

Test Paper : III

Test Subject : ENVIRONMENTAL SCIENCE

Test Subject Code : K-2917

Test Booklet Serial No. : _____

OMR Sheet No. : _____

Roll No. _____

(Figures as per admission card)

Name & Signature of Invigilator/s

Signature : _____

Name : _____

Paper : III

Subject : ENVIRONMENTAL SCIENCE

Time : 2 Hours 30 Minutes

Maximum Marks : 150

Number of Pages in this Booklet : 16

Number of Questions in this Booklet : 75

ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಸೂಚನೆಗಳು

1. ಈ ಪುಟದ ಮೇಲ್ಭಾಗದಲ್ಲಿ ಒದಗಿಸಿದ ಸ್ಥಳದಲ್ಲಿ ನಿಮ್ಮ ರೋಲ್ ನಂಬರನ್ನು ಬರೆಯಿರಿ.
2. ಈ ಪತ್ರಿಕೆಯು ಬಹು ಆಯ್ಕೆ ವಿಧದ ಎಪ್ಪತ್ತೈದು ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.
3. ಪರಿಷ್ಕರಿಸಿದ ಪ್ರಾಂಶುಪಾಲನಾ ಪ್ರಶ್ನೆಪುಸ್ತಕವನ್ನು ನಿಮಗೇ ನೀಡಲಾಗುವುದು. ಮೊದಲನೆಯ ಮುಖಪುಟದಲ್ಲಿ ನೀವು ಪುಸ್ತಕವನ್ನು ತೆರೆಯಲು ಮತ್ತು ಕೆಳಗಿನಂತೆ ಕಡ್ಡಾಯವಾಗಿ ಪರಿಷ್ಕರಿಸಲು ಕೋರಲಾಗಿದೆ.
(i) ಪ್ರಶ್ನೆ ಪುಸ್ತಕಕ್ಕೆ ಪ್ರವೇಶಾಪಕಾರ ಪಡೆಯಲು, ಈ ಹೊದಿಕೆ ಪುಟದ ಅಂಚಿನ ಮೇಲಿರುವ ಪೇಪರ್ ಸೀಲನ್ನು ಹರಿಯಿರಿ. ಸ್ವಿಚ್ ಸೀಲ್ ಇಲ್ಲದ ಅಥವಾ ತೆರೆದ ಪುಸ್ತಕವನ್ನು ಸ್ವೀಕರಿಸಬೇಡಿ.
(ii) ಪುಸ್ತಕದಲ್ಲಿನ ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ ಮತ್ತು ಪುಟಗಳ ಸಂಖ್ಯೆಯನ್ನು ಮುಖಪುಟದ ಮೇಲೆ ಮುದ್ರಿಸಿದ ಮಾಹಿತಿಯೊಂದಿಗೆ ತಾಳಿ ನೋಡಿರಿ. ಪುಟಗಳು/ಪ್ರಶ್ನೆಗಳು ಕಾಣೆಯಾದ, ಅಥವಾ ದ್ವಿಪ್ರತಿ ಅಥವಾ ಅನುಕ್ರಮವಾಗಿಲ್ಲದ ಅಥವಾ ಇತರ ಯಾವುದೇ ವ್ಯತ್ಯಾಸದ ದೋಷಪೂರಿತ ಪುಸ್ತಕವನ್ನು ಕೊಡಲಾಗುವುದಿಲ್ಲ. ಸಂವಿಧಾನದ ಅಧಿನಿಯಮಗಳಿಗೆ, ಸಂವಿಧಾನದ ಅಧಿನಿಯಮಗಳಿಗೆ ಬದಲಾಯಿಸಿಕೊಳ್ಳಬೇಕು. ಆ ಬಳಿಕ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಬದಲಾಯಿಸಲಾಗುವುದಿಲ್ಲ, ಯಾವುದೇ ಹೆಚ್ಚು ಸಮಯವನ್ನೂ ಕೊಡಲಾಗುವುದಿಲ್ಲ.
4. ಪ್ರತಿಯೊಂದು ಪ್ರಶ್ನೆಗೂ (A), (B), (C) ಮತ್ತು (D) ಎಂದು ಗುರುತಿಸಿದ ನಾಲ್ಕು ಪರ್ಯಾಯ ಉತ್ತರಗಳಿವೆ. ನೀವು ಪ್ರಶ್ನೆಯ ಎದುರು ಸರಿಯಾದ ಉತ್ತರದ ಮೇಲೆ, ಕೆಳಗೆ ಕಾಣಿಸಿದಂತೆ ಅಂಡಾಕೃತಿಯನ್ನು ಕಪ್ಪಾಗಿಸಬೇಕು.
