

Code No.

**J – 2275**

**Entrance Examination for Admission to the P.G. Courses in the Teaching  
Departments, 2020**

**CSS**

**ENVIRONMENTAL SCIENCE**

**General Instructions**

1. The Question Paper is having two Parts — Part 'A' Objective type (60%) & Part 'B' Descriptive type (40%).
2. Objective type questions which carry 1 mark each are to be (✓) 'tick marked' in the response sheets against the appropriate answers provided.
3. 8 questions are to be answered out of 12 questions carrying 5 marks each in Part 'B'.
4. **Negative marking** : 0.25 marks will be deducted for each wrong answer in Part 'A'.

**Time : 2 Hours**

**Max. Marks : 100**

To be filled in by the Candidate

Register Number	in Figures								
	in words								

PART – A  
(Objective Type)

Choose appropriate answer from the options in the questions. **One mark each.**

**(60 × 1 = 60 marks)**

1. The process of successful establishment of the species in a new area is called
 

a) Serene	b) Climax
c) Invasion	d) Ecesis

DO NOT WRITE HERE

- 
2. Which of the following type of productivity counts the total fixation of energy by photosynthesis?
- a) Secondary productivity
  - b) Primary productivity
  - c) NPP
  - d) GPP
3. Genetically different population with the same physical features is known as
- a) Ecosystem
  - b) Ecads
  - c) Community
  - d) Ecotype

4. The formula for exponential population growth is
- |                 |                 |
|-----------------|-----------------|
| a) $dN/dt = Rn$ | b) $dt/dN = rN$ |
| c) $dN/rN = dt$ | d) $rN/dN = dt$ |
5. Human population growth curve is a
- |                   |                   |
|-------------------|-------------------|
| a) S Shaped curve | b) Parabola curve |
| c) J Shaped curve | d) Zig zag curve  |
6. Symbiosis is shown by
- |              |              |
|--------------|--------------|
| a) E.coli    | b) Cuscuta   |
| c) Rafflesia | d) Monotropa |
7. What's the name of the book written by Rachel Carson about pesticides?
- Silent spring
  - The Sea around us
  - The Sense of wonder
  - Lost Woods : The Discovered Writing of a Rachel Carson
8. The disappearance of the plants and animals is due to the \_\_\_\_\_ in water.
- |                       |                       |
|-----------------------|-----------------------|
| a) Nitrogen depletion | b) Chlorine depletion |
| c) Oxygen depletion   | d) Ozone depletion    |
9. What is the full form of BOD?
- Biochemical Oxygen Demand
  - Biological Oxygen Demand
  - Biometric Oxygen Deep water
  - Biological Oxygen Deep water

10. Amoebic dysentery is caused by
- a) Viruses
  - b) Bacteria
  - c) Helminth
  - d) Protozoa
11. Waste water released from \_\_\_\_\_ are not the sources of bacteria.
- a) Sanitaria
  - b) Municipalities
  - c) Tanning
  - d) Industries
12. Fishes can store more quantity of \_\_\_\_\_ in their bodies.
- a) Mercury
  - b) Bismuth
  - c) Palladium
  - d) Chlorine
13. What is the hazardous pollutant released from LED's?
- a) Lithium
  - b) Selenium
  - c) Lead
  - d) Copper
14. What is the hazardous pollutant released from fax machines?
- a) Arsenic
  - b) Barium
  - c) Cobalt
  - d) Cadmium
15. In India, Western ghat is known as hot-spot because of
- a) Evergreen forest
  - b) High endemism
  - c) More height
  - d) Tropical climate
16. What is important genen diversity?
- a) Maintenance of species
  - b) Speciation
  - c) Research of genetic code
  - d) Maintenance and research of species
17. Which is the modern concept of conservation?
- a) Biosphere reserve
  - b) Sanctuary
  - c) National Park
  - d) Protected area

18. Which of the following is responsible for reducing global CFC production by half?
- a) Copenhagen Protocol
  - b) Montreal Protocol
  - c) Pollution Prevention Act
  - d) Kyoto Protocol
19. What is the most abundant greenhouse gas in the atmosphere?
- a) Methane
  - b) Nitrogen dioxide
  - c) Water vapor
  - d) Carbon dioxide
20. The Environmental (Protection) Act was enacted in the year
- a) 1986
  - b) 1992
  - c) 1984
  - d) 1974
21. The Water (Prevention and Control of Pollution) Act was enacted in the year
- a) 1986
  - b) 1974
  - c) 1994
  - d) 1975
22. The Wildlife (Protection) Act was enacted in the year
- a) 1986
  - b) 1974
  - c) 1994
  - d) 1972
23. What plan should we make to the disposal of solid waste?
- a) Integrated waste management plan
  - b) Recycling of waste management plan
  - c) Reducing of waste management plan
  - d) Use of waste management plan
24. Which of the integrated waste management is reduced on an individual level?
- a) Source reduction
  - b) Recycling
  - c) Disposal
  - d) Burning

