

ENVIRONMENTAL SCIENCE(333)

CORE MODULES OBJECTIVE QUESTIONS TYPE-I

- 1. (i) According to an archeological study, foragers lived in/under
 - (A) huge canopies of trees
 - (B) temporary oval hut like shelters
 - (C) large houses made of mud
 - (D) permanent built-in houses

Answer: (B) temporary oval hut like shelters

2. The correct order of evolutionary stages of human species is

- (A) Homo habilis, Homo sapiens, Homo erectus
- (B) Homo sapiens, Homo erectus, Homo habilis
- (C) Homo habilis, Homo erectus, Homo sapiens
- (D) Homo erectus, Homo Habilis, Homo sapiens

Answer: (C) Homo habilis, Homo erectus, Homo sapiens

3. (i) The factors leading to rise in population are

I. increase in food production II. treatment of diseases III. pollution of natural bodies IV. depleting natural resources Select the correct answer :

(A) I and II(B) II and III(C) I and IV(D) II and IV

Answer: (A) I and II

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- 4. Speciation is a process by which
 - (A) adaptation of species occurs
 - (B) new species are formed
 - (C) variation of species takes place
 - (D) dying out of species occurs

Answer: (B) new species are formed

- 5. (i) Steppes is a
 - (A) tropical forest
 - (B) desert
 - (C) grassland
 - **(D)** temperate forest

Answer: (C) grassland

- 6. (i) An example of littoral forest ecosystem is
 - (A) mangroves
 - (B) islands
 - (C) estuaries
 - (D) deltas

Answer: (A) mangroves

OPTIONAL MODULE—8A (Water Resource Management)

14. (i) In large cities and towns, groundwater is not fit for drinking, because

- (A) it contains microbes
- (B) it contains high concentration of dissolved minerals
- (C) it contains large amount of suspended particles
- (D) it is coloured

Answer: (B) it contains high concentration of dissolved minerals

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15. (i) Some parts of India suffer from severe water scarcity due to

- (A) lack of sufficient rainfall in the country
- (B) uneven distribution of rainfall in the country
- (C) poor agricultural practices in the country
- (D) droughts in the country

Answer: (B) uneven distribution of rainfall in the country

16. (i) The attributes of groundwater are

I. it is sustainable II. it is easily contaminated III. it is less polluted IV. it has a low vulnerability to drought Select the correct answer :

(A) I, II and III
(B) I, III and IV
(C) II, III and IV
(D) I, II and IV

Answer: (A) I, II and III

OPTIONAL MODULE—8B

(Energy and Environment)

14. (i) Direct use of solar energy is in

- (A) wind mills
- (B) photosynthesis in plants
- (C) photovoltaic cells
- (D) tidal power plants

Answer: (C) photovoltaic cells

15. (i) An example of gaseous biofuel is

- (A) methane
- (B) gasohol
- (C) carbon dioxide
- (D) sulphur dioxide

Answer: (A) methane

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16. (i) CFL should be used in place of ordinary bulbs as they

- (A) use less electricity
- (B) are cheaper than ordinary bulbs
- (C) are easily available
- (D) are available in a standard shape

Answer: (A) use less electricity

CORE MODULES OBJECTIVE QUESTIONS TYPE-II

17. (a) Expand EIA.

Answer: Environmental Impact Assessment (EIA)

(b) Name two important aspects of EIA.

Answer: The important aspects of EIA are:

- i. risk assessment,
- ii. environmental management and
- iii. post product monitoring.
- 18. Answer any six questions of the following :
 - (a) "Evaluation of EIA is possible only if EIA report is reliable." What does this statement mean?

<u>Answer</u>: The EIA report has to be exactly in keeping with the process and procedure laid down for EIA.

