

ENVIRONMENTAL SCIENCES

Question Booklet Sl. No.

260127

Name & Signature of the Invigilator **PAPER - II** OMR Answer Sheet No. :

CODE-26 Roll No. :

(in figures as in Hall Ticket)

Roll Number in words :

Time : 2 Hours]

No. of Printed Pages : 20

[Maximum Marks : 200

Instructions for the Candidates

1. Write your Roll Number in the space provided on the top of this page.
2. This paper consists of **one hundred (100)** multiple choice type of questions. **All** questions are compulsory.
3. At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below :
 - (i) To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker seal and do not accept an open booklet.
 - (ii) Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given.
 - (iii) After this verification is over, the Test Booklet Number should be entered on the OMR Answer Sheet and the OMR Answer Sheet Number should be entered on this Test Booklet.
4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the oval as indicated below on the correct response against each item.

Example: (A) (B) (C) (D) where (B) is the correct response.
5. Your responses to the items are to be indicated on the OMR Answer Sheet under Paper - II only. If you mark your response at any place other than in the oval in the OMR Answer Sheet, it will not be evaluated.
6. Rough Work is to be done in the end of this booklet.
7. If you write your Name, Roll Number, Phone Number or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, or use abusive language or employ any other unfair means, such as change of response by scratching or using white fluid, you will render yourself liable to disqualification.
8. You have to return the original OMR Answer Sheet to the invigilator at the end of the examination compulsorily and must not carry it with you outside the Examination Hall. You are however, allowed to carry original question booklet and duplicate copy of OMR Answer Sheet on conclusion of examination.
9. Use only Blue/Black Ball point pen.
10. Use of any calculator or any electronic devices or log table etc., are prohibited.
11. There shall be no negative marking.

પરીક્ષાર્થીઓ માટે સૂચનાઓ

1. આ પાનાની ટોચ પર દર્શાવેલી જગ્યામાં તમારો રોલ નંબર લખો.
2. આ પ્રશ્નપત્રમાં બહુવિકલ્પિક ઉત્તરો ધરાવતા શ્રે (100) પ્રશ્નો આપેલા છે. બધા જ પ્રશ્નો ફરજિયાત છે.
3. પરીક્ષાની શરૂઆતમાં આપને પ્રશ્નપુસ્તિકા આપવામાં આવશે. પ્રથમ પાંચ (૫) મિનિટ દરમિયાન તમારે પ્રશ્નપુસ્તિકા ખોલી અને ફરજિયાતપણે નીચે મુજબ પરીક્ષણ કરવું :
 - (i) પ્રશ્નપુસ્તિકાનો વપરાશ કરવા માટે આ કવર પૃષ્ઠની ધાર પર આપેલ સીલ સ્ટીકર ફાડી નાખો. કોઈપણ સંજોગોમાં સીલ સ્ટીકર વગરની કે ખુલ્લી પ્રશ્નપુસ્તિકા સ્વીકારશો નહીં.
 - (ii) કવર પૃષ્ઠ પર છપાયેલ નિર્દેશાનુસાર પ્રશ્નપુસ્તિકાના પ્રશ્નો, પૃષ્ઠો અને સંખ્યાને બરાબર ચકાસી લો. ખામીયુક્ત પ્રશ્નપુસ્તિકા કે જેમાં પ્રશ્નો/ પૃષ્ઠો ઓછાં હોય, બે વાર છપાયા હોય, અનુક્રમમાં અથવા અન્ય કોઈ ફરક હોય અર્થાત કોઈપણ સંજોગોમાં ખામીયુક્ત પ્રશ્નપુસ્તિકા સ્વીકારશો નહીં અને જો ખામીયુક્ત પ્રશ્નપુસ્તિકા મળી હોય તો નિરીક્ષક પાસેથી તુરંત જ બીજી સારી પ્રશ્નપુસ્તિકા મેળવી લેવી. આ માટે ઉમેદવારને પાંચ (૫) મિનિટનો સમયગાળો આપવામાં આવશે. પછીથી, પ્રશ્નપુસ્તિકા બદલવામાં આવશે નહીં કે કોઈ વધારાનો સમયગાળો આપવામાં આવશે નહીં.
 - (iii) આ ચકાસણી સમાપ્ત થાય પછી, પ્રશ્નપુસ્તિકાનો નંબર OMR જવાબ પત્રક પર લખવો અને OMR જવાબ પત્રકનો નંબર પ્રશ્નપુસ્તિકા પર લખવો.
4. પ્રત્યેક પ્રશ્ન માટે ચાર જવાબ વિકલ્પ (A), (B), (C) અને (D) આપવામાં આવેલ છે. તમારે સાચા જવાબના ઓવલ (oval)ને નીચે આપેલ ઉદાહરણ મુજબ ઓવલની લરીને સંપૂર્ણ કાળું કરવાનું રહેશે.

