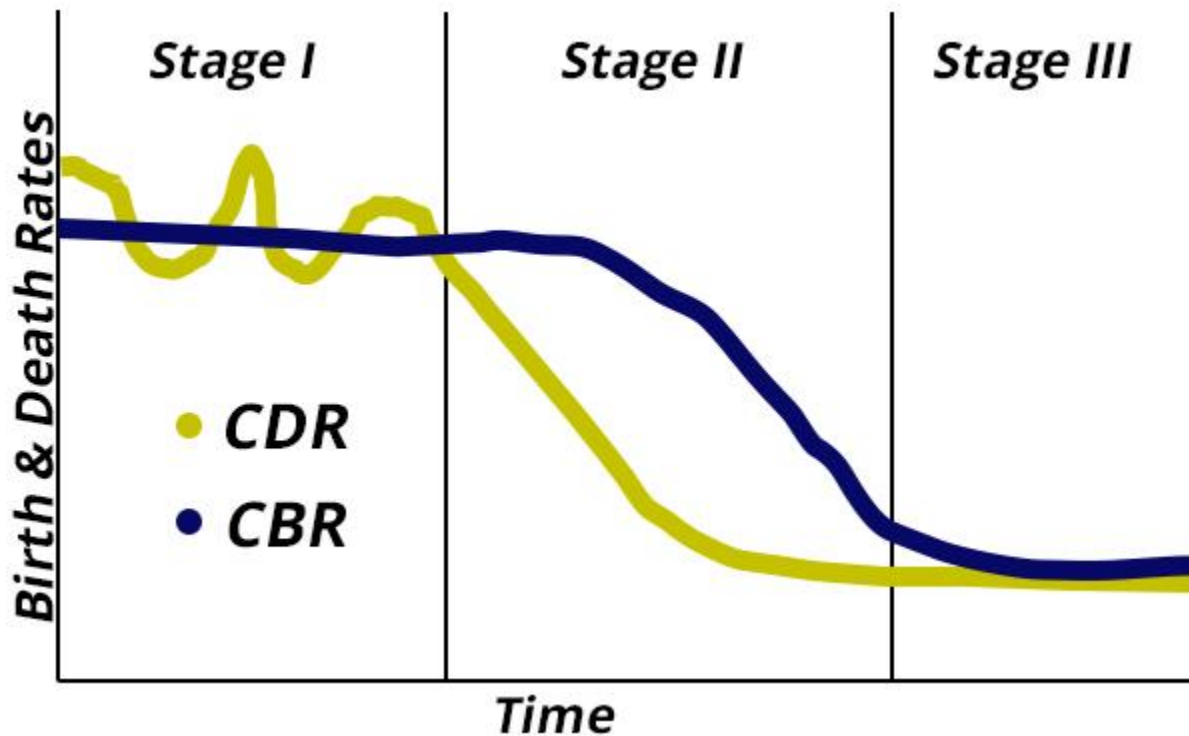
Answer: a

Explanation:-

Demographic Transition Theory

- **Demographic transition theory** describes population change of a given region; further, it explains that population changes from high births and high deaths to low births and low deaths, as the society progresses from rural, agrarian and illiterate to urban, industrial and literate society.
- Demographic transition theory is explained in three stages as –
Stage I
- The first stage is the period of high fertility and high mortality, so most likely no population change or very low population growth.
- In the first stage, people are largely engaged in agriculture (primary sector).

OFFICERS IAS ACADEMY



CBR- Crude birth rate CDR- Crude Death rate

- Further, in the first stage, life expectancy used to be low and people are mostly illiterate and have low levels of technology.

Stage II

- In the second stage, initially, fertility remains high, but over the period of time, it starts declining. On the other hand, mortality rate gets reduced because of the improvements in sanitation and health condition; likewise, population growth rate increases.

Stage III

- In the last stage, both the fertility and the mortality decline considerably; resultantly, the population is either stable or grows slowly (as shown in the graph given above).
- In the last or III stage, the population becomes urbanized, literate, and has high technical knowhow and deliberately controls the family size.

3. Consider the following statements and identify those which can control birth rate in country.

1) Improving the status of women

OFFICERS IAS ACADEMY

- 2) Incentives to limit child size
 - 3) Encouraging marriage at an earlier age (especially of women)
 - 4) Higher rate infant mortality
- a. 1 and 4 only
 - b. 1 and 2 only
 - c. 2, 3 and 4 only
 - d. All the above

Answer: b

Explanation:-

Methods to Reduce Birth Rates

As a result many countries are trying to reduce their birth rates. The most well known example of this is China's **one child policy** which restricts the number of births but also includes:

- Improving the status of women
 - Incentives to limit child size, e.g. free health care
 - Increase availability and knowledge of family planning by having more family planning clinics and greater availability of contraception
 - Better education
 - Encouraging marriage at a later age (especially of women as early pregnancy in most cases increases infant mortality rate)
 - Encouraging women to take up career opportunities
 - Improved health care
 - Improved infant care to reduce infant mortality (higher infant mortality encourages parents to have more kids as rate of survival becomes poor)
4. From the below statements identify the characteristics which can be associated with low birth rate in a country.
- 1) Retirement age gets increased
 - 2) Shortage of skilled workers
 - 3) Decreased tax burden on the working population
 - 4) Decreased health care and pension costs
- a. 1 and 4 only
 - b. 1 and 2 only

OFFICERS IAS ACADEMY

c. 2, 3 and 4 only

d. All the above

Answer: b

Explanation:-

Problems of a Low Birth Rate

Having a low birth rate can bring about a number of problems for a country:

- There may be a shortage of skilled workers or new ideas
- Increased tax burden on the working population
- People may have to work for longer
- Schools and nurseries may close leading to job losses
- 'Greying' of the population as many more elderly dependents
- Increased health care costs, e.g. hip replacements
- More care homes for the elderly need to be built
- Difficulty in providing pensions

5. Which of the following does not fall under the category of statutory towns?

a) Cantonment

b) Notified Town area committee

c) Census town

d) Corporation

Answer: c

Explanation:-

The 2011 Census of India defines towns of two types viz., Statutory town and Census town. Statutory town is defined as. All places with a municipality, corporation, Cantonment Board etc.

Whereas, Census town is defined based on the places that satisfy the following criteria:

- i) a minimum population of 5,000;
- ii) at least 75 per cent of male working population engaged in non-agricultural pursuits; and
- iii) a density of population of at least 400 per km². (1,000 per sq. mile).

All the Statutory towns, Census towns and Out growths are considered as urban settlements.

OFFICERS IAS ACADEMY

Out Growths are viable units such as a village or part of a village contiguous to a statutory town.

6. Consider the following Statements

1. In India, Agricultural density is higher in rural areas than that of urban areas
2. Agricultural density is the ratio of total population to net cultivable area

Choose the correct answer

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. None of the above

Answer: a

Explanation: To get a better insight into the human-land ratio in terms of pressure of population on total cultivable land, the *physiological* and the *agricultural* densities should be found out which are significant for a country like India having a large agricultural population.

Physiological density = total population / net cultivated area

Agricultural density = total agricultural population / net cultivable area

7. Census 2011 notes that the working population is only 39.8 per cent which of the following characteristics can be attributed to this

1. Unemployment
2. Underemployment
3. High Birth rate
4. High death rate

Choose the correct answer

- a. 1, 2 only
- b. 1, 2, 3 only
- c. 2, 3 only
- d. All the above

Answer: b

OFFICERS IAS ACADEMY

Explanation: The proportion of workers (both main and marginal) is only 39.8 per cent (2011) leaving a vast majority of about 60 per cent as non-workers. This indicates an economic status in which there is a larger proportion of dependent population, further indicating possible existence of large number of unemployed or under employed people

8. Assertion (A): In India, the states with larger percentages of workers are Himachal Pradesh, Andhra Pradesh and Karnataka

Reason (R): The work participation in India tends to be higher in the area of higher levels of economic development

Choose the correct answer

- a. A is false but R is true
- b. A is true but R is false
- c. Both are true and R is the correct explanation of A
- d. Both are true but R is not the correct explanation of A

Answer: b

Explanation: The states with larger percentages of workers are Himachal Pradesh, Sikkim, Chhattisgarh, Andhra Pradesh, Karnataka, Arunachal Pradesh, Nagaland, Manipur and Meghalaya. Among the Union Territories, Dadra and Nagar Haveli and Daman and Diu have higher participation rate

In India, the work participation rate tends to be higher in the areas of lower levels of economic development since number of manual workers is needed to perform the subsistence or near subsistence economic activities

9. Consider the following statements

1. Rural to Rural migration is dominated by females mainly due to social reasons such as marriage

2. Rural to Urban migration is dominated by males mainly due to economic reasons such as better opportunities of employment

Choose the wrong statement/s

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. None of the above

Answer: d

OFFICERS IAS ACADEMY

Explanation: Female predominate the streams of short distance rural to rural migration due to social reasons such as marriage. Contrary to this, men predominate the rural to urban stream of inter-state migration due to economic reasons such as lack of employment opportunities in rural areas

10. Which of the following are pull factors of rural-urban migration?

1. Natural disasters
2. Poverty
3. Better health
4. Higher wages

Choose the correct answer

- a. 1, 2 only
- b. 2 only
- c. 3, 4 only
- d. All the above

Answer: c

Explanation: There are push factors which pushes people from rural areas to urban areas. In India people migrate from rural to urban areas mainly due to poverty, high population pressure on the land, lack of basic infrastructural facilities like health care, education, etc Apart from these factors, natural disasters such as, flood, drought, cyclonic storms, and earthquake.

There are pull factors which attract people from rural areas to cities. The most important pull factor for majority of the rural migrants to urban areas is the better opportunities, availability of regular work and relatively higher wages. Better opportunities for education, better health facilities and sources of entertainment, etc. are also quite important pull factors

11. Consider the following statements

1. In India the sex ratio is calculated by using the ratio of male population to female population
2. The better sex ratio in a region necessarily implies better status of women

Choose the correct statement/s.

- a. 1 only

- b. 2 only
- c. Both 1 and 2
- d. None of the above

Answer: d

Explanation: In some countries it is calculated by using the

Formula: $\text{Male Population} / \text{Female Population} \times 1000$ or the number of males per thousand females.

In India, the sex ratio is worked out using the

Formula: $\text{Female Population} / \text{Male Population} \times 1000$ or the number of females per thousand males More women in the population do not mean they have a better status.

