PAPER-III
ENVIRONMENTAL SCIENCE

Signature and Name of Invigilator

1. (Signature) _____

   (Name) _____

2. (Signature) _____

   (Name) _____

OMR Sheet No. : .....
(To be filled by the Candidate)

Roll No. | | | | | | | | |
(In figures as per admission card)

Roll No._____
(In words)

D 8 9 1 4

Time : **2 ½** hours] [Maximum Marks : **150**

Number of Pages in this Booklet : **16**

Number of Questions in this Booklet : **75**

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 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 OMR 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 circle as indicated below on the correct response against each item.
   Example : Ⓐ Ⓑ ● Ⓓ
   where (C) is the correct response.
5. Your responses to the items are to be indicated in the **OMR Sheet given inside the Booklet only.** If you mark at any place other than in the circle in the OMR Sheet, it will not be evaluated.
6. Read instructions given inside carefully.
7. Rough Work is to be done in the end of this booklet.
8. If you write your Name, Roll Number, Phone Number or put any mark on any part of the OMR 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.
9. You have to return the test question booklet and Original OMR Sheet to the invigilators 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 Sheet on conclusion of examination.
10. **Use only Blue/Black Ball point pen.**
11. **Use of any calculator or log table etc., is prohibited.**
12. **There is no negative marks for incorrect answers.**
13. In case of any discrepancy in the English and Hindi versions, English version will be taken as final.

परीक्षार्थियों के लिए निर्देश

1. इस पृष्ठ के ऊपर नियत स्थान पर अपना रोल नम्बर लिखिए ।
2. इस प्रश्न-पत्र में पचहत्तर बहुविकल्पीय प्रश्न हैं ।
3. परीक्षा प्रारम्भ होने पर, प्रश्न-पुस्तिका आपको दे दी जायेगी । पहले पाँच मिनट आपको प्रश्न-पुस्तिका खोलने तथा उसकी निम्नलिखित जाँच के लिए दिये जायेंगे, जिसकी जाँच आपको अवश्य करनी है :
   (i) प्रश्न-पुस्तिका खोलने के लिए उसके कवर पेज पर लगी कागज की सील को फाड़ लें । खुली हुई या बिना स्टीकर-सील की पुस्तिका स्वीकार न करें ।
   (ii) **कवर पृष्ठ पर छपे निर्देशानुसार प्रश्न-पुस्तिका के पृष्ठ तथा प्रश्नों की संख्या को अच्छी तरह चैक कर लें कि ये पूरे हैं । दोषपूर्ण पुस्तिका जिनमें पृष्ठ/प्रश्न कम हों या दुबारा आ गये हों या सीरियल में न हों अर्थात् किसी भी प्रकार की त्रुटिपूर्ण पुस्तिका स्वीकार न करें तथा उसी समय उसे लौटाकर उसके स्थान पर दूसरी सही प्रश्न-पुस्तिका ले लें । इसके लिए आपको पाँच मिनट दिये जायेंगे । उसके बाद न तो आपकी प्रश्न-पुस्तिका वापस ली जायेगी और न ही आपको अतिरिक्त समय दिया जायेगा ।**
   (iii) इस जाँच के बाद OMR पत्रक की क्रम संख्या इस प्रश्न-पुस्तिका पर अंकित कर दें ।
4. प्रत्येक प्रश्न के लिए चार उत्तर विकल्प (A), (B), (C) तथा (D) दिये गये हैं । आपको सही उत्तर के वृत्त को पेन से भरकर काला करना है जैसा कि नीचे दिखाया गया है ।
   उदाहरण : Ⓐ Ⓑ ● Ⓓ
   जबकि (C) सही उत्तर है ।
5. प्रश्नों के उत्तर **केवल प्रश्न पुस्तिका के अन्दर दिये गये OMR पत्रक पर ही** अंकित करने हैं । यदि आप OMR पत्रक पर दिये गये वृत्त के अलावा किसी अन्य स्थान पर उत्तर चिह्नांकित करते हैं, तो उसका मूल्यांकन नहीं होगा ।
6. अन्दर दिये गये निर्देशों को ध्यानपूर्वक पढ़ें ।
7. कच्चा काम (Rough Work) इस पुस्तिका के अन्तिम पृष्ठ पर करें ।
8. यदि आप OMR पत्रक पर नियत स्थान के अलावा अपना नाम, रोल नम्बर, फोन नम्बर या कोई भी ऐसा चिह्न जिससे आपकी पहचान हो सके, अंकित करते हैं अथवा अभद्र भाषा का प्रयोग करते हैं, या कोई अन्य अनुचित साधन का प्रयोग करते हैं, जैसे कि अंकित किये गये उत्तर को मिटाना या सफेद स्याही से बदलना तो परीक्षा के लिये अयोग्य घोषित किये जा सकते हैं ।
9. आपको परीक्षा समाप्त होने पर प्रश्न-पुस्तिका एवं मूल OMR पत्रक निरीक्षक महोदय को लौटाना आवश्यक है और परीक्षा समाप्ति के बाद उसे अपने साथ परीक्षा भवन से बाहर न लेकर जायें । हालांकि आप परीक्षा समाप्ति पर मूल प्रश्न-पुस्तिका तथा OMR पत्रक की डुप्लीकेट प्रति अपने साथ ले जा सकते हैं ।
10. **केवल नीले/काले बाल प्वाईंट पेन का ही इस्तेमाल करें ।**
11. **किसी भी प्रकार का संगणक (कैलकुलेटर) या लाग टेबल आदि का प्रयोग वर्जित है ।**
12. **गलत उत्तरों के लिए कोई नकारात्मक अंक नहीं हैं ।**
13. यदि अंग्रेजी या हिंदी विवरण में कोई विसंगति हो, तो अंग्रेजी विवरण अंतिम माना जाएगा ।