ಉದಾಹರಣೆ : (A) (B) (C) (D)
(C) ಸರಿಯಾದ ಉತ್ತರವಾಗಿದ್ದಾಗ.
5. ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಗಳನ್ನು ಪತ್ರಿಕೆಯಲ್ಲಿನ ಪ್ರಶ್ನೆಯೊಳಗೆ ಕೊಟ್ಟಿರುವ OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಮಾತ್ರವೇ ಸೂಚಿಸತಕ್ಕದ್ದು. OMR ಹಾಳೆಯಲ್ಲಿನ ಅಂಡಾಕೃತಿ ಹೊರತುಪಡಿಸಿ ಬೇರೆ ಯಾವುದೇ ಸ್ಥಳದಲ್ಲಿ ಗುರುತಿಸಿದರೆ, ಅದರ ಮೌಲ್ಯಮಾಪನ ಮಾಡಲಾಗುವುದಿಲ್ಲ.
6. OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಕೊಟ್ಟ ಸೂಚನೆಗಳನ್ನು ಜಾಗರೂಕತೆಯಿಂದ ಓದಿರಿ.
7. ಎಲ್ಲಾ ಕರಡು ಕೆಲಸವನ್ನು ಪುಸ್ತಕವು ಕೊನೆಯಲ್ಲಿ ಮಾಡತಕ್ಕದ್ದು.
8. ನಿಮ್ಮ ಗುರುತನ್ನು ಬಹಿರಂಗಪಡಿಸಬಹುದಾದ ನಿಮ್ಮ ಹೆಸರು ಅಥವಾ ಯಾವುದೇ ಚಿಹ್ನೆಯನ್ನು, ಸಂಗತವಾದ ಸ್ಥಳ ಹೊರತು ಪಡಿಸಿ, OMR ಉತ್ತರ ಹಾಳೆಯ ಯಾವುದೇ ಭಾಗದಲ್ಲಿ ಬರೆಯಬಾರದು, ನೀವು ಅನರ್ಹತೆಗೆ ಬಾಧ್ಯರಾಗುತ್ತೀರಿ.
9. ಪರಿಷ್ಕರಿಸಿದ ಮುಂದಿನಂತರ, ಕಡ್ಡಾಯವಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವಿಧಾನದ ಅಧಿನಿಯಮಗಳಿಗೆ ಹಿಂತಿರುಗಿಸಬೇಕು ಮತ್ತು ಪರಿಷ್ಕರಿಸಿದ ಕೊಡಲಿಯ ಹೊರಗೆ OMR ನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ಕೊಂಡೊಯ್ಯಕೊಡಬೇಡಿ.
10. ಪರಿಷ್ಕರಿಸಿದ ನಂತರ, ಪರಿಷ್ಕರಿಸಿದ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಮತ್ತು ನಕಲು OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ತೆಗೆದುಕೊಂಡು ಹೋಗಬಹುದು.
11. ನೀಲಿ/ಕಪ್ಪು ಬಾಲ್ ಪಾಯಿಂಟ್ ಪೆನ್ ಮಾತ್ರವೇ ಉಪಯೋಗಿಸಿರಿ.
12. ಕ್ಯಾಲ್ಕುಲೇಟರ್, ವಿದ್ಯುನ್ಮಾನ ಉಪಕರಣ ಅಥವಾ ಲಾಗ್ ಟೇಬಲ್ ಇತ್ಯಾದಿಯ ಉಪಯೋಗವನ್ನು ನಿಷೇಧಿಸಲಾಗಿದೆ.
13. ಸರಿ ಅಲ್ಲದ ಉತ್ತರಗಳಿಗೆ ಋಣ ಅಂಕ ಇರುವುದಿಲ್ಲ.
14. ಕನ್ನಡ ಮತ್ತು ಇಂಗ್ಲೀಷ್ ಆವೃತ್ತಿಗಳ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಗಳಲ್ಲಿ ಯಾವುದೇ ರೀತಿಯ ವ್ಯತ್ಯಾಸಗಳು ಕಂಡುಬಂದಲ್ಲಿ, ಇಂಗ್ಲೀಷ್ ಆವೃತ್ತಿಗಳಲ್ಲಿರುವುದೇ ಅಂತಿಮವೆಂದು ಪರಿಗಣಿಸಬೇಕು.

