

Test Booklet No.

Subject : Environmental Studies

Test Booklet Code

Code : 307 E (New)

Medium : English

(Do not open this Test Booklet until you are asked to do so)



Time Allowed : 45 minutes	Maximum Marks : 200	Total Questions : 50	Number of questions to be answered : 40
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Kindly read the Instructions given on this Page and Back Page carefully before attempting this Question Paper.

Important Instructions for the Candidates :

1. This Test Booklet contains **50** questions printed in English. Out of these, the candidate is required to answer any **40** questions. If a candidate answers more than 40 questions, the first 40 answered questions will be considered for evaluation.
2. When you are given the OMR Answer Sheet, fill in your particulars on it carefully with **blue/black** ball point pen only.
3. Use only Blue/Black Ball Point Pen for marking responses.
4. The CODE for this Test Booklet is **D**. Make sure that the CODE printed on the OMR Answer Sheet is the same as that on this Test Booklet. Also ensure that your Test Booklet No. and OMR Answer Sheet No. are exactly the same. In case of discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of both the Test Booklet and the OMR Answer Sheet. No claim in this regard will be entertained after five minutes from the start of the examination.
5. Before attempting the question paper kindly check that this Test Booklet has total **16** pages and OMR Answer Sheet consists of one sheet. At the start of the examination within first five minutes, candidates are advised to ensure that all pages of Test Booklet and OMR Answer Sheet are properly printed and they are not damaged in any manner.
6. Each question has four answer options. Out of these four options choose the **MOST APPROPRIATE OPTION** and darken/blacken the corresponding circle on the OMR Answer Sheet with a Blue/Black Ball Point Pen.
7. Five (5) marks will be given for each correct answer. One (1) mark will be deducted for each incorrect answer. If more than one circle is found darkened/blackened for a question, then it will be considered as an incorrect answer. Unanswered questions will be given no mark.

P.T.O.

Name of the Candidate (in Capital Letters) : _____

Application Number (in figures) : _____

Roll Number (in figures) : _____

Centre of Examination (in Capital Letters) : _____

Candidate's Signature : _____ Invigilator's Signature : _____

Facsimile signature stamp of Centre Superintendent : _____

Read the following passage and answer the next five questions :

Species interaction and the productivity are two important components of any given ecosystem. In an ecosystem, interspecific interactions arise from the interaction of population of two different species. Such interactions could be beneficial to both species, harmful to both species, beneficial to one and harmful to other or vice-versa. There are also cases that exist where only one species is harmed or benefitted and the other remains unaffected. On the other hand, productivity of an ecosystem starts with photosynthesis by green plants and is measured as amount of biomass produced over a period of time. Such biomass becomes available for consumption to heterotrophs.

1. Which of the following are correct for the interaction between sea anemone that has stinging tentacles and clown fish ?
 - (1) Both species are benefitted
 - (2) Both are harmed
 - (3) One is harmed and the other is benefitted
 - (4) One is benefitted and the other remains unaffected

2. The species interaction in which both interacting species are harmed is referred to as :
 - (1) Predation
 - (2) Parasitism
 - (3) Competition
 - (4) Mutualism

3. Mycorrhizal association between fungi and the roots of higher plants is best referred to as :
 - (1) Commensalism
 - (2) Amensalism
 - (3) Mutualism
 - (4) Competition

4. The available biomass for consumption to herbivores and decomposers is often referred to as :
 - (1) Primary production
 - (2) Gross primary productivity
 - (3) Net primary productivity
 - (4) Secondary productivity

5. Rate of production of organic matter during photosynthesis is referred to as :
 - (1) Primary production
 - (2) Gross primary productivity
 - (3) Net primary productivity
 - (4) Standing crop

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6. Match **List-I** with **List-II** :

List-I (Author)	List-II (Book/Poem)
(A) Gary Snyder	(I) Mountains and Rivers Without End
(B) Wendell Berry	(II) The Closing Circle
(C) Rachel Carson	(III) Silent Spring
(D) Barry Commoner	(IV) A Place on Earth

Choose the correct answer from the options given below :

- (1) (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
- (2) (A) - (I), (B) - (IV), (C) - (III), (D) - (II)
- (3) (A) - (II), (B) - (IV), (C) - (III), (D) - (I)
- (4) (A) - (IV), (B) - (II), (C) - (III), (D) - (I)

7. Match **List-I** with **List-II** :

List-I (Concept)	List-II (Proposed by)
(A) Ecology	(I) Norman Myers
(B) Ecosystem	(II) Ernst Haeckel
(C) Human population growth	(III) Sir Arthur Tansley
(D) Hot spots	(IV) T R Malthus