It could be that the men might have migrated to other areas for employment

12. Which of the following are not the characteristics associated with the ageing population

- a. High death rate
- b. High expenditure on health care
- c. Low birth rate
- d. Both a and c

Explanation: D

Ageing Population: Population ageing is the process by which the share of the older population becomes proportionally larger. This is a new phenomenon of the twentieth century. In most of the developed countries of the world population in higher age groups has increases due to increased life expectancy. With reduction in birth rates, the proportion of children in the population has declined

A greater proportion of population above 60 years represents an ageing population which requires more expenditure on health care facilities. Similarly high proportion of young population would mean that the region has a high birth rate and the population is youthful

OFFICERS IAS ACADEMY

13. Consider the following with reference to Population pyramid

- | | |
|--|-------------------------------------|
| 1. Triangular shaped pyramid with a wide base | High birth rate and high death rate |
| 2. Bell shaped pyramid and tapered towards the top | Equal birth rate and death rate |
| 3. Narrow base pyramid and a tapered top | Low birth rate and low death rate |

Choose the correctly matched pair

- a. 1 only
- b. 1, 2 only
- c. 2, 3 only
- d. All the above

Answer: d

Explanation: Triangular shaped pyramid with a wide base is typical of less developed countries shows high birth and death rate

Australia's population pyramid is bell shaped and tapered towards the top. This shows birth and

death rates are almost equal leading to a near constant population

Narrow base and a tapered top showing low birth and death rates typical of developed countries such as Japan

14. Consider the following statements

- 1. Development means a qualitative change which is always value positive whereas growth is quantitative and value neutral
- 2. Development occurs when positive growth takes place and positive growth always lead to development

Choose the correct statement/s.

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. None of the above

Answer: A

OFFICERS IAS ACADEMY

Explanation: Growth is quantitative and value neutral. It may have a positive or a negative sign. This means that the change may be either positive (showing an increase) or negative (indicating a decrease)

Development means a qualitative change which is always value positive. This means that development cannot take place unless there is an increment or addition to the existing conditions. Development occurs when positive growth takes place. Yet, positive growth does not always lead to development. Development occurs when there is a positive change in quality

15. Global Multidimensional Poverty Index (MPI) is released annually by

- a. FAO
- b. WEF
- c. Oxford Poverty & Human Development Initiative (OPHI)
- d. Oxfam

Answer: c

Explanation: Global Multidimensional Poverty Index (MPI) was developed in 2010 by the Oxford Poverty & Human Development Initiative (OPHI) and the United Nations Development Programme and it uses different factors to determine poverty beyond income-based lists. It replaced the previous Human Poverty Index. The global MPI is released annually by OPHI and the results published on its website

16. Consider the following statements

1. Net reproduction rate (NRR) is the average number of daughters that would be born to a female if she passed through her lifetime conforming to the age-specific fertility and mortality rates of a given year

2. If the NRR is less than one, the reproductive performance of the population is below replacement level.

Choose the correct statement/s.

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. None of the above

OFFICERS IAS ACADEMY

Answer: C

Explanation: The Net reproduction rate (NRR) is the average number of daughters that would be born to a female (or a group of females) if she passed through her lifetime conforming to the age-specific fertility and mortality rates of a given year. This rate is similar to the gross reproduction rate but takes into account that some females will die before completing their childbearing years. An NRR of one means that each generation of mothers is having exactly enough daughters to replace themselves in the population. If the NRR is less than one, the reproductive performance of the population is below replacement level.

Replacement level, which is the rate of growth required for new generations to replace the older ones that are dying out. Sometimes, societies can experience a negative growth rate – that is, their fertility levels are below the replacement rate. This is true of many countries and regions in the world today, such as Japan, Russia, Italy and Eastern Europe

17. Consider the following statements

1. Infant mortality rate is the number of deaths of babies before the age of five year per 1000 live births
2. Maternal mortality rate is the number of women who die in childbirth per 1000 live births
3. Neo-natal mortality rate is the number of deaths during the first 28 completed days of life, per 1000 live births

Choose the wrong statement/s.

- a. 1, 2 only
- b. 2 only
- c. 1, 3 only
- d. None of the above

Answer: a

Explanation: *Infant mortality* rate is the number of deaths of babies before the age of one year per 1000 live births. Likewise, the *maternal mortality* rate is the number of women who die in childbirth per 100,000 live births. High rates of infant and maternal mortality are an unambiguous indicator of backwardness and poverty

OFFICERS IAS ACADEMY

The neo-natal mortality rate is the number of deaths during the first 28 completed days of life occurring among the live births in a given geographical area during a given year, per 1,000 live births

18. Which of the following are the indicators for Human Development Report released by UNDP?

1. Human Poverty Index (HPI)
2. Human Development Index (HDI)
3. Gender - related Development Index (GDI)
4. Gender Empowered Measurement (GEM)

Choose the correct statement/s.

- a. 1 only
- b. 1, 2 only
- c. 1, 2, 3 only
- d. All the above

Answer: d

Explanation: Apart from Human Development Index (HDI), the other four indicators of human development have been selected which were used by the Human Development Report. These are:

- (i) Human Poverty Index for developing countries (HPI-1)
- (ii) Human Poverty Index for selected OECD Countries (HPI-2)
- (iii) Gender - related Development Index (GDI)
- (iv) Gender Empowered Measurement (GEM)

19. Consider the following statements

1. Seasonal movement of people along with their cattle between two areas along fixed routes is called trans-humance.
2. Gaddi tribes of Himachal Pradesh and Bakrawals in Jammu & Kashmir practice this type of migration.

Choose the correct statement/s.

- a. 1 only
- b. 2 only

OFFICERS IAS ACADEMY

- c. Both 1 & 2
- d. None of the above

Answer: c

Explanation: Seasonal movement of people along with their cattle between two areas along fixed routes is called trans-humance. Gaddi tribes of Himachal Pradesh and Bakrawals in Jammu & Kashmir practice this type of migration.

20.. Consider the following statements

1. In India, the first regular ten yearly censuses was conducted by the British Indian government since 1881
2. The Indian census is the second largest exercise in the world only after China
3. In Independent India so far seven decennial census have been conducted with the most recent one being in 2011

Choose the incorrect statement/s.

- a. 1 only
- b. 2 only
- c. 1, 3 only
- d. All the above

Answer: b

Explanation: In India, censuses began to be conducted by the British Indian government between 1867 -72, and regular ten yearly (or decennial) censuses have been conducted since 1881. Independent India continued the practice, and seven decennial censuses have been conducted since 1951, the most recent being in 2011. The Indian census is the largest such exercise in the world (since China, which has a slightly larger population, does not conduct regular censuses)

21.. Which of following are correct regarding Urban Agglomeration?

- a. A town and its adjoining urban outgrowths,
- b. Two or more contiguous towns with or without their outgrowths, and
- c. A city and one or more adjoining towns with their outgrowths together forming a contiguous spread.

OFFICERS IAS ACADEMY

d. All the above

Answer: d

Explanation: An urban agglomeration may consist of any one of the following three combinations:

- (i) A town and its adjoining urban outgrowths,
- (ii) Two or more contiguous towns with or without their outgrowths, and
- (iii) A city and one or more adjoining towns with their outgrowths together forming a contiguous spread.

Examples of urban outgrowth are railway colonies, university campus, port area, military cantonment, etc. located within the revenue limits of a village or villages contiguous to the town or city

22.. Consider the following statements

- 1. Among Indian States, Uttar Pradesh has the highest population density followed by Bihar
- 2. The share of population is very small in the states like Arunachal Pradesh and Uttarakhand due to its small geographical area

Choose the correct statement/s

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. None of the above

Answer: d

Explanation: Among the northern Indian States, Bihar (1106), West Bengal (1028) and Uttar Pradesh (829) have higher densities,

The share of population is very small in the states like Jammu & Kashmir (1.04%), Arunachal Pradesh (0.11%) and Uttarakhand (0.84%) in spite of these states having fairly large geographical area

23.. Linguistic families

Areas of concentration

- | | |
|---------------------|----------------------|
| A. Austric Family | Sub-Himalayan region |
| B. Dravidian Family | Southern parts |
| C. Sino-Tibetan | North-Eastern part |

OFFICERS IAS ACADEMY

D.Indo-European

Northern and Central part

Choose the correct answer

- a. A-1 B-2 C-3 D-4
- b. A-2 B-1 C-4 D-3
- c. A-3 B-2 C-1 D-4
- d. A-4 B-3 C-2 D-1

Answer: A

Explanation: Languages spoken in India belong to four major linguistic families. These families are Austric family, Dravidian Family, Sino-Tibetan Family, and Indo-European Family.

Languages belonging to different families have their major concentrations in different parts of the country. Austric Family in the North-Eastern part, Dravidian Family in the southern parts, Sino-Tibetan in the Sub-Himalayan region and Indo-European Family in the Northern and Central part of the country. The language of Indo- Aryan Family is spoken by the largest number of people in India. The languages of Sino-Tibetan Family have the smallest number of speakers. More than 70 percent of the people in India speak languages and dialects of Indo-Aryan Family

24.. The major reason for the high growth rate of population in India since 1921 is

- a. Rapidly rising birth rate
- b. Rapidly falling death rate
- c. High in-migration from outside
- d. Very high birth rate and death rate

Answer: b

Explanation: The population of India has been increasing steadily since 1921. The major factor responsible for it has been a very rapid decline in the death rate.

International trade

25.Consider the following statements regarding Indian ports

- 1)Marmagao Port, situated at the entrance of the Zuari estuary, is a natural harbour in Goa.
- 2) Visakhapatnam Port in Andhra Pradesh is a land-locked harbour

OFFICERS IAS ACADEMY

3)] The Kamarajar Port Limited is the only corporatized major port and is registered as a company.

Choose the correct options:

- A) Only 1 is correct
- B) Both 1& 2 are correct
- C) Both 2 & 3 are correct
- D) All are correct

Solution : D

Marmagao Port, situated at the entrance of the Zuari estuary, is a natural harbour in Goa. It gained significance after its remodelling in 1961 to handle iron-ore exports to Japan. Construction of Konkan railway has considerably extended the hinterland of this port. Karnataka, Goa, Southern Maharashtra constitute its hinterland.

Visakhapatnam Port in Andhra Pradesh is a land-locked harbour, connected to the sea by a channel cut through solid rock and sand. An outer harbour has been developed for handling iron-ore, petroleum and general cargo. Andhra Pradesh and Telangana are the main hinterland for this port.

