

CET-(PG)2015

Sr. No. :

257291

Question Booklet Series : A

Important : Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet.

Roll No.

In Figures

--	--	--	--	--	--

In Words

O.M.R. Answer Sheet Serial No.

--	--	--	--	--	--

Signature of the Candidate : _____

Subject : M.Sc. (Environment Science)

Time : 90 minutes

Number of Questions : 75

Maximum Marks : 75

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS

1. Write your Roll No. on the Question Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Subject and Series Code of Question Booklet on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point / Black Gel pen.**
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. To open the Question Booklet remove the paper seal gently when asked to do so.
5. Please check that this Question Booklet contains **75** questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of test.
6. Each question has four alternative answers (A, B, C, D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point / Black Gel pen.**
7. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Sheet. No marks will be deducted in such cases.
8. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the questions given in the Question Booklet.
9. Negative marking will be adopted for evaluation i.e., 1/4th of the marks of the question will be deducted for each wrong answer. A wrong answer means incorrect answer or wrong filling of bubble.
10. For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
11. For rough work only the sheets marked "**Rough Work**" at the end of the Question Booklet be used.
12. The Answer Sheet is designed for **computer evaluation.** Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e., not following the instructions completely, shall be of the candidate only.**
13. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
14. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so, would be expelled from the examination.
15. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
16. **Telecommunication equipment such as pager, cellular phone, wireless, scanner, etc., is not permitted inside the examination hall. Use of calculator is not allowed.**

SEAL

1. The current in a diode in a reverse biased mode is due to :
(A) Diffusion of electrons (B) Drift of electrons
(C) Both drift and diffusion of electrons (D) No current flows at all
2. The process of combining speech with a carrier wave in radio broadcasting is called :
(A) Modulation (B) Rectification
(C) Amplification (D) Detection
3. When the frequency of AC is doubled, the impedance of R-C circuit is :
(A) Unchanged (B) Doubled
(C) Quadrupled (D) Decreased
4. Which of the following phenomena can't be explained by the Huygen's wave theory of light ?
(A) Reflection (B) Refraction
(C) Interference (D) Polarization
5. In simple harmonic motion, the particle is :
(A) Always accelerated (B) Always retarded
(C) Alternatively accelerated and retarded (D) Neither accelerated nor retarded
6. If the amplitude of waves at a distance r from a point source is A , the amplitude at distance $2r$ will be :
(A) $2A$ (B) A
(C) $A/2$ (D) $3A$
7. A capillary tube is partially immersed in a wetting liquid. The loss in weight of the capillary tube is :
(A) Equal to the weight of water displaced (B) Less than the weight of water displaced
(C) More than the weight of water displaced (D) Twice the weight of water displaced
8. Out of 18 points in a plane, no three are in the same straight line except 5 points which are co-linear. The number of straight lines that can be formed joining them is :
(A) 143 (B) 144
(C) 153 (D) 154

9. The number of different permutations of the word 'BANANA' is :
- (A) 720 (B) 360
(C) 120 (D) 60
10. In how many ways 8 persons can be arranged in a circle ?
- (A) 5040 (B) 5400
(C) 5004 (D) 4050
11. The number of ways of painting the faces of a cube with six different colours is :
- (A) 6 (B) 1
(C) 16 (D) 64
12. If 7 points out of 12 are in a same straight line, then the number of triangles formed is
- (A) 102 (B) 201
(C) 185 (D) 158
13. The Bernoulli's theorem is based on conservation of :
- (A) Momentum (B) Mass
(C) Energy (D) Angular momentum
14. Inside a uniform spherical shell, the gravitational
- (A) Potential is zero (B) Field is zero
(C) Potential is different at all points (D) Field is same at all points
15. The hybridization of C in benzene is :
- (A) sp (B) sp²
(C) sp³ (D) sp³d
16. The density of water is the maximum at :
- (A) 0°C (B) 4°C
(C) -4°C (D) 100°C
17. The total number of electrons in the element ¹⁴X₇ is :
- (A) 14 (B) 7
(C) 21 (D) 49

18. One a.m.u. is the mass equal to what fraction of mass of C-12 atom ?
- (A) 1/4 (B) 1/12
(C) 1/6 (D) 1/18
19. The atomic mass of an element is due to which sub-atomic particles ?
- (A) Electrons (B) Neutrons
(C) Protons (D) Neutrons and Protons
20. The type of chemical bond in H₂O molecule is :
- (A) Ionic (B) Covalent
(C) Both Ionic and Covalent (D) Neither Ionic nor Covalent
21. BOD is :
- (A) Biological Oxygen Demand (B) Basic Oxygen Demand
(C) Biochemical Oxygen Demand (D) Botanical Oxygen Demand
22. The general formula of alkene homologous series is :
- (A) C_nH_{2n+2} (B) C_nH_{2n}
(C) C_nH_{2n-2} (D) C_nH_n
23. The stage after fermentation in which desired product is screened and purified is
- (A) Scaling (B) Fermentation
(C) Downstream processing (D) Batch culture
24. Anabolic steroids are artificial version of which of the following hormone ?
- (A) Adrenalin (B) Testosterone
(C) Progesterone (D) Insulin
25. The specialization of homologous organs to perform variety of functions is :
- (A) Parallel evolution (B) Natural selection
(C) Adaptive radiation (D) Convergent evolution
26. Which of the following is the first used antiseptic ?
- (A) Sodium hydroxide (B) Sodium Hypochlorite
(C) Carbolic acid (D) Mercuric chloride