Choose the correct answer from the options given below :

- (1) (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
- (2) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (3) (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
- (4) (A) - (IV), (B) - (I), (C) - (III), (D) - (II)

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8. The ecological thought, which believes in saving the forests as trees give oxygen, better rainfall and air quality and not saving the environment for its true innate values, dominantly belongs to _____ .
- (1) Deep ecology
 - (2) Social ecology
 - (3) Eco-feminism
 - (4) Shallow ecology
9. Which of the following is **not** a major goal of WWF ?
- (1) To conserve world biological diversity
 - (2) Sustainable use of renewable natural resources
 - (3) Reduction of pollution and wasteful consumption
 - (4) Creating world wide fund for education
10. The first Earth Day was celebrated on _____ .
- (1) 20 April, 1970
 - (2) 22 April, 1970
 - (3) 05 June, 1970
 - (4) 20 April, 1972
11. The plants and animals that cannot maintain a constant internal environment, are called :
- (1) Regulators
 - (2) Migraters
 - (3) Conformers
 - (4) Suspenders
12. The number of individuals of the same species that have come into a habitat from elsewhere during the time period under consideration is referred to as _____ .
- (1) Emigration
 - (2) Immigration
 - (3) Natality
 - (4) Mortality

13. Which of the following statements are correct ?

- (A) Species that invade a bare area are called as pioneer species.
- (B) In primary succession on rocks, the pioneers are usually lichens.
- (C) In primary succession in water, the pioneers are reed swamps.
- (D) In secondary succession, species that invade depend on condition of soil, water and environment.

Choose the correct answer from the options given below :

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

14. Match **List-I** with **List-II** :

List-I (State)	List-II (National Park)
(A) Madhya Pradesh	(I) Namdapha National Park
(B) Arunachal Pradesh	(II) Guindy National Park
(C) Meghalaya	(III) Nokrek National Park
(D) Tamil Nadu	(IV) Kuno National Park

Choose the correct answer from the options given below :

- (1) (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
- (2) (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
- (3) (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
- (4) (A) - (I), (B) - (IV), (C) - (II), (D) - (III)

15. Which of the following soil has high water retention capacity ?

- (1) Sandy soil
- (2) Loamy soil
- (3) Sandy silt soil
- (4) Clayey soil

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16. Which of the following factors can affect the soil respiration process ?

- (A) Temperature
- (B) Soil moisture
- (C) Aeration
- (D) Number of soil microbes
- (E) Quality of organic matter in the soil

Choose the correct answer from the options given below :

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

17. Which of the following is *not* a criteria air pollutant under the National Ambient Air Quality Standards (NAAQS) ?

- (1) CO₂
- (2) CO
- (3) O₃
- (4) Pb

18. The disease "Itai-Itai" is caused by contamination of drinking water with which of the following ?

- (1) Mercury
- (2) Cadmium
- (3) Arsenic
- (4) Chromium

19. Which of the following are essentially required for photochemical smog formation in ambient atmosphere ?

- (1) Smoke, water vapour and low temperature (< 25 degree)
- (2) NO_x, SO₂ and high temperature (> 25 degree)
- (3) NO_x, VOCs and high temperature (> 25 degree)
- (4) Smoke, NO_x and low temperature (< 25 degree)

20. Arrange the following stages of primary succession of plants from **last stage to first stage** :

- (A) Reed-swamp stage
- (B) Submerged plant stage
- (C) Marsh Meadow stage
- (D) Phytoplankton

Choose the correct answer from the options given below :

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

21. Match **List-I** with **List-II** :

List-I (Forest Act/Policy)	List-II (Year)
(A) Forest Act	(I) 1927
(B) National Forest Policy	(II) 1988
(C) Forest Conservation Act	(III) 1980
(D) Wildlife Protection Act	(IV) 1972

Choose the correct answer from the options given below :

- (1) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (2) (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
- (3) (A) - (IV), (B) - (II), (C) - (III), (D) - (I)
- (4) (A) - (III), (B) - (I), (C) - (II), (D) - (IV)

22. Arrange the following from lowest to highest dry weight in a biomass pyramid of a grassland ecosystem :

- (A) Primary Producer
- (B) Primary Consumer
- (C) Secondary Consumer
- (D) Tertiary Consumer

Choose the correct answer from the options given below :

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

23. "Curitiba", a city in Brazil, is famously known for its _____ .