Ennore Port, officially renamed Kamarajar Port Limited, is located on the Coromandel Coast about 24 km north of Chennai Port, Chennai, it is the 12th major port of India, and the first port in India which is a public company

The Kamarajar Port Limited is the only corporatised major port and is registered as a company. The Centre holds a stake of about 68 per cent in the Kamarajar Port Limited and the remaining 32 per cent is held by the Chennai Port Trust

International trade

26. Consider the following statements about primary activities

- 1) Primary activities are directly dependent on environment as these refer to utilisation of earth's resources such as land, water, vegetation, building materials and minerals.
- 2) People engaged in primary activities are called blue collar workers due to the outdoor nature of their work.

Choose the correct option

- A) Only 1

- B) Only 2
- C) Both 1 & 2
- D) Neither 1 nor 2

Solution: A

Human activities which generate income are known as economic activities. Economic activities are broadly grouped into primary, secondary, tertiary and quaternary activities.

Primary activities are directly dependent on environment as these refer to utilisation of earth's resources such as land, water, vegetation, building materials and minerals.

It, thus includes, hunting and gathering, pastoral activities, fishing, forestry, agriculture, and mining and quarrying

People engaged in primary activities are called red-collar workers due to the outdoor nature of their work.

Primary activities

27.) Primary activities includes which of the following economic activities?

1. hunting and gathering
2. pastoral activities
3. fishing
4. forestry
5. agriculture
6. mining and quarrying

Choose the right options:

- A) 1,2,4,5,6
- B) 2,4,5,6
- C) 1,2,3,4,5,6
- D) 1,2,3,4,5

Solution: C

Human activities which generate income are known as economic activities. Economic activities are broadly grouped into primary, secondary, tertiary and quaternary activities.

OFFICERS IAS ACADEMY

Primary activities are directly dependent on environment as these refer to utilisation of earth's resources such as land, water, vegetation, building materials and minerals. It, thus includes, hunting and gathering, pastoral activities, fishing, forestry, agriculture, and mining and quarrying.

28. Consider the following statements regarding Nomadic Herding

1. Nomadic herding or pastoral nomadism is a primitive subsistence activity, in which The herders rely on animals for food, clothing, shelter, tools and transport
2. They move from one place to another along with their livestock, Depending on the amount and quality of pastures and water.
3. Each nomadic community occupies a well-identified territory as a matter of tradition.

Choose the correct options

- A) Only 1 is correct
- B) Only 2 and 3 are correct
- C) All 1,2 and 3 are correct
- D) Only 1 and 2 are correct

Solution: C

Nomadic herding or pastoral nomadism is a primitive subsistence activity, in which the herders rely on animals for food, clothing, shelter, tools and transport.

They move from one place to another along with their livestock, depending on the amount and quality of pastures and water.

Each nomadic community occupies a well-identified territory as a matter of tradition.

Pastoral nomadism is associated with three important regions. The core region extends from the Atlantic shores of North Africa eastwards across the Arabian peninsula into Mongolia and Central China.

The second region extends over the tundra region of Eurasia. In the southern hemisphere there are small areas in South-west Africa and on the island of Madagascar

29. **statement 1:** The process of migration from plain areas to pastures on mountains during summers and again from mountain pastures to plain areas during winters is known as transhumance.

OFFICERS IAS ACADEMY

Statement 2: In mountain regions, such as Himalayas, Gujjars, Bakarwals, Gaddis and Bhotiyas migrate from plains to the mountains in summers and to the plains from the high altitude pastures in winters.

Choose the correct options

- A) Only Statement 1 is correct
- B) Only Statement 2 is correct
- C) Both statements are correct
- D) Neither Statement 1 nor 2 is correct

Solution: C

Movement in search of pastures is undertaken either over vast horizontal distances or vertically from one elevation to another in the mountainous regions.

The process of migration from plain areas to pastures on mountains during summers and again from mountain pastures to plain areas during winters is known as transhumance.

In mountain regions, such as Himalayas, Gujjars, Bakarwals, Gaddis and Bhotiyas migrate from plains to the mountains in summers and to the plains from the high altitude pastures in winters.

Similarly, in the tundra regions, the nomadic herders move from south to north in summers and from north to south in winters.

30. Consider the following statements regarding methods of mining

1) The surface mining also known as open-cast mining is the easiest and the cheapest way of mining minerals that occur close to the surface.

2) When the ore lies deep below the surface, underground mining method (shaft method) will be used.

Choose the correct options:

- A) Only 1
- B) Only 2
- C) Both 1 and 2
- D) Neither 1 nor 2

Solution: C

OFFICERS IAS ACADEMY

Depending on the mode of occurrence and the nature of the ore, mining is of two types: surface and underground mining.

The surface mining also known as open-cast mining is the easiest and the cheapest way of mining minerals that occur close to the surface. Overhead costs such as safety precautions and equipment is relatively low in this method. The output is both large and rapid.

When the ore lies deep below the surface, underground mining method (shaft method) has to be used. In this method, vertical shafts have to be sunk, from where underground galleries radiate to reach the minerals. Minerals are extracted and transported to the surface through these passages.

31. Consider the following pairs regarding different forms of agricultural activities

1. Sericulture - Silk production
2. Pisciculture - Fish farming
3. Apiculture - Cultivation of mulberry
4. Moriculture - Honeybee rearing
5. Vermiculture – Rearing or cultivation of earthworms

Choose the correct options

- A) 1,2,3 are correct
- B) 1,2,5 are correct
- C) 1,3,4,5 are correct
- D) 1,2,3,4,5, are correct

Solution: B

- A) Tissue culture - propagation of cells
- B) Sericulture - Silk production
- C) Pisciculture - Fish farming
- D) Apiculture - Honeybee rearing
- E) Sylvi culture - Cultivation of fodder crops
- F) Moriculture - Cultivation of mulberry

OFFICERS IAS ACADEMY

32. Which of the following is not part of the extensive commercial grain cultivation regions of the world

- A) Pampas of Argentina
- B) American prairies
- C) Canterbury plains of New Zealand
- D) Campos of Brazilian Highlands

Solution: D

Commercial grain cultivation is practised in the interior parts of semi-arid lands of the mid-latitudes. Wheat is the principal crop, though other crops like corn, barley, oats and rye are also grown. The size of the farm is very large, therefore entire operations of cultivation from ploughing to harvesting are mechanised

Extensive commercial grain cultivation type of agriculture is best developed in Eurasian steppes, the Canadian and American Prairies, the Pampas of Argentina, the Velds of South Africa, the Australian Downs and the Canterbury Plains of New Zealand.

33. Consider the following statements regarding foot loose industries

1. Foot loose industries can be located in a wide variety of places.
2. They are not dependent on any specific raw material, weight losing or otherwise.
3. They largely depend on component parts which can be obtained anywhere
4. These are generally not polluting industries.

Choose the correct options:

- A) 1,2 only
- B) 2,3 only
- C) 1,2,3,4
- D) 3 and 4 only

Solution: C

Foot loose industries can be located in a wide variety of places. They are not dependent on any specific raw material, weight losing or otherwise. They largely depend on component parts which can be obtained anywhere.

OFFICERS IAS ACADEMY

They produce in small quantity and also employ a small labour force. These are generally not polluting industries. The important factor in their location is accessibility by road network.

34. **Statement 1:** Agri-business is commercial farming on an industrial scale often financed by business whose main interests lie outside agriculture

Statement 2: Agri-business farms are mostly non mechanized and small in size
Choose the right options

- A) Only Statement 1 is correct
- B) Only Statement 2 is correct
- C) Both statements 1 and 2 are correct
- D) Neither 1 nor 2 is correct

Solution: A

Agri-business is commercial farming on an industrial scale often financed by business whose main interests lie outside agriculture, for example, large corporations in tea plantation business. Agri-business farms are mechanised, large in size, highly structured, reliant on chemicals, and may be described as 'agro-factories

35. Consider the following statements regarding household industries or cottage manufacturing

- 1) It is the smallest manufacturing unit
- 2) Capital and transportation do not wield much influence as this type of manufacturing has low commercial significance and most of the tools are devised locally.
- 3) The artisans use local raw materials and simple tools to produce everyday goods in their homes with the help of their family members or part-time labour.

Choose the correct options:

- A) 1 and 2 only
- B) 2 and 3 only
- C) 1, 2 and 3
- D) 1 and 3 only

Solution: C

OFFICERS IAS ACADEMY

It is the smallest manufacturing unit. The artisans use local raw materials and simple tools to produce everyday goods in their homes with the help of their family members or part-time labour.

Finished products may be for consumption in the same household or, for sale in local (village) markets, or, for barter.

Capital and transportation do not wield much influence as this type of manufacturing has low commercial significance and most of the tools are devised locally.

36. Consider the following statements about quinary activities

1) Quinary activities are services that focus on the creation, re-arrangement and interpretation of new and existing ideas; data interpretation and the use and evaluation of new technologies

2) They are often referred to as 'blue collar' professions

Choose the right options

- A) 1 Only
- B) 2 Only
- C) Both 1 and 2
- D) Neither 1 nor 2

Solution: A

Quinary activities are services that focus on the creation, re-arrangement and interpretation of new and existing ideas; data interpretation and the use and evaluation of new technologies.

Often referred to as 'gold collar' professions, they represent another subdivision of the tertiary sector representing special and highly paid skills of senior business executives, government officials, research scientists, financial and legal consultants, etc. Their importance in the structure of advanced economies far outweighs their numbers.

37. **Statement 1:** Outsourcing or contracting out is giving work to an outside agency to improve efficiency and to reduce costs.

Statement 2: When outsourcing involves transferring work to overseas locations, it is described by the term off-shoring

OFFICERS IAS ACADEMY

Choose the correct options

- A) Only Statement 1 is correct
- B) Only Statement 2 is correct
- C) Both statements 1 and 2 are correct
- D) Neither 1 nor 2 is correct

Solution: C

Outsourcing or contracting out is giving work to an outside agency to improve efficiency and to reduce costs. When outsourcing involves transferring work to overseas locations, it is described by the term off-shoring, although both off-shoring and outsourcing are used together.

Business activities that are outsourced include information technology (IT), human resources, customer support and call Centre services and at times also manufacturing and engineering

38. Recently India established Dedicated air freight corridor with which of the following country?

- A) Bangladesh
- B) Pakistan
- C) Vietnam
- D) Afghanistan

Solution: D

India and Afghanistan established a direct air freight corridor from Kabul to Delhi. The connectivity established through the air freight corridor will provide Afghanistan greater access to markets in India, and will allow Afghan businessmen to leverage India's economic growth and trade networks for its benefit.