Instructions for the Candidates

1. Write your roll number in the space provided on the top of this page.
2. This paper consists of seventy five multiple-choice type of questions.
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 the cover page. Do not accept a booklet without sticker seal or 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.
4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the circle as indicated below on the correct response against each item.
Example : (A) (B) (C) (D)
where (C) is the correct response.
5. Your responses to the question of Paper III are to be indicated in the OMR Sheet kept inside the Booklet. If you mark at any place other than in the circles in OMR Sheet, it will not be evaluated.
6. Read the instructions given in OMR carefully.
7. Rough Work is to be done in the end of this booklet.
8. If you write your name 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, you will render yourself liable to disqualification.
9. You have to return the test OMR Answer Sheet to the invigilators at the end of the examination compulsorily and must NOT carry it with you outside the Examination Hall.
10. You can take away question booklet and carbon copy of OMR Answer Sheet after the examination.
11. Use only Blue/Black Ball point pen.
12. Use of any calculator, Electronic gadgets or log table etc., is prohibited.
13. There is no negative marks for incorrect answers.
14. In case of any discrepancy found in the Kannada translation of a question booklet the question in English version shall be taken as final.

K-2917

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ಪು.ತಿ.ನೋ./P.T.O.



ENVIRONMENTAL SCIENCE
Paper – III

Note : This paper contains **seventy-five (75)** objective type questions. **Each** question carries **two (2)** marks. **All** questions are **compulsory**.

1. In Municipal solid waste, which one of the following is a source of cadmium ?
(A) Wood preservatives
(B) Ceramics
(C) Glass
(D) Fungicides
2. In Integrated waste management, composting of waste is a part of
(A) Source Reduction
(B) Reduction of toxicity
(C) Disposal
(D) Recycling
3. Red data book gives list of endangered species is published by
(A) WHO (B) FAO
(C) IUCN (D) WMF
4. The Bioaccumulation Factors (BCFs) of Benzene in Fish is
(A) 5.6 (B) 10.6
(C) 5.2 (D) 3.75
5. If equivalent sound pressure level of 90 dB(A) for 8h represents 100% dose of noise, noise dose of 25% implies
(A) 87 dB(A) for 4h
(B) 84 dB(A) for 4h
(C) 22.5 dB(A) for 8h
(D) 84 dB(A) for 2h
6. Cyclonic precipitation is due to
(A) Orographic lifting
(B) Convergence of storms towards a low pressure belt
(C) Thermal convection
(D) Conflict between cold and warm air masses
7. Changes in sea level can result from eustatic or isostatic processes, isostatic processes changes the
(A) Topography of the seafloor
(B) Sea water temperature
(C) Amount of water in the oceans
(D) Density of sea floor sediments



8. Match the List – I and List – II and choose the correct answer from the codes given below :

List – I (Trace Elements)	List – II (Metabolic Function)
a. Iron	i. Protein transfer in serum
b. Aluminium	ii. Haemoglobin
c. Copper	iii. In insulin
d. Zinc	iv. In electron transport enzyme complex