ઉદાહરણ : (A) (B) (C) (D) કે જ્યાં (B) સાચો જવાબ છે.
5. આ પ્રશ્નપુસ્તિકાના પ્રશ્નોના જવાબ અલગથી આપવામાં આવેલ OMR જવાબ પત્રકમાં પેપર-IIએપેલ વિભાગમાં જ અંકિત કરવા. જો આપ OMR જવાબ પત્રકમાં આપેલ ઓવલ (oval)સિવાય અન્ય સ્થાને જવાબ અંકિત કરશો તો તે જવાબનું મૂલ્યાંકન કરવામાં આવશે નહીં.
6. કાચું કામ (Rough work) પ્રશ્નપુસ્તિકાના અંતિમ પૃષ્ઠ પર કરવું.
7. જો આપ OMR જવાબ પત્રક નિયત જગ્યા સિવાય અન્ય કોઈપણ સ્થાને, આપનું નામ, રોલ નંબર, ક્ષેત્ર નંબર અથવા જેવું કોઈ ચિહ્નકે જેનાથી તમારી ઓળખ થઈ શકે, અંકિત કરશો અથવા અલગ ભાષાનો પ્રયોગ કરો, અથવા અન્ય કોઈ અનુચિત સાધનોનો ઉપયોગ કરો, જેમકે અંકિત કરી દીધેલ જવાબ ભૂંસી નાખવો કે સફેદ શાહીનો ઉપયોગ કરી બદલશો તો આપને પરીક્ષા માટે અયોગ્ય ગણેર કરવામાં આવશે.
8. પરીક્ષા સમય પૂરો થઈ ગયા બાદ ઓરીજનલ OMR જવાબ પત્રક જે તે નિરીક્ષકને ફરજિયાત સોંપી દેવું અને કોઈ પણ સંજોગોમાં તે પરીક્ષા ખંડની બહાર લઈ જવું નહીં. પરીક્ષા પૂર્ણ થયા બાદ ઉમેદવાર ઓરીજનલ પ્રશ્નપુસ્તિકા અને OMR જવાબ પત્રકની ડુપ્લિકેટ કોપી પોતાની સાથે લઈ જઈ શકે છે.
9. માત્ર કાળી / ભૂરી બોલ પોઇન્ટ પેન વાપરવી.
10. કેલક્યુલેટર, લોગ ટેબલ અને અન્ય ઇલેક્ટ્રોનિક યંત્રોનો ઉપયોગ કરવાની મનાઈ છે.
11. ખોટા જવાબ માટે નકારાત્મક ગુણાંકન પ્રથા નથી.

SEAL



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ENVIRONMENTAL SCIENCES

Paper - II

1. The objective of environmental education is

Statement - I : To enlighten the people, particularly students, about the importance of protection and conservation of our environment.

Statement - II : Restrain human activities which lead to indiscriminate release of pollutants into the environment.

Choose the correct answer from the options given below :

- (A) Both the statements are true
(B) Both the statements are false
(C) Statement I is true but statement II is false
(D) Statement I is false but statement II is true
2. Which of the following Sustainable Development Goals (SDGs) of UN is about 'Clean Water and Sanitation' ?
- (A) Goal 5
(B) Goal 6
(C) Goal 7
(D) Goal 8
3. Planning Commission has demarcated the geographical area of India into how many agro-climatic zones ?
- (A) 10
(B) 15
(C) 20
(D) 25
4. Given below are two statements.