ENVIRONMENTAL SCIENCE

Paper – III

Note : This paper contains **seventy five (75)** objective type questions of **two (2)** marks each. **All** questions are compulsory.

1. Which of the following ranges of scale lengths represents meso-scale motions in atmosphere ?

(A) 30 km – 400 km (B) 500 m – 10 km

(C) 1 km – 2 km (D) 100 m – 1 km

2. Rayleigh scattering in the atmosphere is caused by

(A) molecules larger than the wavelength

(B) molecules equal to the size of wavelength

(C) molecules whose size is much smaller than the wavelength

(D) molecules and particles of all sizes

3. Wind rose is a

(A) graphical representation of wind velocity vector over a period of time in a polar diagram.

(B) graphical representation of wind velocity vector in a spherical coordinate system over a period of time.

(C) graphical representation of horizontal and vertical wind speeds over a period of time in polar diagram.

(D) graphical representation of instantaneous wind velocity at a particular time.

4. The key groups of organic molecules that help in chelation of metal ions are

I. – COOH II. – SH

III. $-CH_3$ IV. – CHO

Choose the correct answer from the codes given below :

(A) I only (B) I and II only

(C) II, III and IV only (D) I, II and IV only

5. Geostrophic winds are the result of the balance between

(A) coriolis force and pressure gradient force

(B) coriolis force and centrifugal force

(C) pressure gradient force and frictional force

(D) pressure gradient force and centrifugal force

6. A possible mechanism for photochemical smog inhibition is to add compounds like diethylhydroxylamine (DEHA) as it reacts with

(A) hydrocarbon (B) nitrogen dioxide

(C) PAN (D) hydroxyl radicals

7. In the determination of sulphur dioxide by p-rosaniline method, the end product is

(A) p-rosaniline sulfonic acid (B) methyl p-rosaniline

(C) p-rosaniline methyl sulfonic acid (D) sulfo methyl p-rosaniline

8. Number of molecuels present in 10 ml of proline is

(A) 6.023×10^{23} (B) 6.023×10^{20}

(C) 6.023×10^{18} (D) 6.023×10^{17}

9. Nitrogenous biochemical oxygen demand refers to the quantity of O_2 needed to convert

(A) N_2 to NO_3^- (B) N_2 to NH_4^+

(C) NH_4^+ to NO_3^- (D) Protein to $CO_2 + H_2O + NO_2$

10. Beer-Lambert's law defines

(A) The degree of absorption of monochromatic light by a homogeneous medium

(B) Atomic absorption spectrophotometry

(C) Atomic emission spectrophotometry

(D) Gas chromatography

11. Chemically phytochelatins are

(A) Proteins (B) Polysaccharides

(C) Lipids (D) Polypeptides

12. Mixture of organic pollutants X and Y were separated using paper chromatography and the R_f values obtained for X and Y were 0.75 and 0.25, respectively. Which relationship holds good for the solubility of these pollutants in mobile phase ?