- (1) organic farming practices
- (2) water network projects implementation
- (3) integrated transport network system
- (4) solid waste disposal system

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24. Which of the following gases give the lowest percentage contribution to total global warming ?
- (1) N_2O (2) NO_2
(3) CFCs (4) CH_4
25. Nomadic movements are not considered as migrations because people move from one place to another _____ .
- (1) for economic reasons (2) for social factors
(3) without any intention (4) for physical reasons
26. Which of the following does not explain the relationship between human development and economic development ?
- (1) Capability expansion through economic growth
(2) Capability expansion through poverty reduction
(3) Capability expansion through social services
(4) Capability expansion through environmental degradation
27. The Gandhian economy model does not contain elements of _____ .
- (1) multiplication of needs (2) rejection of class-war
(3) protectionism (4) nationalism
28. Which of the following method is most suitable for safe disposal of hospital solid waste ?
- (1) Dumping (2) Incineration
(3) Pyrolysis (4) Composting
29. Arrange the following processes from **start to end** in a food distribution system :
- (A) Packaging of food (B) Processing of food
(C) Storage of food (D) Marketing of food
- Choose the correct answer from the options given below:
- (1) (A), (B), (C), (D) (2) (C), (B), (A), (D)
(3) (A), (B), (D), (C) (4) (C), (B), (D), (A)

30. Which one of the following is an *incorrect* statement in the context of Gross Domestic Product (GDP) ?

- (1) GDP does not measure the sustainability of growth.
- (2) GDP helps to understand whether economy is growing or contracting.
- (3) GDP reflects annual trends of inflation and prices of commodities.
- (4) GDP helps to understand shift in the annual changes in the country's economy.

31. Match List-I with List-II :

List-I (Protocol/Convention)	List-II (Year)
(A) Kyoto Protocol	(I) 1987
(B) Montreal Protocol	(II) 1997
(C) Bamako Convention	(III) 1989
(D) Basel Convention	(IV) 1998

Choose the correct answer from the options given below :

- (1) (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
- (2) (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
- (3) (A) - (I), (B) - (IV), (C) - (III), (D) - (II)
- (4) (A) - (II), (B) - (I), (C) - (IV), (D) - (III)

32. Petroleum present in sedimentary rocks of a region can only be used when such regions are drilled out and put into use. Such petroleum reserves fall under the category of _____ .

- (1) Actual resources
- (2) Potential resources
- (3) Stock resources
- (4) Reserve resources

33. Which of the following "water storage" types are commonly used in Bihar ?

- (A) Bhundhis (B) Ahar
(C) Kulhs (D) Pynes

Choose the correct answer from the options given below :

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

34. The diversity of organisms that shares the same community/habitat is called as _____.

- (1) Beta diversity (2) Gamma diversity
(3) Alpha diversity (4) Genetic diversity

35. Which of the following is **not** a basic pillar of sustainable development ?

- (1) Environmental preservation (2) Social equity
(3) Economic growth (4) Urbanisation

36. Which of the following is a Kharif crop ?

- (1) Wheat (2) Rice
(3) Cucumber (4) Mustard

37. The concept of Joint Forest Management does **not** include :

- (1) Government works closer with local people to manage forests.
(2) Locals use forest resources in response to protecting forest ecosystem.
(3) The infrastructure development at the cost of forest resources.
(4) Sustainable conservation of forests.

38. The ability of the environment to absorb and render removal of harmless waste and pollution is referred to as :

- (1) source function of ecosystem
(2) sink function of ecosystem
(3) carrying capacity of ecosystem
(4) optimal capacity of ecosystem

39. Which of the following is the main characteristic of perpetual resources ?

- (1) Consumption at very fast rate (2) Continuous availability at limited rate
(3) Unconditional availability (4) Not formed naturally

40. Arrange the following radiation in increasing order of their wavelength :

- (A) UV-C
(B) UV-B
(C) UV-A
(D) Infra-red
(E) Microwave

Choose the correct answer from the options given below :

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

41. A bee-keeper in an orchard enables pollination and fertilisation of the orchards' shrubs and trees. This is an example of _____ .

- (1) negative production externalities (2) negative consumption externalities
(3) positive production externalities (4) positive consumption externalities

42. Arrange the atmospheric layers starting from the Earth's surface upwards :

- (A) Mesosphere
(B) Stratosphere
(C) Stratopause
(D) Mesopause
(E) Troposphere

Choose the correct answer from the options given below :

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

43. Which of the following is associated with Ozone destruction in Stratosphere ?

- (A) CFCs
- (B) Polar stratospheric clouds
- (C) UV-B
- (D) UV-A
- (E) Cl radicals

Choose the correct answer from the options given below :

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

44. Which of the following are examples of resources ?

- (A) Materials
- (B) Energy
- (C) Knowledge
- (D) Services

Choose the correct answer from the options given below :

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

45. Which of the following treaty prohibits the import of any hazardous waste (including radioactive waste) into African nations only ?