Statement - I : NNRMS stands for National Natural Resources Management System.

Statement - II : NNRMS aggregates the data related to natural resources from the remote sensing satellites and other conventional techniques.

Choose the correct answer from the options given below :

- (A) Both the statements are true
(B) Both the statements are false
(C) Statement I is true but statement II is false
(D) Statement I is false but statement II is true



5. Given below are two statements.

Statement – I : Tsunami is a Japanese term meaning harbour wave.

Statement – II : Tsunami in essence a sea quake, cannot be prevented as it is a natural phenomenon.

Choose the correct answer from the options given below :

- (A) Both the statements are true
 - (B) Both the statements are false
 - (C) Statement I is true but statement II is false
 - (D) Statement I is false but statement II is true
6. Which among the following is NOT a correct set of mega diversity countries ?
- (A) Australia, China, Colombia
 - (B) India, Indonesia, Madagascar
 - (C) Malaysia, Mexico, Peru
 - (D) South Africa, Sri Lanka, Canada
7. Which among the following represents a process occurring at constant volume ?
- (A) Isobaric process
 - (B) Isochoric process
 - (C) Isothermal process
 - (D) Adiabatic process

8. Match Column – I with Column – II and select answer using code.

Column – I

- a. Troposphere
- b. Stratosphere
- c. Mesosphere
- d. Thermosphere

Column – II

- 1. O_2^+ , NO^+
- 2. N_2 , O_2 , CO_2 , H_2O
- 3. O_3
- 4. SO_2 , O_2^- , NO^+ , NO_3^-
- 5. O_2^+ , O^+ , NO^+

- | | a | b | c | d |
|-----|----------|----------|----------|----------|
| (A) | 2 | 3 | 1 | 5 |
| (B) | 1 | 3 | 2 | 4 |
| (C) | 4 | 3 | 1 | 5 |
| (D) | 1 | 2 | 4 | 3 |



9. Environment science has scope in
- I. Environmental consultancy
 - II. Non governmental organisations
 - III. Research and Development
 - IV. Field of law

Choose the correct answer from the options given below :

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

10. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A) : Ozone plays key role in the stratosphere and its level increases near earth's surface.

Reason (R) : Ozone near the earth surface is undesirable because it is a strong oxidant and a respiratory irritant.

Choose the correct answer :

- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (B) Both (A) and (R) are correct and (R) is not the correct explanation of (A)
- (C) (A) is true but (R) is false
- (D) (A) is false but (R) is true

11. During COD determination, the interference of chloride is overcome by the addition of

- (A) Silver salt
- (B) Mercury salt
- (C) Barium salt
- (D) Calcium salt

12. Which of the following techniques is suitable for identifying isotopes of elements ?

- (A) AAS
- (B) XRD
- (C) ICP-AES
- (D) ICP-MS

13. What is the role of SDS in SDS-PAGE electrophoresis ?

- (A) Denaturing the protein and imparting net negative charge to the protein
- (B) Imparting the proteins same mass
- (C) Imparting net negative charge to the proteins
- (D) Denaturing of the protein and imparting net positive charge to the protein



14. Bomb calorimetry cannot be used to find
- (A) Calorific value of a biomass (B) Sulfur content of coal
(C) Heat of a reaction (D) Calorific value of a gaseous fuel

15. Which technique is used for analysis of 'CO' ?
- (A) Non-dispersive IR spectrometry (B) X-ray fluorescence
(C) ICP-OES (D) AAS

16. Given below are two statements.

Statement - I : Colloidal-size particles in the atmosphere are known as aerosols.

Statement - II : Aerosols of natural origin with diameter less than 0.2μ are called 'Aitken' particles.