(A) $X > Y$ (B) $X < Y$

(C) $X = Y$ (D) $X + Y = 1$

13. Overall reaction of Winkler's method is

$$4S_2O_3^{2-} + 4H^+ + O_2 \rightarrow 2S_4O_6^{2-} + 2H_2O$$

This equation indicates :

(A) One mole of O_2 is equivalent to one mole of thiosulphate.

(B) One mole of O_2 is equivalent to two moles of thiosulphate.

(C) One mole of O_2 is equivalent to three moles of thiosulphate.

(D) One mole of O_2 is equivalent to four moles of thiosulphate.

14. Return of an ecosystem to a condition prior to disturbance refers to as

(A) Rehabilitation (B) Restoration

(C) Rejuvenation (D) Reclaimation

15. **Assertion (A) :** Shade loving species show better natural regeneration under highly disturbed condition.

Reason (R) : Heliophilic species needs more exposure to light for better natural regeneration.

In the context of the two statements, which one of the following is correct ?

(A) Both (A) and (R) are true and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, 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.

16. Which one of the following enzymes work under strict anaerobic conditions to fix atmospheric nitrogen ?

(A) Nitrate reductase (B) Nitrite reductase

(C) Transaminase (D) Nitrogenase

17. Predatory strategy followed by an alligator for hunting is

(A) Chase (B) Stalk

(C) Ambush (D) Camouflage

18. In a tropical peat forest, the carbon storage (tonnes/ha) is typically in the range

(A) 3000 – 6000 (B) 13000 – 16000

(C) 300 – 600 (D) 300 – 1600

19. Which one of the following bacterial species convert NO_2^- to NO_3^- ?

(A) Nitrosomonas (B) Nitrobacter

(C) Rhizobium (D) Azospirillum

20. **Assertion (A) :** Living system adapted to low temperatures invariably show higher unsaturated to saturated fatty acid in membrane lipids.

Reason (R) : Fluidity of membranes is directly proportional to unsaturated to saturated fatty acids in membrane lipids.

In the context of the two statements, which one of the following is correct ?

(A) Both (A) and (R) are true and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, 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.

21. Which of the following(s) are produced during fermentation ?

I. Ethanol II. Citrate

III. Lactate IV. Succinate

Choose the correct answer from the codes given below :

(A) I only (B) I and II only

(C) I and III only (D) II and IV only

22. Salinity of the ocean varies from 2.0 % to 4.2 % in

(A) Red Sea and Gulf of Kachchh

(B) Black Sea and Omura Bay

(C) Baltic Sea and Persian Gulf

(D) Mediterranean Sea and Bay of Fundy

23. Uranium in Indian agricultural soils is mainly contributed by

(A) Weathering of Uranium rich minerals

(B) Excess addition of NPK fertilizers

(C) Excess addition of pesticides

(D) Excess addition of fungicides

24. Loamy sand contains

(A) > 80 % silt and > 80 % clay

(B) 10 % silt and 5 % clay

(C) 15 to 30 % silt and 10 to 15 % clay

(D) > 80 % silt and < 20% clay

25. Spectral reflectance of leaf is highest for which band ?

(A) Blue (B) Green

(C) Near infrared (D) Middle infrared

26. Match the List – I with List – II and choose the correct answer from the given codes :

List – I (Elements)	**List – II (Concentration in Earth's Crust by weight %)**
a. Oxygen	i. 8.13
b. Aluminium	ii. 46.60
c. Iron	iii. 27.72
d. Silicon	iv. 5.00

Identify the correct code :

Codes :