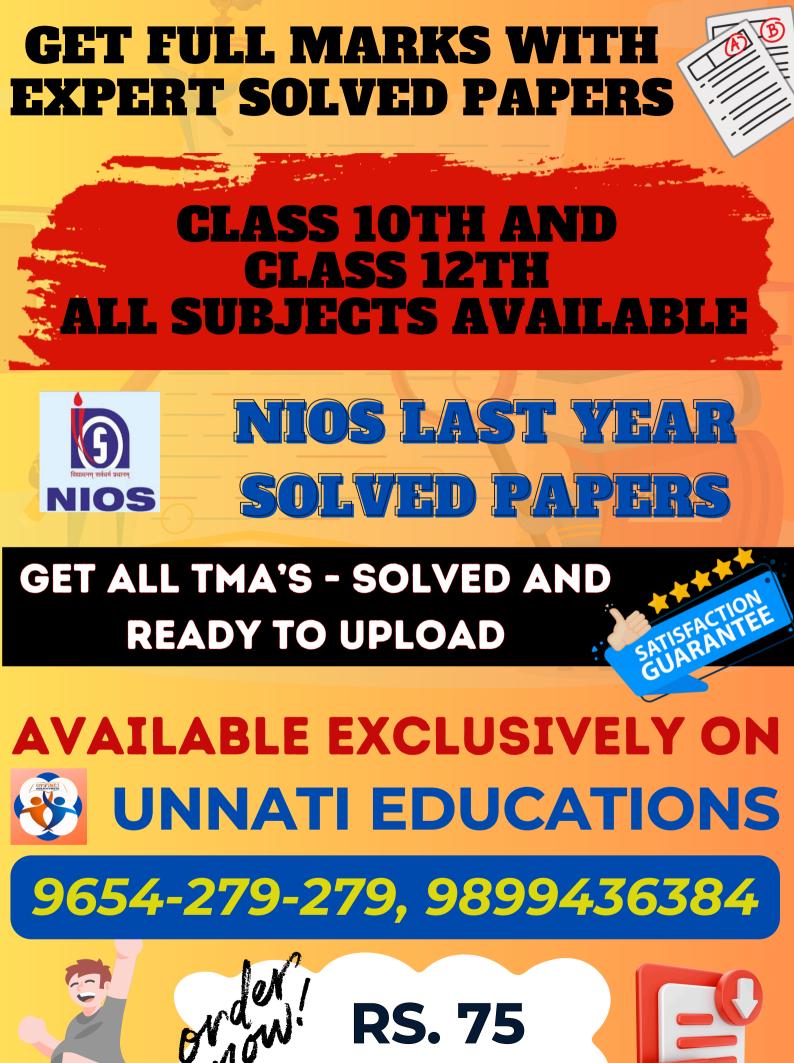
(b) What are village forests?

<u>Answer</u>: Village forests are community-managed forests that provide essential resources like firewood, fodder, and small timber to local villagers while promoting environmental conservation

(c) What is the aim of IPM?

<u>Answer</u>: The aim of IPM is not to eradicate the pest population completely but to keep the crop damage to economically tolerable level.

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(d) Mention two important agriculture inputs that are avoided in organic farming.

<u>Answer</u>: Two important agricultural inputs which are avoided in organic farming are Chemical fertilizers and pesticides.

(e) How do exotic species often wipe out the native species?

<u>Answer</u>: Seeds catch on people's clothes. Mice, rats and birds hitch-hike on ships. When such species land in new places, they breed extra fast due to absence of any enemy and often wipe out the native species already present there. Exotic species (new species entering geographical region) may wipe out the native ones.

(f) How does acid rain affect leaves of plants?

<u>Answer</u>: Acid rain damage cuticle of plant leaves resulting etiolation of foliage. This in turn reduces photosynthesis. Reduced photosynthesis accompanied by leaf fall reduces plant and crop productivity.

20. Fill in the blanks by using the appropriate words given below (any four) : (planktons, ex-situ, carcinogenic, carrying capacity, biofuel, work)

- (a) Maximum pressure that the environment can withstand on account of human activities is known as <u>carrying capacity</u>.
- (b) Energy may be defined as capacity to do work.
- (c) Organic waste can be converted by bacteria into biofuel.
- (d) Conservation of plants and animals outside their natural habitat is known as <u>ex-</u> <u>situ</u> conservation.
- (e) The cancer-causing agents are known as <u>carcinogenic</u>.
- (f) Microscopic floating organisms such as algae and protozoans are called planktons.
- 21. Write True or False (any three) :
 - (a) A protocol is an international agreement that stands on its own but is linked to an existing convention.