Choose the correct answer from the options given below :

- (A) Both the statements are true
(B) Both the statements are false
(C) Statement I is true but statement II is false
(D) Statement I is false but statement II is true
17. The set of elements, which can be estimated by flame photometry is
- (A) Na, K, Mg, Li (B) Na, K, Li, Ca
(C) K, Li, Be, Mg (D) K, Na, Fe, Cu
18. Which of the following correctly represents the consequence of global warming ?

- I. Sea-level rise
II. Melting arctic sea ice
III. Severe weather
IV. Warmer oceans

Choose the correct option :

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



19. Given below are two statements :

Statement – I : Methyl Isocyanate (MIC) is the raw material for the production of carbamate pesticide.

Statement – II : MIC is always associated with unreacted, phosgene (COCl_2) to the extent of 2%.

Choose the correct answer from the options given below :

- (A) Both the statements are true
- (B) Both the statements are false
- (C) Statement I is true but statement II is false
- (D) Statement I is false but statement II is true

20. _____ radical is the key oxidant in the global atmosphere as it controls the concentration of toxic gases like carbon monoxide.

- (A) $\text{O}_2^{\bullet-}$
- (B) OH^{\bullet}
- (C) $^{\bullet}\text{COOH}$
- (D) CHO^{\bullet}

21. Darwin noted that, the Patagonian hare was similar in appearance and had a niche similar to European hare. However, the Patagonian hare is not a rabbit. It is a rodent related to guinea pig. The example illustrate the principle known as

- (A) Divergent evolution
- (B) Convergent evolution
- (C) Adaptive radiation
- (D) Allopatric speciation

22. Chaparral is a biome

- (A) That occurs in regions with winter rain
- (B) That occurs in regions with summer drought
- (C) That occurs in regions with summer droughts and is naturally subjected to fires and adapted to this
- (D) That occurs in regions with winter rain and summer drought which is naturally subjected to fires and adapted to the fires



23. Therapeutic Index is expressed as

- (A) LD_{50}/TD_{50} (B) LD_{50}/ED_{50}
(C) TD_{50}/LD_{50} (D) TD_{50}/ED_{99}

24. Methyl mercury crosses the blood-brain barrier by combining with cysteine and forming a molecule similar to

- (A) Glycine (B) Glutamine
(C) Taurine (D) Methionine

25. Which of the following is an example for keystone species ?

- (A) Sea otter (B) Sea urchin
(C) Snail darter (D) Spotted owl

26. Match Column - I with Column - II and select answer using answer code.

Column - I

Column - II

- | | |
|------------------|--|
| a. Microtherms | 1. Require very low temperature and can stand very severe long winters |
| b. Mesotherms | 2. Require high degree of heat throughout the year |
| c. Megatherms | 3. Cannot tolerate high temperature |
| d. Hekistotherms | 4. Cannot tolerate high rainfall |
| | 5. Requires moderate temp. for their growth |

a b c d

- (A) 3 5 2 1
(B) 5 4 2 3
(C) 1 5 2 3
(D) 4 3 2 5

27. Which one of the following statement is false ?

- (A) Energy content in a tropic level is determined by considering individuals of a species in that tropic level
(B) Phytoplankton are the pioneers in the aquatic ecosystem
(C) Rate of succession is faster in secondary succession
(D) Quantity of biomass in a tropic level at a particular period is known as standing crop



28. Given below are two statements. One labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A) : As per equilibrium theory of Island biogeography, distance of the Island from the mainland determines the dispersal rate of a new species.

Reason (R) : Size of an Island is important in determining number of species.

Choose the correct answer :

- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (B) Both (A) and (R) are correct and (R) is not the correct explanation of (A)
- (C) (A) is true but (R) is false
- (D) (A) is false but (R) is true

29. Which of the following are nitrogen fixing organisms ?

- (A) Nitrosomonas and Azotobacter
- (B) Nitrobacter and Rhizobium
- (C) Nitrosomonas and Rhizobium
- (D) Azotobacter and Rhizobium

30. No two different species can occupy same niche. This principle was put forth by

- (A) Darwin
- (B) Malthews
- (C) Gause
- (D) Linderman

31. What is geostrophic wind ?

- (A) Wind generated due to imbalance between pressure gradient force and coriolis force
- (B) Wind generated due to balance between pressure gradient force and coriolis force
- (C) Wind generated from geothermal energy
- (D) Wind flowing in stratosphere