25. What is called for the process of burning municipal solid waste in a properly designed furnace under suitable temperature and operating conditions?
- a) Landfill
  - b) Recycling
  - c) Vermicomposting
  - d) Incineration
26. Why the recycled paper is banned for use in food containers?
- a) Because it creates contamination
  - b) Because it creates a lot of spaces
  - c) Because paper can be used only one time
  - d) Because paper is very thick and can't cover the food containers
27. What is the environmental factor pE?
- a) A measure of the acidity of the environment
  - b) A measure of the hydrogen ion activity of the environment
  - c) A measure of the reducing potential of the environment
  - d) A measure of the amount of molecular oxygen in the environment
28. What is meant by "species diversity"?
- a) A measure of the total number of individuals in a population
  - b) A measure of the number of different species in a given habitat
  - c) A measure of the biomass of the important species in a habitat
  - d) A measure of the diversity in the environmental conditions in the habitat
29. Which part of the marine environment would have the greatest number of micro organisms?
- a) Ocean floor
  - b) Benthic zone
  - c) Shoreline or littoral zone
  - d) Abyssal zone
30. Measured amounts of water are pipetted into Petri dishes and agar medium is added in a laboratory procedure called the
- a) Standard Plat Count (SPC)
  - b) Membrane filter technique
  - c) Ames test
  - d) Most probable number (MPN) test

31. During the Great Sanitary Movement in the 1800s there was growing concern about public health and clean water. What disease reoccurred several times, finally convincing people of the need for clean water?
- a) Malaria
  - b) Cholera
  - c) E.coli
  - d) Hepatitis
32. What is soil profile?
- a) A cross sectional view of the horizons in a soil
  - b) A front view of the horizons in a soil
  - c) A cross sectional view of the horizons in rocks
  - d) A front view of the horizons in rocks
33. How many horizons are there in soils?
- a) One
  - b) Two
  - c) Three
  - d) Four
34. Which factor is more responsible for black colour in kanhar (Vertisol) soil?
- a) Hematite
  - b) Titaniferous magnetite
  - c) Geotite
  - d) Organic matter
35. pH meter measures
- a) H ions activity
  - b) H ions concentration
  - c) Al ions
  - d) All of the above
36. EC (Electrical Conductivity) meter measures
- a) Total salt in soil
  - b) Soluble salt in soil
  - c) Both the salt
  - d) None of the above
37. What is called for the movement of surface litter and topsoil from one place to another?
- a) Soil submerge
  - b) Soil degradation
  - c) Soil erosion
  - d) Soil pollution

38. Thermophiles organism lies in temperature
- a)  $>45^{\circ}\text{C}$
  - b)  $>25^{\circ}\text{C}$
  - c)  $<45^{\circ}\text{C}$
  - d) None of the above
39. Microorganism involve in conversion from nitrite to nitrate
- a) Nitrosomonas
  - b) Nitrobactor
  - c) Pseudomonas
  - d) None of the above
40. Denitrification is a process of
- a) Oxidation
  - b) Reduction
  - c) Hydration
  - d) Carbonation
41. Aroma of earthy smell in first shower of monsoon is due to
- a) Actinomycetes
  - b) Bacteria
  - c) Fungi
  - d) None of the above
42. Flow of nitrogen in soil mainly due to
- a) Mass flow
  - b) Diffusion
  - c) Interception
  - d) None of the above
43. The honey-comb structure found in
- a) Alluvial soil
  - b) Black soil
  - c) Saline soil
  - d) Laterite soil
44. Which is the major source for sulphur dioxide?
- a) Volcanic eruptions
  - b) Coal and crude oil combustion
  - c) Burning of petrol
  - d) Sewage treatment process
45. Which is/are the most significant air-borne allergen(s)?
- a) Fungi
  - b) Pollen
  - c) Soot
  - d) All of the mentioned