Answer: True

(b) Sustainable development is the development that meets the needs of the present compromising the ability of the future generations to meet their own needs.

Answer: False

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(c) Overexploitation is one major cause of environmental degradations.

Answer: True

OPTIONAL MODULE—8A

(Water Resource Management)

22. Water covers about three-quarters of the earth's surface but how much of it is freshwater?

<u>Answer</u>: Water covers about three-quarters of the earth's surface but freshwater is more than $1400 \text{ million km}^3$.

23. Mention two main techniques of rainwater harvesting.

<u>Answer</u>: Main techniques of rainwater harvesting are Rainwater collection and Storage.

24.What is gray water?

<u>Answer</u>: Grey water is defined as untreated household wastewater, which has not come into contact with toilet waste. It can originate from the shower, bath, bathroom, washing basin, clothes washing machine and laundry trough.

OPTIONAL MODULE—8B

(Energy and Environment)

22. When growth of economy can withstand global competitiveness in terms of energy?

<u>Answer</u>: Economic growth can withstand global competitiveness in terms of energy when it is sustainable, efficient, and based on diverse, renewable energy sources

23. What is bagasse?

<u>Answer</u>: Indian sugar mills are rapidly turning to bagasse, the leftover of cane after it is crushed and its juice extracted, to generate electricity. This is mainly being done to clean up the environment, cut down power costs and earn additional revenue. According to current estimates, about 3500 MW of power can be generated from bagasse in the existing 430 sugar mills in the country. Around 270 MW of power has already been commissioned and more is under construction

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24. What is the cause of air becoming wind?

<u>Answer</u>: The cause of air becoming wind is the uneven heating of the Earth's surface by the sun, which creates differences in air pressure. Air moves from areas of high pressure to areas of low pressure, resulting in wind

CORE MODULES SUBJECTIVE PART

25. What all is assessed in EIA?

Answer:

- i. Assessment of existing environmental status.
- ii. Assessment of various factors of ecosystem (air, water, land, biological).
- iii. Analysis of adverse environmental impacts of the proposed project to be started.
- iv. impact on people in the neighborhood.

26. How are forests getting denuded?

<u>Answer</u>: Forests are natural resources but they have been cut down for use by humans for converting them into the cultivable fields, for building houses and for taking away logs for making shelters and furniture or fuel. The rate at which trees are cut far exceeds the rate at which trees grow, so forests are getting denuded.

33. Define population. Why is it important to study population? Explain any one point. List four major periods of human population growth.

<u>Answer</u>: Population is defined as a group of individuals living in the same given area and capable of interbreeding and sharing genetic material.

On economic terms a population constitutes both consumers as well as producers. It's study helps us to:

- i. provide data on the total manpower available now and in future;
- ii. estimate the total amounts of goods/ services required currently and in future;
- iii. to promote cultural/regional/linguistic harmony

Through history, four major periods of human population growth worldwide can be traced:

i. An early period of hunters and gatherers: At that time the total population was less than a few million.

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- ii. **The period of rise of agriculture:** This period led to greater density of people and caused the first major rise in the human population.
- iii. **The industrial revolution:** This resulted in better food supply, improved healthcare which, in turn, led to rapid rise in the population, and
- **iv.** The present: When the population is slowing down in the wealthy and industrialized nations but is still growing rapidly in poorer and developing and underdeveloped nations.

36. What is noise pollution? What are its sources? Give two effects of noise pollution on humans. In which ways it can be controlled?

<u>Answer</u>: Noise by definition is "sound without value" or "any noise that is unwanted by the recipient".Noise level is measured in terms of decibels (dB). W.H.O. (World Health Organization) has prescribed optimum noise level as 45 dB by day and 35 dB by night. Anything above 80 dB is hazardous.