32. Authigenic sediments form within oceans due to

- (A) Chemical reaction
- (B) Geological processess
- (C) Biological production
- (D) Physical processess

33. Darcy's law helps hydrologist to estimate

- (A) Age of the sediment rocks
- (B) Water flow in a porous medium
- (C) Formation of archean rocks
- (D) Texture of rocks



- 34.** Which is an example for sedimentary biogeochemical cycle ?
(A) Oxygen cycle (B) Nitrogen cycle
(C) Water cycle (D) Phosphorus cycle
- 35.** Hawaiian type, strombolian type, vesuvian type are types of
(A) Rocks (B) Cyclones
(C) Flood control (D) Volcano
- 36.** Which one of the following was a super typhoon ?
(A) Tohuku (B) Phallini
(C) Harvey (D) Haiyan
- 37.** Which of the following is false regarding kerogens ?
(A) Kerogen is the organic component of oil shale
(B) Kerogen is the organic component found in sedimentary rocks
(C) Kerogen is converted into liquid and gaseous hydrocarbons via catagenesis
(D) Catagenesis converts hydrocarbons to kerogens
- 38.** Olivine, garnet, Pyroxene, Amphibole are examples for _____ rock forming minerals.
(A) Carbonate (B) Basalt
(C) Phosphorous (D) Silicate
- 39.** Which of the following statements is true regarding weathering process ?
(A) Minerals are formed by weathering of clay
(B) Atmospheric oxygen causes reductive weathering
(C) Sedimentary rock undergoes weathering to form metamorphic rock
(D) Weathering is slow in dry air
- 40.** Which of the following is false with respect to coriolis force ?
(A) Coriolis force is zero at the equator
(B) Coriolis force acts perpendicular to pressure gradient force
(C) Coriolis force deflects the wind towards the right in the northern hemisphere and towards left in the southern hemisphere
(D) Coriolis force is due to earth's revolution



41. Methane extracted from coal beds is called
(A) Coal gas (B) Sweet gas
(C) Coal bed methane (D) Sweet gas, coal bed methane

42. The coolant used in fast breeder reactor is
(A) Molten Na (B) Carbon dioxide
(C) Water (D) Helium

43. What are the three EEE pillars of sustainable development ?
(A) Energy, Economy and Ergonomics
(B) Environment, Economy and Evolution
(C) Energy, Ergonomics and Evolution
(D) Energy, Economy and Environment

44. Which of the following schemes was launched by MNRE ?
(A) MNREGA (B) UJJWALA
(C) KUSUM (D) JWALA

45. Match Column - I with Column - II and select answers using answer code.

Column - I

Column - II

- | | |
|---------------|---|
| a. Lignite | 1. Coal with no moisture content |
| b. Bitumen | 2. Precursor of coal |
| c. Anthracite | 3. Primary fuel for converting steam into electricity |
| d. Peat | 4. Soft coal with volatile matter content |
| | 5. Hard coal with volatile matter content |

- | | a | b | c | d |
|-----|----------|----------|----------|----------|
| (A) | 4 | 3 | 1 | 2 |
| (B) | 2 | 4 | 3 | 1 |
| (C) | 3 | 2 | 5 | 4 |
| (D) | 4 | 3 | 2 | 5 |

46. Why is salt added in solar pond with concentration increasing towards the depth ?
(A) To increase dissipation of sun's heat from the surface
(B) To purify water in the solar pond
(C) To prevent rising of hot water to the surface
(D) To make water clear and transparent