39. Consider the following statements about RCEP

- 1) Regional Comprehensive Economic Partnership (RCEP) is a proposed free trade agreement (FTA) between the ten member states of the Association of Southeast Asian Nations (ASEAN)

OFFICERS IAS ACADEMY

2) Australia, China, India, Japan, South Korea and North Korea are the 6 FTA partners of ASEAN

Choose the correct options:

- A) 1 Only
- B) 2 Only
- C) Both 1 and 2
- D) Neither 1 nor 2

Solution: A

Regional Comprehensive Economic Partnership (RCEP) is a proposed free trade agreement (FTA) between the ten member states of the Association of Southeast Asian Nations (ASEAN) (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam) and the six states with which ASEAN has existing free trade agreements (Australia, China, India, Japan, South Korea and New Zealand).

40. Consider the following statements about trade facilitation agreement (TFA)

- 1) The TFA is the WTO's first-ever multilateral accord that aims to simplify customs regulations for the cross-border movement of goods
- 2) India has not ratified the WTO's (World Trade Organisation) Trade Facilitation Agreement

Choose the correct options:

- A) 1 Only
- B) 2 Only
- C) Both 1 and 2
- D) Neither 1 nor 2

Solution: A

The Trade Facilitation Agreement (TFA) was agreed upon Bali Ministerial meeting in December 2013. It is the WTO's first-ever multilateral agreement that targets to streamline customs procedures for the cross-border movement of goods.

OFFICERS IAS ACADEMY

It seeks to accelerate global trade by remodelling customs processes and cutting red tape. India has formally ratified the WTO's (World Trade Organisation) Trade Facilitation Agreement

41. Consider the following statements regarding slash and burn agriculture in India

1) Slash and burn practice involves the cutting and burning of forests or woodlands to create fields for agriculture or pasture.

2) It is a part of the shifting cultivation and is mostly practiced in Hilly Regions of the country particularly in North East Hills

Choose the correct options:

- A) 1 Only
- B) 2 Only
- C) Both 1 and 2
- D) Neither 1 nor 2

Solution: C

Slash and burn practice involves the cutting and burning of forests or woodlands to create fields for agriculture or pasture. It is a part of the shifting cultivation and in India it is mainly practiced in Hilly Regions particularly in North East Hills.

It is prevalent in tropical region indifferent names, e.g. Jhuming in North eastern states of India, Milpa in central America and Mexico and Ladang in Indonesia and Malaysia. Find out other areas and the names with which shifting cultivation is done. sugarcane industry is gradually shifting from north Indian states to states in Peninsular India. Which of the following are the reasons for that?

42. The production of sugarcane per hectare is higher in Peninsular India.

1) The sucrose contents is higher in the tropical variety of sugarcane grown in the south

2) The crushing season in south India is shorter than in north India.

Choose the correct options:

- A) 1 Only
- B) 2 only
- C) Both

OFFICERS IAS ACADEMY

D) None

Solution: C

Reasons for shifting of sugar industry from North India to Peninsular India

Over the period, sugarcane industry is gradually shifting from north Indian states to states in Peninsular India. Some of the important reasons are as follows:

- 1) The production of sugarcane per hectare is higher in Peninsular India. In fact, sugarcane crop grows well in the tropical climate of south India.
- 2) The sucrose contents is higher in the tropical variety of sugarcane grown in the south.
- 3) The crushing season in south India is longer than in north India.
- 4) In south India most of the mills have modern machinery.
- 5) Most of the mills in Peninsular India are in cooperative sector, where profit maximization is not the sole objective.

43. Which of the following factors will influence the cropping pattern of the region

1. Climatic conditions
2. Soil type and texture
3. size of farms
4. availability of fertilizer
5. good quality seeds
6. price incentives

Choose the correct options:

A) 1,2,3,4 and 5 only

B) 1,2,4 and 5 only

C) 1,2,3,4,5 and 6

D) 1,2,4,5 and 6 only

Solution: C

The agricultural land devoted to different crops in a region or state or country at a particular point of time is called the cropping pattern.

The cropping pattern of a region is an outcome of a long term agricultural practices, social customs and traditions, physical conditions and historical factors

OFFICERS IAS ACADEMY

Climate-rainfall, temperature, humidity; soils, size of farms, availability of fertilizer, good quality of seeds, irrigational facilities and price incentives are the factors which effect cropping patterns.

44. Consider the following statements regarding paddy cultivation

1. Paddy is ideally grown in rain fed areas where annual rainfall is more than 125 cms
2. It requires high temperature (20°-25°C).
3. it is also grown in areas of less than 125 cms rainfall with the help of irrigation.

Choose the correct options

- A) 1 and 2 only
- B) 2 and 3 only
- C) 1 and 3 only
- D) 1,2 and 3

Solution: D

- Paddy is ideally grown in rain fed areas where annual rainfall is more than 125 cms
- It requires high temperature (200-250C).
- However, it is also grown in areas of less than 125 cms rainfall with the help of irrigation
- Deep fertile loamy or clayey soils are considered ideal for this crop.
- It requires considerable be manual labour for sowing and transplantation.
- Although paddy crop is grown in almost all states of India, the leading producing states are West Bengal, Uttar Pradesh, Andhra Pradesh, Punjab, Tamil Nadu, Bihar, Orissa and Assam.

45. **statement 1:** India is the largest fish producing country in the world

Statement 2: the scheme 'Blue Revolution' has been launched for the integrated development of the Fisheries sector in the country.

Choose the correct options:

- A) Only Statement 1 is correct

- B) Only Statement 2 is correct
- C) Both statements 1 and 2 are correct
- D) Neither 1 nor 2 is correct

Solution: B

India is the second largest fish producing country,
Blue Revolution: Integrated Development and Management of Fisheries (CSS) approved by the Government provides for a focused development and management of the fisheries sector to increase both fish production and fish productivity from aquaculture and fisheries resources of the inland and marine fisheries sector including deep sea fishing.

The Blue Revolution is being implemented to achieve economic prosperity of fishermen and fish farmers and to contribute towards food and nutritional security through optimum utilization of water resources for fisheries development in a sustainable manner, keeping in view the bio-security and environmental concerns

Secondary activities

46. Recently launched SAMPADA scheme is for the development of
- A) Manufacturing sector
 - B) Food processing sector
 - C) Tourism sector
 - D) Mines and minerals sector

Solution: B

Objective of SAMPADA: It is to supplement agriculture, modernize processing and decrease agri-waste.

- An Umbrella Scheme: It is an umbrella scheme incorporating ongoing schemes of the Ministry like Mega Food Parks, Integrated Cold Chain and Value Addition Infrastructure, Food Safety and Quality Assurance Infrastructure, etc. and also new schemes like Infrastructure for Agro-processing Clusters, Creation of Backward and Forward Linkages, Creation / Expansion of Food Processing & Preservation Capacities.

47. Consider the following statements about mixed farming

- 1) Equal emphasis is laid on crop cultivation and animal husbandry.
- 2) Fodder crops are an important component of mixed farming
- 3) Animals like cattle, sheep, pigs and poultry provide the main income along with crops.

Choose the correct options:

- A) 1 and 2 only
- B) 2 and 3 only
- C) 1,2 and 3
- D) 1 and 3 only

Solution: C

Mixed farms are moderate in size and usually the crops associated with it are wheat, barley, oats, rye, maize, fodder and root crops.

Fodder crops are an important component of mixed farming. Equal emphasis is laid on crop cultivation and animal husbandry.

Animals like cattle, sheep, pigs and poultry provide the main income along with crops.

This form of agriculture is found in the highly developed parts of the world, e.g. North-western Europe, Eastern North America, parts of Eurasia and the temperate latitudes of Southern continents.

48. Which among the following requires high temperature, light rainfall, 210 frost-free days and bright sunshine?

- (a) Jute
- (b) Cotton
- (c) Tea
- (d) Coffee

Solution: B

Ideal conditions for the cotton plants are Long vegetation periods (175 to 225 days) without frost, Constant temperatures between 18 and 30°, Ample sunshine and fairly dry conditions

OFFICERS IAS ACADEMY

Primary activities

49. The British introduced tea plantations in the Darjiling and Sikkim Himalayas looking at some of the favourable conditions which were

1. Steep slopes
2. thick soil cover with low organic content
3. well distributed rainfall
4. mild winters

Choose the correct answer using the codes below.

- A) 1, 2 and 4 only
B) 1, 2 and 3 only
C) 3 and 4 only
D) All of the above

Solution: C

Tea plantation cannot grow in steep slopes, it requires moderate slopes. Moreover, soil with high organic content is needed for tea plantation. Moreover, mild winter and well distributed rainfall made the Darjeeling and Sikkim Himalayas an ideal destination for the British to grow tea plantations

Primary activities

50.) Indian agriculture is termed to be an Intensive Subsistence Farming type.

What are the characteristic that has made Indian agriculture to be categorized into that type?

- 1) Very high population density.
- 2) Labour intensive farming
- 3) Lower yield of production in terms of per capita labour force
- 4) Very small and fragmented land holdings.
- 5) Usage of farm machinery.

Choose the correct code from the following.

- 1) 1, 2, 3 only.
- 2) 1, 2, 3, 4 only.
- 3) 2, 3, 4 only.
- 4) All the above.

OFFICERS IAS ACADEMY

Solution: B

The following are the characteristics of the Intensive Subsistence Farming.

Land holdings are very small due to inheritance law prevalent in the country and high population mounts pressure on the land holdings to be utilized in an intensive way so as to cater the demand for food from huge population.

Farmers work with the help of family labour and use of machinery is limited and most of the agricultural operations are done by manual labour.

Farm yard manure is used to maintain the fertility of the soil. In this type of agriculture, the yield per unit area is high but per labour productivity is low.

Secondary activities

51.) Which of the following sectors covered under “Make in India “ initiative by government of India?