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

27. Indian Microwave Remote Sensing Satellite is

(A) RISAT (B) Resourcesat

(C) IRS (D) Bhaskara

28. Mount Etna in Sicily and Mauna Loa in Hawaiian Islands are the most noteworthy examples of

(A) shield volcanoes (B) plug dome

(C) strato volcanoes (D) pyroclastic cones

29. Match the List – I with List – II and choose the correct answer from the given codes :

List – I (Mineral Deposit)	**List – II (Top producer)**
a. Bauxite	i. Peru
b. Copper	ii. India
c. Mica	iii. USA
d. Guano	iv. Australia

Identify the correct code :

Codes :

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

30. Which of the following fuels has the highest HHV carbon intensity ?

(A) Natural gas (B) Oil

(C) Bituminous coal (D) Nuclear fuel

31. If fission of 1 atom of U^{235} produces 200 MeV energy, how much energy will be produced by 1 metric ton of U^{235} ?

(A) 4.1×10^7 MJ (B) 8.2×10^7 MJ

(C) 1.23×10^8 MJ (D) 2×10^5 MJ

32. The Green Climate Fund recently set up to help poor countries adapt to climate impacts envisages financial support to the extent of (in $ per year)

(A) 100 bn (B) 30 bn

(C) 10 bn (D) 3 bn

33. Which of the following biomass conversion processes produces biogas from crop residues ?

(A) Anaerobic digestion (B) Fermentation

(C) Pyrolysis (D) Aerobic digestion

34. Which among the following is superior carbon fixer per unit area for bioenergy generation ?

(A) Trees (B) Shrubs

(C) Blue-green algae (D) Crops

35. Energy flow in ecosystem is governed by

(A) First law of thermodynamics

(B) Second law of thermodynamics

(C) Planck's law

(D) Kirchoff's law

36. Average number of carbon in diesel ranges between

(A) $C_{18} - C_{24}$ (B) $C_{10} - C_{16}$

(C) $C_4 - C_6$ (D) $C_{25} - C_{30}$

37. Knocking effect in the gasoline cannot be reached by one of the following additives :

(A) $(C_2H_5)_4Pb$ (B) BTX

(C) Kerosene (D) n-Butane

38. Radioactive mineral available in the Indian coastal region is

(A) Rutile (B) Monazite

(C) Apatite (D) Magnetite

39. Thermal pollution in the coastal region is caused by

i. Atomic power plants

ii. Thermal power plants

iii. Industrial plants

iv. Tourism industry

Choose the correct answer from the codes given below :

Codes :

(A) i, ii, iii only (B) i & ii only

(C) iii & iv only (D) ii & iii only

40. **Assertion (A) :** Metallic contaminants are toxic to the microorganism.

Reason (R) : Heavy metal tends to precipitate in the form of phosphatic compounds and decrease soil fertility.

In the context of the two statements, which one of the following is correct ?

(A) Both (A) and (R) are true and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, 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.

41. A point source of sound produces a noise of 70 dB at a distance of 20 m from it. What will be the noise level at 80 m from it ?

(A) 35 dB (B) 64 dB

(C) 58 dB (D) 52 dB

42. Stratospheric ozone absorbs UV radiations principally in the wavelength range

(A) 320 – 400 nm (B) 230 – 320 nm

(C) < 290 nm (D) 180 – 240 nm

43. If Γ_d, Γ_s and Γ represent dry adiabatic, saturated adiabatic lapse rate and environmental lapse rate, respectively, the condition for unstable atmosphere is

(A) $\Gamma > \Gamma_d$ (B) $\Gamma < \Gamma_d$

(C) $\Gamma < \Gamma_s$ (D) $\Gamma < \Gamma_s < \Gamma_d$

44. At initial time (t_0) number of E. coli per ml was 10. If generation time is 30 minutes, what would be number of cells per ml after a duration of 4 hours ?

(A) 256 (B) 2560

(C) 240 (D) 300

45. Emission inventories involved in urban air quality assessment include parameters on

i. SO_2, NO_x, particulate matter pollutants

ii. Industry, traffic, domestic sources

iii. Fuel type, gasoline, wood as energy carrier

Choose the correct answer from codes given below :

Codes :

(A) i & ii only (B) ii & iii only

(C) i & iii only (D) i, ii & iii

46. **Assertion (A) :** Leopold matrix can be expanded or contracted.