47. Which of the following sets represents renewable energy resources ?
(A) Petroleum, geothermal, wind (B) Biomass, geothermal, hydropower
(C) Solar, wind, biomass (D) Hydropower, solar, wind energy
48. Gasification of biomass results in
(A) Complete combustion to produce CO_2 , methane and steam
(B) Incomplete combustion to produce CO and steam
(C) Complete combustion to produce CO_2 and hydrogen
(D) Incomplete combustion to produce CO, hydrogen and methane
49. An industry uses natural gas for manufacturing and uses the waste heat to produce electricity. This is an example of
(A) Reclamation (B) Remediation
(C) Co-generation (D) Circular economy
50. Principle of wind power generation involves
(A) Conversion of kinetic energy of wind to mechanical energy to electrical energy
(B) Conversion of potential energy of wind to electrical energy
(C) Conversion of kinetic energy of wind to thermal energy to electrical energy
(D) Conversion of potential energy of wind to mechanical energy to electrical energy
51. Measurement and rating of noise in residential, traffic and industrial areas accepted by ISO is
(A) L_{18} (B) L_{eq}
(C) L_{DN} (D) TNI
52. Acrolein is
(A) Aldehyde (B) Ketone
(C) Carboxylic acid (D) Ester
53. Given below are two statements : Assertion (A) and Reason (R). Find the correct statement by using the codes.
Assertion (A) : At a constant temperature, the solubility of ammonia in water increases with decrease in pH.
Reason (R) : The solubility of all gases increases with decrease in pH.
(A) Both (A) and (R) are correct and (R) is correct explanation of (A)
(B) Both (A) and (R) are correct, but (R) is not the correct explanation of (A)
(C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true



54. Which of the following radio nuclides has the shortest half life ?
(A) Cs¹³⁷ (B) Sr⁹⁰
(C) Pb²¹⁰ (D) C¹⁴
55. 'Knock-knees Syndrome' is caused by the toxicity of
(A) Fluoride (B) Cadmium
(C) Chloride (D) Arsenic
56. Fastest technique for measuring Organic Carbon is
(A) COD (B) BOD
(C) TOC (D) DO
57. Tainting in marine pollution is related to
(A) Unpleasant taste of water due to oil slicks
(B) Unpleasant colour of water due to oil slicks
(C) Unpleasant flavour of seafood due to oil slicks
(D) Change in colour of sea animals due to oil slicks
58. Degradation of different categories of pesticides by soil micro-organisms is
(A) Biomineralization (B) Biotransformation
(C) Biomagnification (D) Bioaugmentation
59. Catalytic converters used for reducing vehicular emission are
(A) Four way converters that reduce SO_x, CO, Hydrocarbons and NO_x
(B) Three way converters that reduce SO_x, CO and Hydrocarbons
(C) Two way converters that reduce Hydrocarbons and SO_x
(D) Three way converters that reduce CO, Hydrocarbons and NO_x
60. Which one of the following is a sensitive indicator of SO₂ ?
(A) Poa annua (B) Taxus baccata
(C) Petunia (D) Mangifera indica
61. Incomplete combustion of waste material leads to formation of
(A) CO₂ (B) CNG
(C) Sulphur (D) Dioxin
62. F-type of waste is
(A) Non-specific source waste produced by multiple industries
(B) Unused discarded materials containing one hazardous ingredient
(C) Waste generated by specific industrial process
(D) Produced by natural processes



- 63.** Fly ash is classified as
(A) Class – C (B) Class – D
(C) Class – F (D) Class – C and Class – F
- 64.** Which of the following methods manages liquid or solid hazardous organic waste effectively ?
(A) Sanitary landfill (B) Bioremediation
(C) Plasma incineration (D) Open incineration
- 65.** Pellet fuels are a type of solid fuel made from compressed
(A) Inorganic material (B) Organic material
(C) Bio-inorganic material (D) Organic and inorganic material
- 66.** Which of the following types of coal has maximum ash content (%) ?
(A) High volatile bituminous (B) Sub bituminous
(C) Anthracite (D) Lignite
- 67.** Which of the following hazardous pollutant is released from batteries ?
(A) Arsenic (B) Barium
(C) Cadmium (D) Cobalt
- 68.** Biogas produced by the anaerobic digestion is a mixture of
(A) CO_2 , SO_2 , N_2O , CH_4 and H_2O
(B) CO_2 , NH_3 , $\text{C}_2\text{H}_5\text{OH}$ and H_2O
(C) CH_4 , CO_2 , NH_3 , H_2S and H_2O
(D) CO , CO_2 , H_2S , CH_4 and natural gas
- 69.** _____ is a widely used treatment method for metal containing hazardous waste.
(A) Neutralization (B) Precipitation
(C) Incineration (D) Precipitation and Incineration
- 70.** Embedding hazardous waste in glass is termed as
(A) Vitrification (B) Fusion
(C) Plasticization (D) Vulcanisation
- 71.** Coastal Regulation Zones (CRZ) Act was launched in the year
(A) 1981 (B) 1991
(C) 2001 (D) 2011