- (1) The Basel Convention
- (2) The Capetown Convention
- (3) The Bamako Convention
- (4) The Madagascar Convention

Read the following passage and answer the next five questions :

Agricultural runoff, sewage and industrial effluents are major causes of deterioration of water quality in lakes and ponds. Productivity of lakes and ponds (for example algal bloom and phytoplankton bloom) increases manifold due to agricultural runoff as well as due to excess inputs of nutrients including limiting nutrients, but this continuous increased productivity leads to death of lakes and ponds. The dissolved oxygen, BOD, temperature, turbidity and salinity are important parameters of water quality in a lake and change naturally on day and night basis as well as seasonal basis. But, anthropogenic inputs change these parameters abruptly and adversely impact water quality of the lakes. As a result, water in lakes and ponds does not remain fit for human consumption as well as for livestock. Immediate attention and affirmative actions are needed to protect lakes and ponds in our environment.

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46. Continuous increase of productivity of lakes eventually causes :
- (1) Biomagnification in lakes
 - (2) Bioaccumulation in lakes
 - (3) Eutrophication in lakes
 - (4) Bioconcentration in lakes
47. Dissolved oxygen in water _____.
- (1) remains constant in winter and summer
 - (2) remains low in winter and high in summer
 - (3) remains high in winter and low in summer
 - (4) doesn't depend on temperature of water
48. Excess suspended particles in lake water due to agricultural runoff result in :
- (1) high salinity.
 - (2) high turbidity.
 - (3) high dissolved oxygen.
 - (4) high BOD.
49. Water in lakes having very high algal and phytoplankton growth is expected to have :
- (1) high dissolved oxygen.
 - (2) high dissolved oxygen and high BOD.
 - (3) low dissolved oxygen and high BOD.
 - (4) low dissolved oxygen and low BOD.
50. Which of the following is a limiting nutrient in lakes and ponds ?
- | | |
|---------------|----------------|
| (1) Iron | (2) Phosphorus |
| (3) Magnesium | (4) Sulphur |

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Read carefully the following instructions :

8. No candidate will be allowed to leave the OMR Answer Sheet blank. If any OMR Answer Sheet is found blank, it shall be crossed by the Invigilator with his/her signature, mentioning "Cancelled" on it.
9. Do not tear or fold any page of the Test Booklet and OMR Answer Sheet.
10. Candidates are advised to ensure that they fill the correct particulars on the OMR Answer Sheet, i.e., Application No., Roll No., Test Booklet No., Name, Mother's Name, Father's Name and Signature.
11. Rough work is to be done in the space provided for this purpose in the Test Booklet only.
12. The answers will be evaluated through electronic scanning process. Incomplete or incorrect entries may render the OMR Answer Sheet invalid.
13. Candidates are advised not to fold or make any stray marks on the OMR Answer Sheet. Use of Eraser, Nail, Blade, White Fluid/Whitener, etc., to smudge, scratch or damage in any manner the OMR Answer Sheet during examination is strictly prohibited. Candidature and OMR Answer Sheet of candidates using Eraser, Nail, Blade or White Fluid/Whitener to smudge, scratch or damage in any manner shall be cancelled.
14. There will be one copy of OMR Answer Sheet i.e., the Original Copy. After the examination is over, the candidate shall hand over the OMR Answer Sheet to the Invigilator. The candidate can take away the Test Booklet after the examination is over. If the candidate does not hand over the OMR Answer Sheet to the Invigilator and goes away with the OMR Answer Sheet, his/her candidature shall be cancelled and criminal proceedings shall also be initiated against him/her.
15. Candidates are advised strictly not to carry handkerchief, any mobile phone, any type of watch, belt or wear ornaments like ring, chain, ear-ring, etc., electronic or communication device, pen, pencil, eraser, sharpener and correction fluid to the Examination Centre. If any candidate is found possessing any such item, he/she will not be allowed to enter the examination centre. Possession of a mobile phone or any other aiding material as mentioned above by the candidate in the examination room will be treated as a serious violation and it may lead to cancellation of the candidature and debarring him/her from future examinations.
16. If a candidate violates any instructions or shows any indiscipline or misbehaviour, appropriate action will be taken including cancellation of candidature and debarring from future examinations.
17. Use of electronic/manual calculator is **not** allowed.