46. The major contributor of Carbon monoxide is
- a) Motor vehicle
  - b) Industrial processes
  - c) Stationary fuel combustion
  - d) None of the above
47. Ozone is found in
- a) Mesosphere
  - b) Ionosphere
  - c) Stratosphere
  - d) Exosphere
48. Ozone is formed in the upper atmosphere by a photochemical reaction with
- a) Ultra violet solar radiation
  - b) Infra red radiation
  - c) Visible light
  - d) All of the above
49. Which of the following is used as antiknock compound in gasoline?
- a) tetramethyl lead
  - b) tetraethyl lead
  - c) trimethyl lead
  - d) triethyl lead
50. Secondary air pollutant is
- a) Ozone
  - b) Carbon monoxide
  - c) Nitrogen dioxide
  - d) Sulphur dioxide
51. Which of the following gases has the highest affinity for blood haemoglobin?
- a) Carbon dioxide
  - b) Oxygen
  - c) Carbon monoxide
  - d) Nitrogen
52. Which of the following is responsible for turning yellow Taj Mahal?
- a) Nitrogen dioxide
  - b) Sulphur
  - c) Chlorine
  - d) Sulphur dioxide
53. Cluster sampling, stratified sampling and systematic sampling are types of
- a) direct sampling
  - b) indirect sampling
  - c) random sampling
  - d) non random sampling

54. Considering the probability distribution, if the mode is greater than median then the distribution is classified as
- a) variable model
  - b) right skewed
  - c) left skewed
  - d) constant model
55. If the central tendency is found by using whole population as input data then this is classified as
- a) sample statistic
  - b) population statistic
  - c) population tendency
  - d) population parameters
56. A numerical value used as a summary measure for a sample, such as sample mean, is known as a
- a) population parameter
  - b) sample parameter
  - c) sample statistic
  - d) population mean
57. The middle value of an ordered array of numbers is the
- a) Mode
  - b) Mean
  - c) Median
  - d) Mid point
58. An organism that can monitor air pollution
- a) Fungi
  - b) Algae
  - c) Bacteria
  - d) Lichens
59. World Forestry Day is celebrated at
- a) 20<sup>th</sup> March
  - b) 21<sup>st</sup> March
  - c) 24<sup>th</sup> March
  - d) 1<sup>st</sup> April
60. Umiam lake, also known as Barapani lake is located in which state?
- a) Meghalaya
  - b) Assam
  - c) Sikkim
  - d) Tripura

ANSWER SHEET — PART — A

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E
11	A	B	C	D	E
12	A	B	C	D	E
13	A	B	C	D	E
14	A	B	C	D	E
15	A	B	C	D	E
16	A	B	C	D	E
17	A	B	C	D	E
18	A	B	C	D	E
19	A	B	C	D	E
20	A	B	C	D	E

21	A	B	C	D	E
22	A	B	C	D	E
23	A	B	C	D	E
24	A	B	C	D	E
25	A	B	C	D	E
26	A	B	C	D	E
27	A	B	C	D	E
28	A	B	C	D	E
29	A	B	C	D	E
30	A	B	C	D	E
31	A	B	C	D	E
32	A	B	C	D	E
33	A	B	C	D	E
34	A	B	C	D	E
35	A	B	C	D	E
36	A	B	C	D	E
37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E
40	A	B	C	D	E

41	A	B	C	D	E
42	A	B	C	D	E
43	A	B	C	D	E
44	A	B	C	D	E
45	A	B	C	D	E
46	A	B	C	D	E
47	A	B	C	D	E
48	A	B	C	D	E
49	A	B	C	D	E
50	A	B	C	D	E
51	A	B	C	D	E
52	A	B	C	D	E
53	A	B	C	D	E
54	A	B	C	D	E
55	A	B	C	D	E
56	A	B	C	D	E
57	A	B	C	D	E
58	A	B	C	D	E
59	A	B	C	D	E
60	A	B	C	D	E



## ENVIRONMENTAL SCIENCE

### PART – B (Descriptive Type)

Answer **any eight** questions.

**(8 × 5 = 40 Marks)**

1. Define succession and explain a type of succession with suitable example.
2. Draw and explain the S shaped growth curve.
3. Differentiate insitu and exsitu conservation.
4. List the disadvantages of fossil fuels.
5. Write a note on eutrophication.
6. What are the ways to conserve soil?
7. Explain the mitigations for noise pollution.
8. Explain the terms :
  - (a) Incineration
  - (b) Pyrolysis
9. Explain Carbon and Sulphur Cycle
10. Classify the biomedical waste.
11. Explain the importance of public hearing in EIA projects
12. Explain the types of bioremediation with examples.