- 1) Automobile
- 2) Defence
- 3) IT
- 4) Oil and Gas
- 5) Space

Choose the correct options:

- A) 1,2 and 3 only
- B) 1,3 and 4 only
- C) 1,2,3 and 4 only
- D) 1,2,3,4 and 5

Solution: D

Make in India focuses on the following twenty-five sectors of the economy:

- Automobiles
- Automobile components
- Aviation
- Biotechnology
- Chemicals
- Construction
- Defence manufacturing
- Electrical machinery

OFFICERS IAS ACADEMY

- Electronic systems
- Food processing
- Information technology and business process management
- Leather
- Media and entertainment
- Mining
- Oil and gas
- Pharmaceuticals
- Ports and shipping
- Railways
- Renewable energy
- Roads and highways
- Space and astronomy
- Textiles and garments
- Thermal power
- Tourism and hospitality
- Wellness

Gitanjali:

52. Which of the following is correct regarding border roads?

- A) They are laid along state boundaries
- B) They are laid along international boundaries
- C) They are under Ministry of road transport and highways
- D) None of the above

Answer- B

Roads laid along international boundaries are called border roads. They play an important role in integrating people in remote areas with major cities and providing defence. They are under the control of ministry of defence. Almost all countries have such roads to transport goods to border villages and military camps.

53. Which of the following is true regarding urban settlements according to census, 1991?

- 1) Minimum population of 5000 persons
- 2) Atleast 50% of male workers engaged in non agricultural pursuits

OFFICERS IAS ACADEMY

3) Density of population of Atleast 400 persons per square kilometres.

Options

- A) 1 and 2
- B) 1 and 3
- C) 2 and 3
- D) All the above

Answer- B

The census of India, 1991 defines urban settlements as all places which as a municipality, corporation or notified area and have a minimum population of 5000 persons and at least 75% of male workers engaged in non agricultural pursuits and the Density of population of at least 400 persons per square kilometres.

54. Which of the following is true regarding megalopolis?

- A) They have a population more than 10 million people
- B) New York was the first state to attain the status of megalopolis

Options

- A) 1 only
- B) 2 only
- C) Both
- D) Neither 1 nor 2

Answer- c)

A region made up of several large cities and their surrounding areas in sufficient proximity to be considered a single urban complex with population more than 10 million. New York is the first to attain status of mega city in 1950.

55. Which of the following forms of settlement develops along either side of the roads, rivers or canals?

- A) Circular
- B) Cross- shaped
- C) Linear
- D) Square

Answer- c)

Types of rural settlements-

1. Rectangular Pattern:

Over 50 per cent of the world population lives in rural settlements, and most of the people inhabit the settlements of rectangular pattern. Rectangular settlements mainly develop in productive alluvial plains and wide intermontane valleys.

The lanes in the rectangular settlements are almost straight, meeting each other at right angles. The rural settlements of the Sutlej-Ganga plains, especially those which developed on the cross-roads, fall in this category.

The well-planned settlements of Germany, Russia, Central Asian Republics, China, North and South Korea, Vietnam, Malaysia, Israel and France also fall under this category.

2. Linear Pattern: :

Linear pattern is the other most important design of settlements. In the linear settlements, houses are arranged along either side of a road, railway line, river or canal. Such settlements also evolve along the edge of a valley, especially in the mountainous areas, above flood level or along the coast.

The development of linear settlements in the hilly areas is largely controlled by terrain and topography. Along the river banks and the sea shore, the flood and water level influence linear settlements.

Such settlements are numerous in the Middle Himalayas, Alps, Rockies,, Pamir, Hindukush, Zagros, and Elburz Siwaliks and along the roads in the plains of Ganga-Yamuna.

3. Circular and Semi-Circular Pattern:

The fishermen and salt producers develop their settlements along the sea coasts and salt lakes, respectively.

Since the people prefer to stay near the water, they construct their houses along the coasts. Such settlements acquire the circular or semi-circular shapes. In the vicinity of crater lakes and on the levees of ox-bow lakes, such settlements are found.

OFFICERS IAS ACADEMY

The main occupation of the people of circular settlements is to earn their livelihood from the water either by catching fish, water-nuts, grasses, or by providing services to the recreates, picnic goers and aesthetic beauty lovers.

4. Star-Like Pattern:

The star-like settlements develop on the sites and places where several metalled or unmetalled roads converge.

In the star-shaped settlements, houses spread out along the sides of roads in all directions. This pattern is common to both villages and towns, and is caused mostly by new development, spreading out along the major roads.

This type of settlements is the characteristic of the countryside's of North-West Europe, Punjab province of Pakistan and the Sutlej-Yamuna plains.

5. Triangular patterns of rural:

Triangular patterns of rural settlement generally develop at the confluence of rivers.

The lateral expansion of houses at the confluence is constrained by the rivers.

Consequently, the settlement acquires a triangular shape.

56. Which of the following is a push factor of migration?

- A) Unemployment
- B) Better employment
- C) Favourable economic conditions
- D) Political stability

Answer- A

The push factors operate at the source region and include political instability, unemployment, poverty, food shortage, drought and floods etc. The others are pull factors which operate at the destination or host country which includes better education, better conditions of living and better employment.

57. Which of the following is true regarding rural-urban fringe?

- 1) It is a zone of transition between the rural and urban area
- 2) The fringe zone represents an urban-rural continuum

Options

OFFICERS IAS ACADEMY

- A) 1 only
- B) 2 only
- C) Both 1 and 2
- D) Neither 1 nor 2

Answer-c)

Urban fringe, sometimes also called "urban-rural fringe," is the area of land where town meets country. The urban fringe is an area most often reserved for urban-based people who wish to be closer to nature and for industries that require large amounts of open land such as airports and wind farms. The size and scope of a city's urban fringe are influenced by the agricultural needs of the society, the amount of available space, the proximity of other cities, and the value of the land surrounding it.

58. Which of the following is true regarding rice ?

- 1) Humid and moist conditions
- 2) Poorly drained soils
- 3) Clayey and loamy soils

Options

- A) 1 and 2
- B) 2 and 3
- C) 1 and 3
- D) All the above

Answer – C)

Rice is a Kharif crop grown in humid and moist conditions. Fields should be submerged in water during its growing period. Temperature of 22-27 degrees and rainfall of 80-120 inches. Soil is clayey and loamy soils. UNGA declared 2004 as international year of rice. 1/4th of the cropped area in India is under rice cultivations.

59. The longest highway in India NH-44 passes through how many states?

- A) 9
- B) 10

OFFICERS IAS ACADEMY

C) 12

D) 11

answer- D

It starts from Srinagar and terminates in Kanyakumari; the highway passes through the states of Jammu & Kashmir, Punjab, Haryana, Delhi, Uttar Pradesh, Madhya Pradesh, Maharashtra, Telangana, Andhra Pradesh, Karnataka, and Tamil Nadu. NH-**44** was laid and is maintained by Central Public Works Department (CPWD). It is a part of international north south transit corridor.

60. Which of the soils covers the largest area in India ?

A) Red soil

B) Alluvial soil

C) Regur soil

D) Laterite soil

Answer- B)

Alluvial soil:

- Mostly available soil in India (about 43%) which covers an area of 143 sq.km.
- Widespread in northern plains and river valleys.
- In peninsular-India, they are mostly found in deltas and estuaries.
- Humus, lime and organic matters are present.
- Highly fertile.
- Indus-Ganga-Brahmaputra plain, Narmada-Tapi plain etc are examples.
- They are depositional soil – transported and deposited by rivers, streams etc.
- Sand content decreases from west to east of the country.
- New alluvium is termed as **Khadar** and old alluvium is termed as **Bhangar**.
- **Colour:** Light Grey to Ash Grey.
- **Texture:** Sandy to silty loam or clay.
- Rich in: potash
- Poor in: phosphorous.
- Wheat, rice, maize, sugarcane, pulses, oilseed etc are cultivated mainly.

Red soil:

- Seen mainly in low rainfall area.

OFFICERS IAS ACADEMY

- Also known as **Omnibus group**.
- Porous, friable structure.
- Absence of lime, kankar (impure calcium carbonate).
- **Deficient in:** lime, phosphate, manganese, nitrogen, humus and potash.
- **Colour:** Red because of Ferric oxide. The lower layer is reddish yellow or yellow.
- **Texture:** Sandy to clay and loamy.
- Wheat, cotton, pulses, tobacco, oilseeds, potato etc are cultivated.

Black soil / regur soil:

- Regur means **cotton** – best soil for cotton cultivation.
- Most of the Deccan is occupied by Black soil.
- Mature soil.
- High water retaining capacity.
- Swells and will become sticky when wet and shrink when dried.
- **Self-ploughing** is a characteristic of the black soil as it develops wide cracks when dried.
- **Rich in:** Iron, lime, calcium, potassium, aluminum and magnesium.
- **Deficient in:** Nitrogen, Phosphorous and organic matter.
- **Colour:** Deep black to light black.
- **Texture:** Clayey.

Laterite soil:

- Name from Latin word 'Later' which means Brick.
- Become so soft when wet and so hard when dried.
- In the areas of high temperature and high rainfall.
- Formed as a result of high leaching.
- Lime and silica will be leached away from the soil.
- Organic matters of the soil will be removed fast by the bacteria as it is high temperature and humus will be taken quickly by the trees and other plants. Thus, humus content is low.
- **Rich in:** Iron and Aluminum
- **Deficient in:** Nitrogen, Potash, Potassium, Lime, Humus
- **Colour:** Red colour due to iron oxide.
- Rice, Ragi, Sugarcane and Cashew nuts are cultivated mainly.

61. Which of the following is true regarding Indian railways ?

- A) broad gauge is more compared to the meter gauge in India
- B) Broad gauge has a width of more than 1.5m

Options

- 1) 1 only
- 2) 2 only
- 3) Both 1 and 2
- 4) Neither 1 nor 2

Answer- c

62. Which of the following is true regarding coal deposits ?

- 1) Anthracite has high carbon content and high calorific value.
- 2) India's largest lignite deposits is in Neyveli, Tamil Nadu.
- 3) Only region where anthracite is available in India is in Kargil.

Options

- A) 1 and 2
- B) 2 and 3
- C) 1 and 3
- D) All the above

Answer- D

The ranks of coal (from most to least **carbon** content) are as follows: **anthracite**, **bituminous coal**, **subbituminous coal**, and **lignite**. The coal with the highest **carbon** content is the best and cleanest type of coal to use.

Lignite

-
- **Brown coal.**
 - Lower grade coal.
 - **40 to 55 per cent carbon.**
 - Intermediate stage.
 - Dark to black brown.

OFFICERS IAS ACADEMY

- Moisture content is high (over 35 per cent).
- It undergoes **SPONTANEOUS COMBUSTION** [Bad. Creates fire accidents in mines].
- Highest found in Neyveli, Tamil Nadu.