Codes :

a	b	c	d
(A) iii	iv	i	ii
(B) ii	i	iv	iii
(C) iv	iii	ii	i
(D) iii	iv	ii	i

9. The atmosphere is said to be adiabatic when

- (A) $\left(\frac{dT}{dz}\right)_{\text{envir}} < \left(\frac{dT}{dz}\right)_{\text{adia}}$
- (B) $\left(\frac{dT}{dz}\right)_{\text{envir}} > \left(\frac{dT}{dz}\right)_{\text{adia}}$
- (C) $\left(\frac{dT}{dz}\right)_{\text{envir}} = \left(\frac{dT}{dz}\right)_{\text{adia}}$
- (D) $\left(\frac{dT}{dz}\right)_{\text{envir}} = 1$

10. A concentration of naturally occurring material in or on Earth's crust in such form and amount that economic extraction which is currently or potentially feasible is referred as

- (A) Economic minerals
(B) Earth's Materials
(C) Resource
(D) Minerals and rocks

11. Given below are two statements, one labeled as **Assertion (A)** and the other labeled as **Reason (R)**.

Assertion (A) : Effect of temperature determine solubility of gases in liquids of constant pressure.

Reason (R) : It decreases or diminishes with an increase in temperature.

Choose the correct answer from the codes :

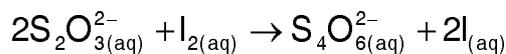
- (A) Both (A) and (R) are true and (R) is the correct explanation
(B) Both (A) and (R) are true and (R) is not correct explanation
(C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true



12. Interference of nitrite ion in the determination of DO can be avoided by the addition of which of the following reagents ?

- (A) KI (B) KOH
(C) NaNO_2 (D) NaN_3

13. Which type of chemical reaction takes place in the following equation ?



- (A) Redox reaction
(B) Acid-base reaction
(C) Chemical decomposition
(D) Chemical derivatisation

14. Ions coagulate blood. This shows that blood contains colloidal particles bearing

- (A) + ve charge
(B) No charge
(C) - ve charge
(D) Either - ve or + ve charge

15. In flame photometry the burner system consists of

- (A) Nebulizer, mixing chamber and burner head
(B) Nebulizer and burner head
(C) Venturimeter and burner heat
(D) Mixing chamber and burner head

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

Assertion (A) : Some animals the body temperature depends on the temperature of the environment

Reason (R) : Temperature is not the most important physical factor of the environment.

Choose the correct answer from the codes :

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

17. Here are four types of forests. Identify the correct order in which they appear based on increasing altitude.

- (A) Alpine, Temperate, Subtropical, Tropical
(B) Tropical, Subtropical, Temperate, Alpine
(C) Temperate, Alpine, Subtropical, Tropical
(D) Alpine, Subtropical, Tropical, Temperate



18. Arrange the following oceanic zones of marine environment based on the depth. Use the codes given below :

- I. Bathypelagic zone
- II. Epipelagic zone
- III. Mesopelagic zone
- IV. Abyssopelagic zone

Codes :

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

19. A food chain in the ecosystem consists producers, consumers and decomposers. Following are some food chains. Find out the correct ones.

- I. Tiger → Deer → Grass
- II. Grass → Grasshopper → Frog → Snake → Eagle
- III. Grass → Wolf → Leopard
- IV. Phytoplankton → Zooplankton → Small fish → Large Fish

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

20. Following are stages in the development of hydrosere. Choose the correct sequence of stages.

- (A) Phytoplankton stage – Rooted submerged stage – Rooted floating stage – Reed swamp stage – Sedge – Meadow stage – Woodland stage – Forest stage
- (B) Phytoplankton stage — Reed swamp stage – Forest stage – Woodland stage
- (C) Crustose lichen stage – Foliage lichen stage – Moss stage – Herbs stage – Shrub stage – Forest stage
- (D) Foliage lichen stage – Moss stage – Forest stage – Phytoplankton stage