- 72.** Select the correct sequence with reference to Environmental Management System ISO1401.
- (A) Environmental policy → Implementation and operation → Checking and corrective action → Management review
 - (B) Implementation and operation → Checking and corrective action → Management review → Environmental policy
 - (C) Implementation and operation → Environmental policy → Checking and corrective action → Management review
 - (D) Checking and corrective action → Management review → Implementation and operation → Environmental policy
- 73.** Four stages viz. initiation, inventory analysis, impact assessment and improved assessment are associated with
- (A) Environmental impact assessment
 - (B) Local committee assessment
 - (C) Environmental impact statement
 - (D) Environmental audit
- 74.** The following steps are adapted during Life Cycle Analysis.
- I. A practitioner will set metrics to quantify the different inputs and outputs.
 - II. A life cycle inventory assessment is performed.
 - III. A life cycle inventory is made.
 - IV. Goal and scope is identified.
 - V. Interpretation, critical review and reporting.
- The correct sequence of the steps is
- (A) IV, II, III, I, V
 - (B) IV, I, III, II, V
 - (C) III, II, IV, V, I
 - (D) III, II, IV, I, V
- 75.** Which among the followings are objectives of Environmental Audit Report ?
- I. Provide an objective analysis of the environmental impacts arising from a project or facility.
 - II. Determine that mitigation measures are effective in minimizing or removing environmental impacts.
 - III. Identify opportunities and make recommendations for improvements in environmental performance of the project or facility.
- Choose the correct option :
- (A) I and II only
 - (B) II and III only
 - (C) I, II and III
 - (D) I and III only



76. Match the Column - I with Column - II and select the correct answer using answer code.

Column - I

- a. Impact identification
- b. Impact measurement
- c. Impact communication
- d. Impact interpretation

Column - II

- 1. Magnitude
- 2. Specificity
- 3. Depth of analysis
- 4. Comprehensive overall perspective
- 5. Public hearing

- | | a | b | c | d |
|-----|----------|----------|----------|----------|
| (A) | 1 | 4 | 5 | 2 |
| (B) | 2 | 1 | 4 | 3 |
| (C) | 3 | 4 | 1 | 5 |
| (D) | 4 | 3 | 2 | 1 |

77. During the EIA process under EIA notification of 14th September 2006, no public hearing is required for

- I. All A category projects.
- II. All B₁ category projects.
- III. All B₂ category projects.

Codes :

- | | |
|----------------|--------------|
| (A) Only I | (B) I and II |
| (C) II and III | (D) Only III |

78. Citizen charter of environment in the Constitution of India is embodied in

- | | |
|------------------|------------------|
| (A) Article 48 | (B) Article 48 A |
| (C) Article 49 A | (D) Article 51 A |

79. With reference to E-waste Management Rules, consider the following statements.

- 1. These are notified by the Ministry of Electronics and Information technology.
- 2. These are not applicable to refurbishers, dismantles and recycles.
- 3. Deposit Refund Scheme and Exchange is an additional channel for implementation of Extended Producer Responsibility (EPR).
- 4. Urban local bodies are mandated to prepare an integrated plan for effective implementation of the provisions.

Which of the statements given above are not correct ?