Sources of noise pollution

- i. **Indoor sources** include noise produced by radio, television, generators, electric fans, air coolers, air conditioners, different home appliances, and family conflict. Noise pollution is more in cities due to a higher concentration of population and industries and activities such as transportation. Noise like other pollutants is a by product of industrialization, urbanization and modern civilization.
- ii. **Outdoor sources** of noise pollution include indiscriminate use of loudspeakers, industrial activities, automobiles, rail traffic, aeroplanes and activities such as those at market place, religious, social, and cultural functions, sports and political rallies. In rural areas farm machines, pump sets are main sources of noise pollution. During festivals, marriage and many other occasions, use of fire crackers contribute to noise pollution.

Effects of noise pollution

- i. Noise pollution is highly annoying and irritating.
- ii. Noise disturbs sleep, causes hypertension (high blood pressure), emotional problems such as aggression, mental depression and annoyance.
- iii. Noise pollution adversely affects efficiency and performance of individuals.

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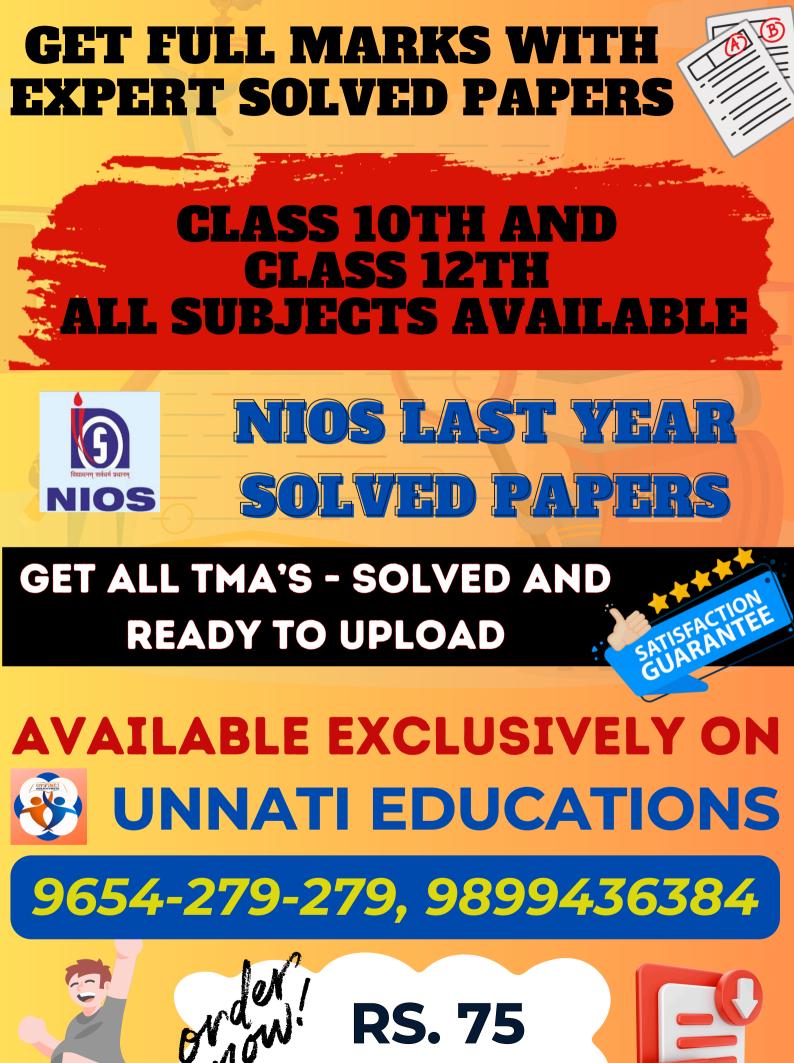
Prevention and control of noise pollution

Following steps can be taken to control or minimize noise pollution-

- i. Road traffic noise can be reduced by better designing and proper maintenance of vehicles.
- ii. Noise abatement measures include creating noise mounds, noise attenuation walls and well maintained roads and smooth surfacing of roads.
- iii. Air traffic noise can be reduced by appropriate insulation and introduction of noise regulations for take off and landing of aircrafts at the airport.
- iv. Industrial noises can be reduced by sound proofing equipment like generators and areas producing lot of noise.
- v. A green belt of trees is an efficient noise absorber.

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