21. The process of seedling establishment and successful growth is

- (A) Ecotone
- (B) Colonization
- (C) Ecesis
- (D) Sere



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

Assertion (A) : Biodiversity is product of continuous process of evolution and natural selection

Reason (R) : All those processes are man-made processes

Choose the correct answer from the codes :

- (A) Both (A) and (R) are true and (R) is the correct explanation
(B) Both (A) and (R) are true and (R) is not correct explanation
(C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true
23. If gross primary productivity is GPP, Net primary productivity is NPP and respiration is R in the primary producers, then which one of the following is correct ?
(A) $NPP = GPP - R$
(B) $GPP = NPP - R$
(C) $NPP = GPP + R$
(D) $R = GPP + NPP$
24. Which one of the following was declared as Hot Spots of Biodiversity in the year 2014 ?
(A) Eastern Himalaya
(B) Western Ghats
(C) Kas Plateau, Satara
(D) Thar Desert, Rajasthan
25. Select one of the following which is not belong to electromagnetic spectrum region.
(A) Radio region
(B) Alpha region
(C) X-ray region
(D) Gamma ray region
26. A soil formed in humid regions with aluminium rich clays and iron oxides is called
(A) Pedocal
(B) Pediment
(C) Pelagic clay
(D) Pedalfer
27. The reduction of nitrate in waste water can be possible by
I. Micrococcus denitrification cells encapsulated in liquid membranes
II. Growth of hypomicrobium in presence of added methanol
III. Nitrosomonas
(A) I and III only
(B) II and III only
(C) III only
(D) I and II only



28. A scale having valued ranging from I to XII that is used to characterize earthquake intensity based on damage
- (A) Richter magnitude scale
 - (B) Modified Mercalli intensity scale
 - (C) Seismic intensity scale
 - (D) Mohorovicic Discontinuity
29. Confined aquifers depend on which of the following for recharge ?
- (A) The presence of carbonate bedrock
 - (B) Injection from man-made wells
 - (C) Stream run off
 - (D) Precipitation in discrete areas
30. Sand and gravel deposits arise from
- (A) Marine processes
 - (B) Fluvial processes
 - (C) Lacustrine processes
 - (D) Glacial processes
31. Trihalomethanes are produced when chlorine reacts with treated water containing
- (A) Organic matter
 - (B) Freons
 - (C) Hydrocarbons
 - (D) Methanes
32. A small steep sided volcano composed of pyroclastic materials that accumulated around vent is known as
- (A) Caldera
 - (B) Pumice
 - (C) Cinder cone
 - (D) Lapelii
33. Solar photovoltaic cells are made of what type of material ?
- (A) The plastic sheets
 - (B) Aluminium foil
 - (C) Semiconducting material
 - (D) Superconductor
34. Which of these forms of electricity generation produces no greenhouse gases ?
- (A) Natural gas
 - (B) Oil
 - (C) Nuclear
 - (D) Coal



35. Under normal situation, the temperature of air relatively near the earth's surface
- (A) Decreases with increasing altitude
 - (B) Increases with increasing altitude
 - (C) Increases with decreasing altitude
 - (D) Decreases with decreasing altitude

36. Match the List – I and List – II and choose the correct answer from the codes given below :

List – I (Plants)	List – II (Biomaterials)
a. Cashewnut	i. Coir
b. Coconut	ii. Bagasse
c. Wheat	iii. Husk
d. Paddy	iv. Shell
e. Sugarcane	v. Straw

Codes :

	a	b	c	d	e
(A)	i	iii	iv	ii	v
(B)	ii	v	iii	i	iv
(C)	iv	i	v	iii	ii
(D)	iv	iii	ii	i	v

37. Match the List – I and List – II and choose the correct answer from the codes given below :

List – I (Unit operation and process of water treatment)	List – II (Pollutants)
a. Aeration	i. Colloidal matter
b. Disinfection	ii. Settlable solids
c. Primary settling tank	iii. Iron and Manganese
d. Sedimentation with coagulation	iv. Pathogens

Codes :

	a	b	c	d
(A)	ii	iii	i	iv
(B)	i	iii	ii	iv
(C)	iii	iv	ii	i
(D)	iv	ii	iii	i

38. Sequence of domestic wastewater treatment process are as follows :

- a. Grit chamber
- b. Primary settling tank
- c. Aeration tank
- d. Screening
- e. Disinfection
- f. Secondary settling tank

Identify the correct code.