Bituminous Coal

- Soft coal; most widely available and used coal.
- Derives its name after a liquid called bitumen.
- **40 to 80 per cent carbon.**
- Moisture and volatile content (15 to 40 per cent)
- Dense, compact, and is usually of black colour.
- **Does not have traces of original vegetable material.**
- Calorific value is **very high** due to high proportion of carbon and low moisture.
- Used in production of **coke and gas**.

Anthracite Coal

Best quality; hard coal

- **80 to 95 per cent carbon.**
- Very little volatile matter.
- Negligibly small proportion of moisture.
- Semi-metallic lustre.
- **Ignites slowly** == less loss of heat == highly efficient.
- Ignites slowly and burns with a nice short **blue flame**. [Complete combustion == **Flame is BLUE** == little or no pollutants. Example: LPG]
- In India, it is found only in Jammu and Kashmir and that too in small quantity.

63. Consider the following regarding sugarcane?

- 1) Requires short cool dry winter season
- 2) It has to be harvested before frost

Options

- A) 1 only
- B) 2 only
- C) Both 1 and 2
- D) Neither 1 nor 2

OFFICERS IAS ACADEMY

Answer- c)

Sugarcane is a tropical plant, therefore, requires a year warm weather to reach maturity. The areas having temperature of 20° to 26°C and an average rainfall of 150 cm are suitable for its cultivation.

Sugarcane is produced in both tropical and subtropical regions in three distinct regions as follows:

- Sutlej-Ganga plain from Punjab to Bihar containing 51% of the total area and 60% of the country's total production.
- The black soil belt from Maharashtra to Tamil Nadu along the eastern slopes of the Western Ghats.
- Coastal Andhra Pradesh and Krishna river valley.

64. Which of the following is correctly matched

- 1) Jhuming - north eastern India
- 2) Milpa- Mexico
- 3) Ladang- Africa

Options

- A) 1 and 2
- B) 2 and 3
- C) 1 and 3
- D) All the above

Answer- A)

These are techniques of shifting agriculture also called slash and burn technique. It leads to loss of fertility in the soil. It is prevalent in different names. Ladang is used in Malaysia and Indonesia.

65. Which of the following coal fields are correctly matched?

- 1) Raniganj- West Bengal
- 2) Bokaro- Jharkhand
- 3) Talcher- Odisha

OFFICERS IAS ACADEMY

Options

A) 1 and 2

B) 2 and 3

C) 1 and 3

D) All the above

Answer- D

State	Coal Field
West Bengal	Raniganj (Oldest coal field in India)
Jharkhand	Jharia (Largest), Bokaro, Dhanbad, Giridih, Karanpura, Ramgarh, Daltonganj
Madhya Pradesh	Singrauli, Suhagpur, Johila, Umaria, Satpura coalfield
Odisha	Talcher, Himgiri, Rampur
Andhra Pradesh	Kantapalli, Singareni
Chhattisgarh	Korba, Bistrampur, Sonhat, Jhilmil, Hasdo-Arand
Assam	Makum, Najira, Janji, Jaipur
Meghalaya	Umralong, Darrangiri, Cherrapunji, Mawlong, Langrin
Arunachal Pradesh	Naqmchik-Namphuk

Coal is found in sedimentary rocks beneath rock surface and is often called “**Black Gold**”. The above list of Major Coal Fields in India gives extracted revision capsule for the aspirants of different examinations.

66. Which of the following is true about extension forestry?

- 1) It involved planting of trees on the sides of roads, canals and railways
- 2) It helps in reclamation of forest waste lands and village common lands boosting afforestation programmes.

Options

A) 1 only

B) 2 only

OFFICERS IAS ACADEMY

- C) Both 1 and 2
D) Neither 1 nor 2

Answer-c)

Extension Forestry: It is the practice of forestry in areas devoid of tree growth and other vegetation situated in places away from the conventional forest areas with the object of increasing the area under tree growth. It includes the following.

a) Mixed forestry

It is the practice of forestry for raising fodder grass with scattered fodder trees, fruit trees and fuel wood trees on suitable wastelands, panchayat lands and village commons

b) Shelterbelts

Shelterbelt is defined as a belt of trees and or shrubs maintained for the purpose of shelter from wind, sun, snow drift, etc.

c) Linear Strip plantations

These are the plantations of fast growing species on linear strips of land.

67.Regarding migration trends in India which of the following is correct?

1) Distressed migration in India is due to Agriculture .

2. Migration is more commonly observed in southern states compared to northern states

Choose the statement :

- a) 1 Only
b) 2 Only
c) Both
d) None

68.Arrange the following major ports from north to south

- 1) Haldia
2) Paradip
3) Kandla
4) Mumbai

OFFICERS IAS ACADEMY

Options

- A) 2,3,1,4
- B) 3,1,2,4
- C) 1,2,3,4
- D) 2,1,3,4

answer- B)

69. Which of the following is not a consequence of in-migration ?

- A) Resource scarcity
- B) Political conflict
- C) Illiteracy
- D) Population explosion

Answer- c) illiteracy is a cause of outmigration.

70. Which of the following are the components of green revolution in India?

- 1) Use of HYV seeds and fertiliser
- 2) Contract farming
- 3) Farm mechanisation
- 4) Organic pesticides
- 5) Agricultural universities

Options

- A) 1 and 3
- B) 2,4,5
- C) 1,3,5**
- D) 1,2,3,4,5

answer- c)

Some of the important components of the green revolution in India are as follows:

- 1. High Yielding Varieties (HYV) of seeds.
- 2. Irrigation (a) surface and (b) ground.
- 3. Use of fertilizers (chemical).
- 4. Use of Insecticides and Pesticides.

OFFICERS IAS ACADEMY

5. Command Area Development (CAD).
6. Consolidation of holdings.
7. Land reforms.
8. Supply of agricultural credit.
9. Rural electrification.
10. Rural Roads and Marketing.
11. Farm Mechanisation.
12. Agricultural Universities.

71. Which of the following is correctly matched

- 1) NW1- Ganga
- 2) NW4- Godavari krishna
- 3) NW5- barak

Options

- A) 1 and 2
- B) 2 and 3
- C) 1 and 3
- D) All the above

Answer-a)

NW1	Allahabad-Haldia stretch of the Ganga—Bhagirathi-Hooghly Rivers	UP, Bihar, Jharkhand, West Bengal	1620
NW2	Sadiya-Dhubri Stretch of Brahmaputra River	Assam	891
NW3	Kollam-Kozhikode Stretch of West Coast Canal and Champakara and Udyogmandal Canals	Kerala	365
NW4	Kakinada-Puducherry Stretch of Canals and the Kaluvelly Tank, Nashik-Bhadrachalam-	Tamil Nadu, Andhra Pradesh, Telanagana	1095

OFFICERS IAS ACADEMY

	Rajahmundry Stretch of River Godavari and Bridge near village Galagali-Wazirabad-Vijayawada Stretch of River Krishna		
NW5	Talcher-Dhamra Stretch of Brahmani-Kharsua-Tantighai-PanduaNala-DudheiNala-KaniDhamra-river system, Geonkhali-Charbatia Stretch of East Coast Canal,harbatia-Dhamra Stretch of Matai River and Mahanadi Delta Rivers		

72. Select the correct statements.

- 1) Europe has the highest road density in the world
- 2) The trans Siberian railways is the longest continental railway in the world

Options

- A) 1 only
- B) 2 only**
- C) Both 1 and 2
- D) Neither 1 nor 2

Answer : B

The highest road density and highest vehicles are registered in northAmerica compared to Western Europe.

Trans Siberian railway is a major rail route in Russia that runs from st. Petersburg to Vladivostok. It is the longest double track and electrified transcontinental railway in the world.

73. Which of the following is correctly matched?

OFFICERS IAS ACADEMY

- 1) Rhine waterways – Germany
- 2) Danube waterways- Europe
- 3) Volga waterways – Russia

Options

- A) 1 and 2
- B) 2 and 3
- C) 1 and 3
- D) All the above

Answer- D

The Rhine waterways flows through Germany and Netherlands. The Ruhr river also joins the waterways and is one of the world's most heavily used waterway.

The Danube waterway serves Eastern Europe rising in the Black Forest and flows eastward through many countries.

The Volga waterway is one of Russia's most developed waterways and drains into the Caspian Sea.

74. Which is a feature of Mediterranean agriculture ?

- 1) It is a highly specialised commercial agriculture system
- 2) It is a system of subsistence agriculture

Options

- A) 1 only
- B) 2 only
- C) Both 1 and 2
- D) Neither 1 nor 2

Answer- a)

The Mediterranean climatic region which experiences winter rain and summer drought has given rise to a distinctive type of agriculture. This type of farming is also found in irrigated semi-desert and desert areas in similar latitudes. Farming is intensive and highly specialised. A variety of crops are raised.

Citrus fruits, olives and figs, with long, widespread roots, scant foliage and thick skinned fruits are best adapted to the Mediterranean type of climate. Dates are

OFFICERS IAS ACADEMY

prominent in semi-arid region in North Africa and in scattered areas in south-west Europe, where cultivation of other crops is not viable.

75. According to census 2011, which if the following migration trends are observed in India ?

- 1) Migrant flows between states are lower than flows within states.
- 2) Maharashtra, Goa and Tamil Nadu had major net in-migration, while Jharkhand and Madhya Pradesh had major net out-migration.

Options

- A) 1 only
- B) 2 only
- C) None of these
- D) All the above

Answer- D

The key features of migration in India as per Census 2011 data are as follows:

- People move from less affluent states to more affluent states
- 33 million or 8.1% of Indian workforce were migrants for economic reasons.
- Over 80% of these migrants were male.
- Labour mobility also appears to be low because urbanization rates have not picked up sharply over the years.
- Migrant flows between states are lower than flows within states. Estimates suggest that on average flows within states are around four times the flows across states.
- Within India, in both trade and labour flows, language doesn't seem to matter for migrants which vindicate the founding fathers' permissive approach to India's linguistic cleavage.
- Distance has a strong negative effect on labor flows.
- The adjoining state border effect (contiguity) is positive suggesting that migration is higher in the adjacent states even after controlling for distance
- The largest recipient was the Delhi region, which accounted for more than half of migration in 2015-16, while Uttar Pradesh and Bihar taken together account for half of total out-migrants.

OFFICERS IAS ACADEMY

- Maharashtra, Goa and Tamil Nadu had major net in-migration, while Jharkhand and Madhya Pradesh had major net out-migration.

76. Select the correct statement

- 1) Land that is left uncultivated for one or less than one year is current fallow
- 2) Land that is left fallow for more than five years is fallow other than current fallow land.