Reason (R) : Leopold matrix is a checklist designed to show possible interactions between developmental activities and set of environmental characteristics.

In the context of the two statements, which one of the following is correct ?

(A) Both (A) and (R) are true and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, 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.

47. In Battele environment evaluation system the total parameter importance units is lowest for

(A) Ecology
(B) Environmental Pollution
(C) Aesthetics
(D) Human interest

48. ISO 14040 is

(A) Environmental Management : Life cycle assessment principle and framework.
(B) Environmental Management – environmental assessment of sites and organization.
(C) Guidelines for environmental audit – general principle.
(D) Environmental Management – vocabulary.

49. Given below are stages within each tier of risk assessment :

i. identification of consequences
ii. hazard identification
iii. probability assessment
iv. assessment of consequences as well as significance of risk
v. magnitude assessment for consequences

Which one of the following code represent correct sequences ?

(A) ii, i, v, iii, iv
(B) i, ii, iii, iv, v
(C) iii, ii, iv, v, i
(D) iv, ii, i, iii, v

50. Ecolabels are indicators of

i. Acceptable level of environmental impact of a product.
ii. Environmental performance of a product.
iii. Claims of environmental friendliness of a product.

Choose the correct answer from the codes given below :

(A) i, ii, iii
(B) i, ii only
(C) i only
(D) ii only

51. Ecosystem diversity can be best studied using the

(A) Topographical maps
(B) Geoinformatics
(C) Geodesy
(D) Geology

52. Biennial assessment of forest cover in India is done by

(A) Indian Institute of Remote Sensing, Dehradun
(B) Forest Research Institute, Dehradun
(C) Indian Institute of Forest Management, Bhopal
(D) Forest Survey of India, Dehradun

53. Soil moisture using remote sensing techniques is determined best in

(A) Optical region (B) Thermal region
(C) Microwave region (D) Infrared region

54. Which one of the following statements is not connected to ISO 14000 series of Environmental Management ?

(A) Promotes eco-labelling of the product
(B) It is based on the recommendation of TC-207 committee
(C) Make the environmental audit mandatory
(D) Promotes human rights and women empowerment

55. As per colour coding of plastic bags for biomedical wastes, match the List – I with List – II and choose the correct answer from the codes given below :

List – I (Colour Code)	**List – II (Option for disposal)**
a. Yellow plastic bags	i. Disposal in secured land fills
b. Black plastic bags	ii. Incineration and deep burials
c. Blue/White plastic bags	iii. Autoclaving and chemical treatment
d. Red plastic bags	iv. Microwave treatments and destruction

Codes :

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

56. Given below is a list of natural disasters :

i. Hudhud cyclone
ii. Chernobyl nuclear plant disaster
iii. Tsunami in Indian Ocean
iv. Bhopal gas tragedy

Which is the correct chronological sequence for the above events in the codes given below ?

Codes :

(A) iii, i, ii, iv (B) ii, iii, i, iv
(C) iv, ii, iii, i (D) i, ii, iii, iv

57. Benchmarking in environmental management refers to

(A) Potential risk assessment.

(B) Reporting of environmental performance.

(C) Assessment of organization's business processes against the best-in-class operations to improve the performance.

(D) Setting of environmental standards to be followed by environmental managers.

58. Basel convention is related to

(A) Control of ozone depletion.

(B) Control of water pollution.

(C) Transboundary movement of hazardous wastes and their disposal.

(D) Environmental auditing.

59. Concept of intergenerational equity on natural resources refers to

(A) Legal obligations of present generation to future generations.

(B) Moral obligation of the present generation to future generation.

(C) Equitable responsibility of pollution generating industries.

(D) Prudent use of resources inherited from previous generation.

60. Which among the following is not correct in regard to the sources of nitrate in the soils ?

i. Microbial breakdown of soil organic matter, organic manure and plant residues.

ii. Fertilizers which add nitrate and that formed by microbial oxidation of NH_4^+ from ammonium fertilizers or urea.

iii. Addition from the atmosphere.

iv. Pesticides containing nitrogen atoms.