- (A) d + a + b + c + f + e
- (B) a + d + c + b + f + e
- (C) d + a + c + b + f + e
- (D) b + a + d + c + f + e



39. Which Radioactive Material exists naturally in soil ?

- (A) Calcium (B) Potassium
(C) Radium (D) Neobidium

40. In which coast El Nino effect occur in periodic extension of warm equatorial current ?

- (A) Peru coast
(B) East coast of India
(C) African coast
(D) Somalia coast

41. Match the List – I and List – II and choose the correct answer given in codes.

List – I (Pollutant)	List – II (Impact)
a. Suspended particulate matter	i. Reduces oxygen level in blood
b. Sulfur Oxides	ii. Irritate eye and nose
c. Nitrogen Oxides	iii. Lung illness
d. Carbon monoxide	iv. Irritate upper respiratory tract

Codes :

- | a | b | c | d |
|---------|-----|-----|----|
| (A) iii | ii | iv | i |
| (B) iii | iv | ii | i |
| (C) i | iii | ii | iv |
| (D) iv | i | iii | ii |

42. Match the List – I and List – II and choose the correct answer given in codes :

List – I (Parameters)	List – II (Permissible limit as per BIS for Drinking water)
a. Nitrate	i. 0.2 mg/l
b. Hardness	ii. 45 mg/l
c. Total dissolved solids	iii. < 300 mg/l
d. Residual free chlorine	iv. 500 mg/l

Codes :

- | a | b | c | d |
|---------|-----|----|-----|
| (A) iii | ii | i | iv |
| (B) i | ii | iv | iii |
| (C) ii | iv | i | iii |
| (D) ii | iii | iv | i |

43. The H₂S is removed by passing through a column packed with

- (A) Al₂O₃
(B) AlCl₃
(C) Fe₂O₃
(D) ZnCl₂



44. Match the List – I and List – II and choose the correct answer given in codes :

List – I (Source)	List – II (Noise level in dB)
a. Normal Conservation	i. 100
b. Jet plane (300 mts away)	ii. 50 – 60
c. Thundering	iii. 180
d. Space rocket launching	iv. 100

Codes :

	a	b	c	d
(A)	ii	iv	iii	i
(B)	iii	ii	i	iv
(C)	ii	i	iv	iii
(D)	iv	iii	i	ii

45. Any project or activity specified in category ‘B’ of EIA Notification 2006 shall be treated as category ‘A’ if the project is located

- (A) 20 km within a critically polluted area as notified by CPCB
- (B) 10 km within a notified Eco-sensitive area
- (C) 30 – 40 km within International boundary
- (D) 50 km within a protected area notified under Wildlife (Protection) Act, 1972

46. Match the List – I and List – II and choose the correct answer given in codes below :

List – I (ISO Series)	List – II (Purpose)
a. 14040 +	i. Labelling
b. 14063	ii. GHG emission measurement
c. 14020+	iii. Environmental communication
d. 14064,	iv. Covers life cycle issue

Codes :

	a	b	c	d
(A)	iii	ii	iv	i
(B)	iv	iii	i	ii
(C)	i	iv	ii	iii
(D)	ii	i	iii	iv

47. The methodology in EIA, which rely upon a set of maps of a project area’s environmental characteristics

- (A) Ad Hoc
- (B) Overlays
- (C) Check lists
- (D) Networks



48. The preliminary step by step procedure of EIA/EIS are
- I. Evaluate Impacts
 - II. Examine attributes
 - III. Identify actions
 - IV. Identify activities
- The correct sequence is
- (A) III, II, I, IV (B) I, II, III, IV
 (C) III, IV, II, I (D) IV, I, II, III