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



- 80.** Scheduled Tribe and Traditional Forest Dwellers (Recognition and Forest Rights) Act, came into effect in the year
(A) 2006 (B) 2000
(C) 1996 (D) 1972
- 81.** A statistical measure that identifies a single score as representative for an entire distribution is
(A) Central tendency (B) Mean
(C) Dispersion (D) Centroid
- 82.** Which of the following is true for an asymmetric distribution that is positively skewed ?
(A) Mean > median > mode (B) Median > mode > mean
(C) Mean = median = mode (D) Mode > median > mean
- 83.** The smallest unit into which population can be divided are called
(A) Elements (B) Clusters
(C) Areas (D) Segments
- 84.** A multiple regression model has the form $y = 2 + 3x_1 + 4x_2$. As x_1 increases by 1 unit (holding x_2 constant), y will
(A) Increase by 3 units (B) Increase by 4 units
(C) Decrease by 3 units (D) Decrease by 4 units
- 85.** In statistics, what is the normal value of Kurtosis ?
(A) 1 (B) 3
(C) 5 (D) 2
- 86.** The range of f-test statistic value is
(A) 0 to 1
(B) 0 to infinity
(C) Negative infinity to positive infinity
(D) -1 to +1
- 87.** If the average of a series of values is 10 and their variance is 4, then the coefficient of variation is
(A) 40% (B) 20%
(C) 10% (D) 80%
- 88.** In a population growing logistically and approaching carrying capacity (k). The change in density (N) per unit time (dN/dt) is maximum when N equals to
(A) k^2 (B) $k/2$
(C) k (D) $1/k$



- 89.** Chi-square test can be applied to discrete distribution such as
(A) Poisson (B) Bionomial
(C) Logarithmic (D) Poisson and binomial
- 90.** In a study, subjects are randomly assigned to one of three groups : i) control, ii) experimental A and iii) experimental B. After treatment, the mean scores for the three groups are compared. The appropriate statistical test for comparing these means is
(A) Correlation coefficient (B) Chi-square
(C) t-test (D) Analysis of variance
- 91.** The implementing agency of sea turtle project was
(A) WII, Dehradun (B) NIO, Goa
(C) FRI, Dehradun (D) NIOT, Kochi
- 92.** The term 'MIKE' stands for
(A) Monitoring of Illegal Killing of Elephants
(B) Monitoring of Illegal Killing of Eagles
(C) Monitoring of Illegal Killing of Egret
(D) Monitoring of Illegal Killing of Endangered Animal
- 93.** GRIHA was setup by
(A) The Energy and Resources Institute (TERI)
(B) Ministry of New and Renewable Energy (MNRE)
(C) Ministry of Construction and Buildings (MCB)
(D) TERI and MMRE
- 94.** Gandhamardhan Hills are well known for
(A) Teak wood (B) Sandalwood
(C) Trekking (D) Medicinal plant
- 95.** Difficulty in swallowing, breathing are symptoms of
(A) Fluorosis (B) Arsenocosis
(C) Goitre (D) Dengue
- 96.** New Vehicular Emission norms BS-6 is also known as
(A) Rear driving emission norms
(B) Real driving emission norms
(C) Cumulative emission norms
(D) Calculated emission norms



97. Match the Column - I with Column - II and select answers using answer code.

Column - I		Column - II	
a. Love canal disaster		1. 1984	
b. Bhopal gas disaster		2. 1986	
c. Chernobyl disaster		3. 2011	
d. Fukushima Daiichi nuclear disaster		4. 2001	
		5. 1970	

	a	b	c	d
(A)	2	1	4	5
(B)	3	1	2	4
(C)	5	1	2	3
(D)	4	1	3	2

98. Dewas filter system was introduced in

- (A) Nagaland
- (B) Mizoram
- (C) Madhya Pradesh
- (D) Maharashtra

99. One chlorine molecule can destroy _____ molecules of ozone.

- (A) ~ 100
- (B) ~ 1000
- (C) ~ 10000
- (D) ~ 100000

100. In which Conference of Parties (COP), rules for guiding the countries to fulfill their Nationally Determined Contribution (NDCs) was provided

- (A) COP-21, Paris
 - (B) COP-22, Morocco
 - (C) COP-23, Germany
 - (D) COP-24, Poland
-



Space for Rough Work

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