Choose the correct answer from the following codes :

Codes :

(A) i (B) ii

(C) iii (D) iv

61. Which one of the following protozoan is related to water borne disease ?

(A) Spumella sp. (B) Entamoeba histolytica

(C) Paramoecium (D) Plasmodium vivax

62. Match the List – I with List – II, choose the correct answer from the given codes :

List – I (Group of Analysis)	**List – II (Test)**
a. Unidimensional analysis	i. Testing of hypothesis
b. Multivariate analysis	ii. Measure of central tendency
c. Interferential analysis	iii. Two-way ANOVA
d. Bivariate analysis	iv. Canonical analysis

Codes :

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

63. The differences between crude birth rate and crude death rate in a population is called

(A) Population momentum

(B) Demographic transition rate

(C) Net migration rate

(D) Rate of natural increase

64. Which set of stoichiometric coefficient correctly balance the equation ?

a. H_2O_2 + b. $KMnO_4$ + c. $H_2SO_4 \rightarrow$ d. K_2SO_4 + e. $MnSO_4$ + f. H_2O + g. O_2

Select the correct answer from the codes given below :

Codes :

	a	b	c	d	e	f	g
(A)	1	1	1	1	1	1	1
(B)	1	2	3	1	2	4	3
(C)	2	5	3	2	1	8	5
(D)	5	2	3	1	2	8	5

65. **Assertion (A) :** The hypothesis testing can proceed on the basis of null hypothesis.

Reason (R) : If null hypothesis is true probabilities to different possible sample result can be assigned to it.

In the context of the two statements, which one of the following is correct ?

(A) Both (A) and (R) are true and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, 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.

66. The advantage of Leslie matrices are

I. Stable age distribution is not required for valid population projections.

II. Can derive finite rate of population change.

III. Requires large amount of data on population structure.

Choose the correct answer from the codes given below :

Codes :

(A) I and III only (B) I only

(C) I and II only (D) II and III only

67. Important characteristics of χ^2 test are

I. As a non-parametric test, it is based on frequencies.

II. It is not useful for estimation and to test hypothesis.

III. Can be applied to a complex contingency table.

Choose the correct answer from the codes given below :

Codes :

(A) I and II only (B) I and III only

(C) II and III only (D) I, II and III

68. The quantity of 0.2% solution needed to prepare 1000 mL of 10 ppm solution is

(A) 5 mL (B) 10 mL

(C) 20 mL (D) 200 mL

69. Which one of the following international events was not related to climate change ?

(A) UN framework convention on climate change, 1992.

(B) Montreal Protocol, 1987

(C) Stockholm conference on "Human and Environment", 1972

(D) Kyoto Protocol, 1997

70. Which of the following has the lowest Ozone depletion potential ?

(A) HCFC – 22 (B) HCFC – 123

(C) Halon – 1211 (D) CFC – 12

71. **Assertion (A) :** Rain water harvesting, primarily aims at artificial recharge of ground water to uplift the ground water table.

Reason (R) : Under rain water harvesting, the primary aim is to let the rain water infiltrate into the underground aquifer.

In the context of the two statements, which one of the following is correct ?

(A) Both (A) and (R) are true and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, 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.

72. For environmental mass awareness, Paryavaran Vahini Scheme was launched in the year

(A) 1988 (B) 2003

(C) 1992 (D) 1998

73. Disaster Management Act in India came into existence in the year

(A) 2003 (B) 2005

(C) 1998 (D) 2006

74. Which one of the following is most reactive oxygen species ?

(A) $^1O_2$ (B) $\dot{O}_2^-$

(C) H_2O_2 (D) $O\dot{H}$

75. If we move through the group I elements from top to bottom we first encounter Lithium, Sodium and Potassium. If we move further which elements we will encounter in sequence ?

(A) Caesium, Calcium, Rubidium

(B) Rubidium, Caesium, Francium

(C) Rubidium, Caesium, Rhodium

(D) Magnesium, Rubidium, Francium

Space For Rough Work