49. The 'scoping' during EIA process under Indian EIA Notification 2006 is applicable to
- (A) 'A' category of projects
 (B) 'B1' category of projects
 (C) 'B2' category of projects
 (D) Both 'A' and 'B1' category projects

50. Match the List – I and List – II and identify the correct answer from the codes given below :

List – I (Classes of biomedical waste)	List – II (Treatment Method)
a. Microbiological Waste	i. Autoclave
b. Waste Sharp	ii. Chemical disinfection and shredding
c. Disposable plastics	iii. Land fill
d. Ash generated from incineration	iv. Incineration

Codes :

a	b	c	d
(A) ii	iii	iv	i
(B) iii	iv	i	ii
(C) iv	i	ii	iii
(D) i	ii	iii	iv

51. Match the List – I and List – II and identify the correct answer from the codes given below :

List – I (Eco label)	List – II (Country)
---------------------------------	--------------------------------

- | | |
|-------------------------|--------------|
| a. Earthen pot | i. USA |
| b. Blue Angel | ii. India |
| c. Green Seal | iii. Germany |
| d. Environmental choice | iv. Canada |

Codes :

a	b	c	d
(A) ii	iii	i	iv
(B) iii	iv	ii	i
(C) iv	i	iii	ii
(D) i	ii	iv	iii

52. Referring to the disposal of Hazardous waste, which one of the following statement is not correct ?

- (A) Low sulphur fuel shall be used in incineration
- (B) Volatile organic compounds in incinerated ash, shall not be more than 10%
- (C) Chlorinated plastics shall not be incinerated
- (D) Minimum stack height of incinerator shall be 30 mt. above ground



53. In response to country's commitment to a clean environment, India enacted
- (A) Environmental Impact Assessment Notification, 2006
 - (B) National Environmental Policy, 2006
 - (C) The Public Liability Insurance Act, 1991
 - (D) The National Environment Tribunal Act, 1995
54. The purpose/aim of the Biological Diversity Act, 2002, is to
- I. Cover the provisions of international convention on biodiversity
 - II. Conserve species and ecosystem
 - III. Preserve species from extinction
 - IV. Replace the Wild Life (Protection) Act of 1972
- Codes :**
- (A) I, II and IV only
 - (B) I, II and III only
 - (C) I, III and IV only
 - (D) I, II, III and IV
55. A good example for protective legislation for human and non-human is
- (A) The Mines and Mineral Act
 - (B) Town Planning
 - (C) Water Act
 - (D) Land Utilization Legislation
56. Area method of land filling is most suitable when
- (A) Natural or artificial depressions exist in the vicinity
 - (B) Area is unsuitable for excavation of trenches
 - (C) Adequate depth of cover material is available at the site
 - (D) The water-table is near the surface
57. A sampling method which is believed to consider concept that "Each and every sampling unit has same chance of being included in the sample" is
- (A) Stratified non-random sampling
 - (B) Purposive sampling
 - (C) Chumck sampling
 - (D) Simple random sampling
58. The number of bacterial colonies in a given culture per unit area of microscope is a best example of
- (A) Normal distribution
 - (B) Binomial distribution
 - (C) Poisson distribution
 - (D) Skewed distribution