Options

- A) 1 only
- B) 2 only
- C) Both 1 and 2
- D) Neither 1 nor 2

Answer- c)

Land which is left uncultivated for one or less than one agricultural year is referred to as current fallow land.

This includes all land which was taken up for cultivation but is temporarily out of cultivation for a period of **not less than** one year and **not more than** five year. This represents cropped area which is kept **fallow** during the **current** year.

Jagan:

77. World's largest Volcanic region which was recently discovered is in:

- a) West Antarctica
- b) Java
- c) Sumatra
- d) None of the above

Answer: A

Explanation:

The largest volcanic region on Earth — with nearly 100 volcanoes — has been discovered two km below the surface of the vast ice sheet in west Antarctica.

Researchers from the University of Edinburgh in Britain found a staggering 91 previously unknown volcanoes, adding to the 47 others that had been discovered over the previous century of exploring the region.

OFFICERS IAS ACADEMY

The height of these newly discovered volcanoes range from 100 to 3,850 metres, with the highest almost as tall as Switzerland's 3,970-metre Eiger mountain.

These active peaks are concentrated in a region known as the west Antarctic rift system — which stretches 3,500 km from Antarctica's Ross ice shelf to the Antarctic peninsula. Geologists say this huge region is likely to dwarf east Africa's volcanic ridge — currently rated as the densest concentration of volcanoes in the world.

<http://www.thehindu.com/todays-paper/tp-national/largest-volcanic-region-on-earth-lies-in-antarctica/article19495111.ece>

78. Aral sea which was once 4th largest lake is located between:

- a) Kazakhstan and Tajikistan
- b) Tajikistan and Uzbekistan
- c) Kazakhstan and Uzbekistan
- d) None of the above

Answer : C

Explanation: Aral Sea a once-large saltwater lake of Central Asia. It straddles the boundary between Kazakhstan to the north and Uzbekistan to the south. The shallow Aral Sea was once the world's fourth largest body of inland water. The remnants of it nestle in the climatically inhospitable heart of Central Asia, to the east of the Caspian Sea. The Aral Sea and its demise are of great interest and increasing concern to scientists because of the remarkable shrinkage of its area and volume that began in the second half of the 20th century—when the region was part of the Soviet Union—and continued into the 21st. That change resulted primarily because of the diversion (for purposes of irrigation) of the riverine waters of the Syr Darya (ancient Jaxartes River) in the north and the Amu Darya (ancient Oxus River) in the south, which discharged into the Aral Sea and were its main sources of inflowing water.

79. India's longest bridge which was recently inaugurated is:

- a) Dhol-Sadiya bridge
- b) Mahatma Gandhi Setu
- c) Vikramshila Setu
- d) None of the above

Answer: A

Explanation: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=162165>

80. Consider the following regarding Malpelo Plate:

1. Malpelo microplate is located west of the Galapagos Islands off the coast of Ecuador
 2. It is wedged in-between the Nazca, Cocos, and Caribbean minor plates.
- a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) None of the above

Answer: C

Explanation: The **Malpelo Plate** is a small tectonic plate (a microplate) located off the coasts west of Ecuador and Colombia and south of Panama. It is the 57th plate to be identified. It is named after Malpelo Island, the only emerged part of the plate. It is bounded on the west by the Cocos Plate, on the south by the Nazca Plate, on the east by the North Andes Plate, and on the north by the Coiba Plate. This microplate was previously assumed to be part of the Nazca Plate.

81. Zealandia called as the Lost continent is found in which of the following region:

- a) South West Pacific
- b) Western Indian Ocean
- c) Arctic ocean
- d) Atlantic Ocean

Answer: A

Explanation: A 4.9 Mkm² region of the southwest Pacific Ocean is made up of continental crust. The region has elevated bathymetry relative to surrounding oceanic crust, diverse and silica-rich rocks, and relatively thick and low-velocity crustal structure. Its isolation from Australia and large area support its definition as a continent—Zealandia. Zealandia was formerly part of Gondwana. Today it is 94% submerged, mainly as a result of widespread Late Cretaceous crustal thinning preceding supercontinent breakup and consequent isostatic balance. The

identification of Zealandia as a geological continent, rather than a collection of continental islands, fragments, and slices, more correctly represents the geology of this part of Earth. Zealandia provides a fresh context in which to investigate processes of continental rifting, thinning, and breakup.

82. Which among the following regions have potential for tidal energy to be harnessed:

1. Gulf of Cambay
2. Gulf of Kutch
3. Sundarbans

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) All of the above

Answer: D

Explanation: Oceans cover 70 percent of the earth's surface and represent an enormous amount of energy in the form of wave, tidal, marine current and thermal gradient. The energy potential of our seas and oceans well exceeds our present energy needs. India has a long coastline with the estuaries and gulfs where tides are strong enough to move turbines for electrical power generation. A variety of different technologies are currently under development throughout the world to harness this energy in all its forms including waves (40,000 MW), tides (9000 MW) and thermal gradients (180,000 MW).

Total identified potential of Tidal Energy is about 9000 MW in West Coast Gulf of Cambay (7000 MW), Gulf of Kutch (1200 MW) and in East Coast the Ganges Delta in the Sunderbans in West Bengal for small scale tidal power development estimates the potential in this region to be about 100 MW

<http://mnre.gov.in/schemes/new-technologies/tidal-energy/>

83. Consider the following regarding geothermal energy:

1. Himalayas, Sohana, West coast, Cambay are geothermal belt

OFFICERS IAS ACADEMY

2. Ground Source Heat Pumps (GSHP's) use the earth's relatively constant temperature between 16 – 24 °C at a depth of 20 feet to provide heating, cooling, and hot water for homes and commercial buildings.

Choose the correct choice :

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None of the above

Answer: C

Explanation: http://mnre.gov.in/file-manager/UserFiles/faq_Geothermal.pdf

84. Consider the following about DRIP-Dam Rehabilitation and improvement programme:

- 1. The objectives of DRIP are to be achieved through investments for physical and technological dam improvements, managerial upgrading of dam operations, management and maintenance, with accompanying institutional reforms.
- 2. The funding pattern for the scheme will be 80% from World Bank and 20% from State/Central Government budgetary support.

Choose the correct choice:

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None of the above

Answer: C

Explanation: <http://www.wrmin.nic.in/forms/list.aspx?lid=499>

The objectives of DRIP are to be achieved through investments for physical and technological dam improvements, managerial upgrading of dam operations, management and maintenance, with accompanying institutional reforms. Further, it is expected that the institutional development activities will lead to an improvement in the system-wide management approach to all dams in the participating states, over and above the focus on the selected dams covered by the project. The project will thus address dam system management in a holistic manner.

OFFICERS IAS ACADEMY

The funding pattern for the scheme will be 80% from World Bank loan (50% IDA credit and 50% IBRD loan) and 20% from State/Central Government budgetary support.

85. Which among the following activities are undertaken under Jal Kranti Abhiyan:

1. Jal Gram Yojana
 2. Development of Model Command Area
 3. Pollution abatement
 4. Mass Awareness Programme
- a) 1,2,3
 - b) 2,3,4
 - c) 1,2,4
 - d) All of the above

Answer: D

Explanation: Jal Kranti Abhiyan is being celebrated during the year 2015-16 to consolidate water conservation and management in the country through a holistic and integrated approach involving all stakeholders, making it a mass movement.

The activities/components being undertaken the Abhiyan are :- 1. Jal Gram Yojana
2. Development of Model Command Area
3. Pollution abatement
4. Mass Awareness Programme
5. Other Activities

[http://www.wrmin.nic.in/writereaddata/JKA_FAQ\(1\).pdf](http://www.wrmin.nic.in/writereaddata/JKA_FAQ(1).pdf)

86. Which of the following projects uses 'Run of the river systems' for the purpose of generating electricity?

1. Tidal energy project
2. Small-scale hydro power project
3. Large reservoir based hydro power project

Choose the correct choice:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 2 only
- d) 1, 2 and 3

Answer: C

OFFICERS IAS ACADEMY

Explanation: Tidal energy uses the periodic rise and fall of waters of the ocean for generation of electricity and not run of the river system.

Small-scale hydro project: The flow of river water is harnessed by channelising it through a narrow canal without any creation of artificial reservoir, this type of system is called as 'run of the river systems'. It produces small amount of electricity which can be utilized on a small scale.

Large reservoir based hydro project: It involves creation of artificial reservoir of water to produce a huge amount of electricity. Run-of-river systems do not rely on large storage reservoirs, but rather on the diverted river water to drive turbines, and then discharge the water back into the river system.

87. Which of the following minerals are found in Himalayan belt

- i) Copper
- ii) Lead
- iii) Zinc
- iv) Cobalt
- v) Tungsten

Choose the appropriate code

- a) I, iii, iv only
- b) ii, iii, iv only
- c) I, ii, iii, v only
- d) All of the above.

Solution d

following minerals are found in Himalayan belt

88. In India, systematic surveying, prospecting and exploration for minerals is undertaken by which of the following agencies?

- i) Geological Survey of India (GSI)
- ii) Oil and Natural Gas Commission (ONGC)
- iii) National Mineral Development Corporation (NMDC)
- iv) Indian Bureau of Mines (IBM)

OFFICERS IAS ACADEMY

Choose the appropriate option

- a) I, ii, iii only
- b) ii, iii, iv only
- c) I, ii, iii, iv
- d) ii, iv only

Solution c

Agencies involved in the exploration of minerals In India, systematic surveying, prospecting and exploration for minerals is undertaken by the Geological Survey of India (GSI), Oil and Natural Gas Commission (ONGC), Mineral Exploration Corporation Ltd. (MECL), National Mineral Development Corporation (NMDC), Indian Bureau of Mines (IBM), Bharat Gold Mines Ltd. (BGML), Hindustan Copper Ltd. (HCL), National Aluminium Company Ltd. (NALCO) and the Departments of Mining and Geology in various states.

89. Which of the following Iron mines are rightly matched?

- i) Mayurbhanj – Jharkhand
- ii) Baba Budan hills – Karnataka
- iii) Bhandara – Maharashtra

Choose the appropriate option

- a) i, ii only
- b) ii, iii only
- c) I, iii only
- d) I, ii, iii

Solution b



90. Consider the following regarding manganese ore.

- i) Manganese deposits are found in almost all geological formations.
- ii) Odisha is the leading producer of Manganese.