59. In two tailed test, the 5% significance level of acceptance region is mathematically expressed as
- (A) $A : |Z| \leq 1.96$
- (B) $A : |Z| \geq 1.96$
- (C) $A : Z \leq 1.65$
- (D) $A : Z \geq 1.65$
60. In Hypothesis testing Type – II error will occur at a condition, where
- (A) H_0 is accepted when H_0 is true
- (B) H_0 is accepted when H_0 is false
- (C) H_0 is rejected when H_0 is true
- (D) H_0 is rejected when H_0 is false
61. In a population, the ratio of number of frogs in entire population (N) to the number of labelled frogs (M) is N/M. If 15 frogs from a population has been captured, marked and released (M). Subsequently after a gap of time, from the same population, 5 marked (L) and 7 unmarked frogs (a total of 12 = n) were collected. Then population size N is
- (A) 35
- (B) 36
- (C) 20
- (D) 12
62. In a closed population, the population growth is influenced by
- I. Growth rate
- II. Death rate
- III. Emigration
- IV. Immigration
- Codes :**
- (A) I and IV only
- (B) I, II and III only
- (C) I and II only
- (D) I, II, III and IV
63. The soil of the land with pH more than 9.8 and ESP > 40 is referred as
- (A) Strongly saline land
- (B) Moderately saline land
- (C) Eroded land
- (D) Coastal desert
64. Hexavalent chromium used in metal coating of electronic goods is known to
- (A) Produce incognition
- (B) Elevate reactive oxygen species in the body
- (C) Produce sensory impairment
- (D) Cause deformities



- 65.** In Paris Agreement, on October 2016, India has signed for nationally determined contributions to combat climate change with a ratification of GHG of
- (A) 1.46%
 - (B) 2.48%
 - (C) 3.79%
 - (D) 4.10%
- 66.** Global Warming Potential (GWP) of a substance depends on
- I. The absorption of IR radiation
 - II. The spectral location of its absorbing wavelength
 - III. Its atmospheric life time
 - IV. Its chlorine content
- Choose the correct code given below :
- (A) I and II only
 - (B) I, II and IV only
 - (C) II, III and IV only
 - (D) I, II and III only
- 67.** An index of Most Undesirable Respirable Contaminants (MURC) at a level of 31-60 represents
- (A) Medium
 - (B) Light contamination
 - (C) Extremely heavy contamination
 - (D) No contamination
- 68.** According to Rule 115 of MV Rules (Amended 1993), the emission limit of carbon monoxide (% by volume) for a petrol driven four wheel vehicle is
- (A) 3
 - (B) 8
 - (C) 4.5
 - (D) 10
- 69.** Groasis waterbox is designed to store water from
- (A) Roof top
 - (B) Dew and rainwater
 - (C) Storm water
 - (D) Sewer outflow
- 70.** According to 5th National report on Desertification, the total land area of India undergoing the process of degradation and desertification is
- (A) 32%
 - (B) 41%
 - (C) 18%
 - (D) 21%



71. Choose the correct decreasing sequence energy density of fuel (LHV)

- (A) Ethanol > Methanol > Biodiesel > Nitromethane
- (B) Methanol > Ethanol > Biodiesel > Nitromethane
- (C) Biodiesel > Ethanol > Methanol > Nitromethane
- (D) Nitromethane > Biodiesel > Ethanol > Methanol

72. The current proportion of coal to hydroelectric source being used in India to generate electricity is

- (A) 1 : 0.25
- (B) 1 : 0.62
- (C) 1 : 0.34
- (D) 1 : 0.8

73. The primary series of energy of the world being produced using petroleum, coal and natural gas are respectively

- (A) 36.8%, 22.9% and 26.6 %
- (B) 66.2%, 16% and 4%
- (C) 36.8%, 26.6% and 22.9%
- (D) 26.6%, 22.9% and 36.8%

74. The BOD rate equation is represented as $BOD_t = L[1 - 10^{-K_D \cdot t}]$ where BOD_t is the BOD of sewage after t days from the start of oxidation of wastes, by consumption of oxygen.

L = Ultimate BOD value

K_D is the deoxygenation constant t is the time

In the above equation

- (A) L and K_D both depend upon temperature
- (B) Only L depends upon temperature
- (C) Only K_D depends upon temperature
- (D) L and K_D both are independent of temperature

75. Which one of the following herbicide inhibit amino acid synthesis in plants ?

- (A) Oryzalin
- (B) Cycloate
- (C) Glyphosate
- (D) Alachlor



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Space for Rough Work

Paper III

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