Choose the appropriate option

- a) i only
- b) ii only
- c) both I & ii only
- d) Neither I nor ii

Solution c

India processes second largest reserves in the world after Zimbabwe; 430 million tonnes

India is the world's fifth largest producer after China, Gabon, South Africa and Australia.

Maharashtra, Madhya Pradesh, Odisha, Andhra Pradesh and Karnataka are the major manganese ore producing states.

Maharashtra and Madhya Pradesh together produce more than half of India's manganese.

State wise reserves of Manganese

- Odisha (44%)

- Karnataka (22%)
- Madhya Pradesh (13%)
- Maharashtra (8%)
- Andhra Pradesh (4%)
- Jharkhand and Goa (3% each)
- Rajasthan, Gujarat and West Bengal (remaining 3 per cent).

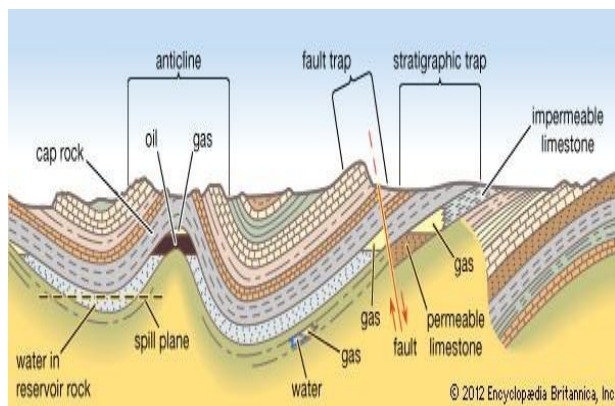
91. Which of the following is incorrect?

- i) Unconventional Gas Reservoirs occur in relatively impermeable sandstones, in joints and fractures or absorbed into the matrix of shales.
- ii) India holds significant prospects for commercial recovery of coalbed methane.

Choose the appropriate option

- a) i only
- b) ii only
- c) both I & ii only
- d) Neither I nor ii

Solution c



Coalbed Methane

- Considerable quantities of methane is trapped within coal seams.
- A significant portion of this gas remains as free gas in the joints and fractures of the coal seam.
- Large quantities of gas are adsorbed on the internal surfaces of the micropores within the coal itself.

OFFICERS IAS ACADEMY

- This gas can be accessed by drilling wells into the coal seam and pumping large quantities of water that saturate the seam. [water will occupy the gaps and pores and will push out the gas]
- It is now becoming an important source of natural gas.
- Unlike much natural gas from conventional reservoirs, coalbed methane contains very little heavier hydrocarbons such as propane or butane.
- The presence of this gas is well known from its occurrence in underground coal mining, where it presents a serious safety risk.
- Fire Accidents in Coal Mines are mainly due to Coalbed Methane, and Lignite deposits which undergo spontaneous combustion.

92. Consider the following

- i) Shales are fine-grained sedimentary rocks formed of organic-rich mud at the bottom of ancient seas.
- ii) Shale gas occurs frequently at depths exceeding 1,500 metres (5,000 feet).

Choose the appropriate option

- a) i only
- b) ii only
- c) both i & ii only
- d) Neither i nor ii

Solution c

Shale Gas – Shale Gas Formation

- Shales are fine-grained sedimentary rocks formed of organic-rich mud at the bottom of ancient seas.
- Subsequent sedimentation and the resultant heat and pressure transformed the mud into shale and also produced natural gas from the organic matter contained in it.
- Over long spans of geologic time, some of the gas migrated to adjacent sandstones and was trapped in them, forming conventional gas accumulations.
- The rest of the gas remained locked in the nonporous shale.

93. Which of the following locations are identified by Indian geologists for extraction of Shale gas?

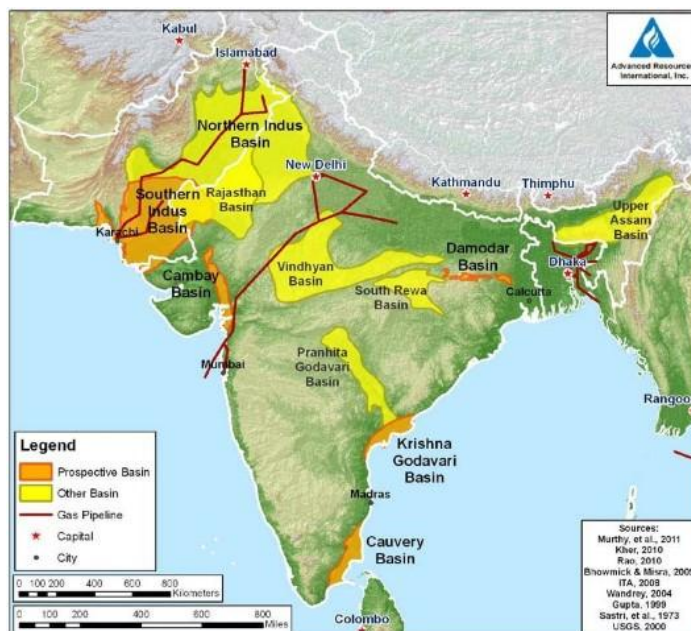
OFFICERS IAS ACADEMY

- i) Cambay Basin in Gujarat.
- ii) Assam-Arakan basin in northeast India.
- iii) Gondwana Basin.

Choose the appropriate code.

- a) i, ii only
- b) ii, iii only
- c) I, iii only
- d) I, ii, iii

Solution d



94. Which of the following are prerequisite conditions for availability of oil reserves?

- i) Porosity .
- ii) Permeability.
- iii) oil should be capped below by impervious beds .

Choose the appropriate code

- a) i, ii only
- b) ii, iii only
- c) I, iii only
- d) I, ii, iii

Solution d

OFFICERS IAS ACADEMY

All sedimentary rocks do not contain oil.

An oil reservoir must have three prerequisite conditions.

- Porosity [tiny gaps in soil] so as to accommodate sufficiently large amounts of oil;
- Permeability [allowing liquids or gases to pass through it.] to discharge oil and/or gas when well has been drilled;
- The porous sandstone beds or fissured limestone containing oil should be capped below by impervious beds [not allowing fluid to pass through].

95. Which of the following has on-shore Oil Production only in India

- i) Brahmaputra valley of north-east India.
- ii) Barmer area of Rajasthan.
- iii) Cauvery on-shore basin in Tamil Nadu.
- iv) Andhra Pradesh .

Choose the appropriate code

- a) I, ii, iii only
- b) ii, iii only
- c) I, iii, iv only
- d) I, ii, iii, iv only

Solution C



96. Consider the following regarding gold deposits

- i) Gold usually occurs in auriferous [(of rocks or minerals) containing gold rocks.
- ii) Gold is also found in sands of several rivers.

Choose the appropriate option

- a) i only
- b) ii only
- c) Both
- d) None

Solution C

97. Consider the following regarding Economic Geography?

- i) Branch of geography which deals with the influences of the environment, both physical and cultural, on the economic activity of man .
- ii) It brings out similarities and differences from place to place in the ways people make a living.

Which of the following are true?

- a) i only
- b) ii only
- c) Both I & ii
- d) Neither I nor ii

Solution c

Economic geography is the study of the location, distribution and spatial organization of economic activities across the world. It represents a traditional subfield of the discipline of geography. However, many economists have also approached the field in ways more typical of the discipline of economics.

Economic geography has taken a variety of approaches to many different subject matters, including the location of industries, economies of agglomeration (also known as "linkages"), transportation, international trade, development, real estate, gentrification, ethnic economies, gendered economies, core-periphery theory, the economics of urban form, the relationship between the environment and the economy (tying into a long history of geographers studying culture-environment interaction), and globalization.

98. Which of the following are characteristics of Modern manufacturing

- (i) a complex machine technology
- (ii) extreme specialisation and
- iii) division of labour for producing more goods
- (iv) Large organisations

Choose the appropriate code

- a) I, ii only
- b) I, iii only
- c) I, ii, iii, iv
- d) ii, iii, iv only

Solution c

Today, the manufacturing industry is on the threshold to the 5th manufacturing revolution.

- 1) Substitution of hand work by machines
- 2) Automation of the factory
- 3) Integration of computers into the production process
- 4) Integration of information and communication techniques enables globalization
- 5) New production techniques by penetration of nano- and bio-technologies and application of new materials .

OFFICERS IAS ACADEMY

Every revolutionary step demands for new production paradigms. Today, technology doesn't dominate anymore because the new mind of thinking also demands for the consideration of nature, economy, society and technology (NEST). However, in every period of paradigm changing, the production technology has been subject to a fundamental and continuous change. This process of steady changing will persist without important leaps in innovation having to be expected, but certain developments, such as the application of linear motors or parallel kinematics on machine tools, undoubtedly will speed up the overall progress in manufacturing.

99. Consider the following COAL as a mineral.

- i) Coal is used as raw material for fertilizers and chemical industries.
- ii) Recently, Supreme court has banned usage of Petcoke and Furnace oil in NCR and regions surrounding them.

Which of the following are true?

- a) i only
- b) ii only
- c) Both I & ii
- d) Neither I nor ii

Solution c

Petroleum coke (petcoke), a key input material for cement producers and a highly polluting fuel, is in the spotlight once again.

Given its favourable cost, most cement companies switched from coal to petcoke over the past few years. On an average, more than 70% of the fuel requirement of cement makers is met through petcoke. Petcoke usage in India posted a compound annual growth rate of 24% over fiscal years 2013 and 2017 (FY13-FY17)

In a bid to control the high levels of pollution in Delhi and the National Capital Region (NCR), the Supreme Court on 24 October 2017 banned the use of petcoke and furnace oil in NCR effective from 1 November.

100. Which of the following are leading producers of COAL?

- i) Bihar
- ii) West Bengal
- iii) Madhya Pradesh

OFFICERS IAS ACADEMY

iv)Orissa

v)Andhra Pradesh

Choose the following are code

a)I,ii,iii only

b)ii,iii,iv only

c)I,iii,iv,v only

d)I,ii,iii,iv,v .

Solution d

India has abundant domestic reserves of coal. Most of these are in the states of Jharkhand, Odisha, West Bengal, Bihar, Chhattisgarh, Telangana and Madhya Pradesh. On account of the growing needs of the steel industry, a thrust had to be given on systematic exploitation of coking coal reserves in Jharia coalfield.

Coal mining in India first started in the Raniganj Coalfield. Raniganj Coalfield covers an area of 443.50 km (171.24 sq mi) and has total coal reserves of 49.17 billion tonnes, spread across Indian states of West Bengal and Jharkhand.