27. A type of selection that eliminates extremes from the population is known as :
- (A) Directional selection (B) Disruptive selection
(C) Special selection (D) Stabilizing selection
28. Which of the following is a major single cell protein ?
- (A) Yoghurt (B) Whey
(C) Pruteen (D) Quorn
29. Which of the following is the median of the set of numbers: 9, 200, 7, 6, 4 ?
- (A) 7.5 (B) 6
(C) 7 (D) 4
30. A Type I error is also known as a ____.
- (A) False positive (B) False negative
(C) Double negative (D) Positive negative
31. A distribution with short tail as compared to the normal distribution is said to be :
- (A) Mesokurtic (B) Platykurtic
(C) Leptokurtic (D) Pyrokurtic
32. Standard deviation is of variance.
- (A) Square (B) Square root
(C) Half (D) Double
33. Which of the following terms refers to the succession starting from a salt rich marshy area ?
- (A) Halosere (B) Psammosere
(C) Lithosere (D) Hydrosere
34. Which of the following is the source of Gum arabic ?
- (A) *Astragalus gummifer* (B) *Acacia Senegal*
(C) *Anogeissus latifolia* (D) *Aegle marmelos*
35. Which of the following plants is the source of Vetiver oil ?
- (A) *Vetiveria zizanioides* (B) *Vilex negundo*
(C) *Vitis vinifera* (D) *Vernonia galamensis*

36. Which of the following contains inverted cortical vascular bundles ?
 (A) *Boerhavia* (B) *Helianthus*
 (C) *Luffa* (D) *Nyctanthes*
37. In which of the following Pepo type of fruit is found ?
 (A) Apple (B) *Water melon*
 (C) Orange (D) Olive
38. Fielgen's test is used to detect the presence of :
 (A) Sugars (B) Proteins
 (C) RNA (D) DNA
39. During translation, which of the following represents the initiation codon of mRNA ?
 (A) GGU (B) UUG
 (C) AUG (D) UGU
40. Which of the following techniques is used to detect DNA in a given sample ?
 (A) Far-Eastern Blotting (B) Western Blotting
 (C) Southern Blotting (D) Northern Blotting
41. Which of the following phytohormones control the apical dominance ?
 (A) Ethylene (B) Indole acetic acid
 (C) Gibberellins (D) Abscisic acid
42. Which of the following is the first formed product of carbon fixation pathway in C_3 plants ?
 (A) 3-Phosphoglyceric acid (B) Glutamic acid
 (C) Phosphoenol pyruvate (D) Oxaloacetic acid
43. Seeds which get damaged during the long term storage are known as
 (A) Orthodox seeds (B) Recalcitrant seeds
 (C) Photoblastic seeds (D) Synthetic seeds
44. Stevia is a natural.....
 (A) Preservative (B) Colouring agent
 (C) Taste enhancer (D) Sweetener

45. Which of the following states does not have a National Park ?
(A) Bihar (B) Haryana
(C) Rajasthan (D) Punjab
46. In which of the following states is Silent Valley located ?
(A) Tamilnadu (B) Kerala
(C) Orissa (D) Andhra Pradesh
47. SPM stands for.....
(A) Suspended Particulate Matter (B) Suspended Particulate Material
(C) Suspended Polluted Matter (D) Suspended Plastic Material
48. Which of the following chemicals was responsible for Bhopal gas tragedy ?
(A) Radioactive iodine (B) Methyl isocyanate
(C) Mercury (D) 2,4-Dichlorophenoxyacetic acid
49. A sound becomes noise above :
(A) 120 dB (B) 50 dB
(C) 80 dB (D) 100 dB
50. Which of the following is the lowermost layer of atmosphere ?
(A) Thermosphere (B) Mesosphere
(C) Stratosphere (D) Troposphere
51. 5th June is celebrated every year as World day.
(A) Wetland (B) Forestry
(C) Water (D) Environment
52. Every year, World Population Day is celebrated on :
(A) 11 April (B) 11 July
(C) 11 October (D) 11 December
53. The deficiency of which of the following vitamin causes Pellagra ?
(A) B₁ (B) B₃
(C) B₆ (D) B₁₂

54. In which of the following organ of body, the haem breakdown occurs ?
(A) Spleen (B) Heart
(C) Liver (D) Kidney
55. Tapeworms belong to which of the following phyla ?
(A) Arthropoda (B) Nematoda
(C) Annelida (D) Platyhelminthes
56. Geothermal energy is :
(A) Non-renewable & Non-conventional (B) Non-renewable & Conventional
(C) Renewable & Non-conventional (D) Renewable & Conventional
57. The science of having awareness about rights and wrongs of environment is known as :
(A) Environmental Ethics (B) Environmental Education
(C) Environmental Preservation (D) Environmental Conservation
58. At high altitudes, the boiling point of water decreases due to :
(A) Low temperature (B) High temperature
(C) High atmospheric pressure (D) Low atmospheric pressure
59. Which of the following reaction yield benzyl alcohol from benzaldehyde ?
(A) Cannizzaro reaction (B) Perkin reaction
(C) Wurtz reaction (D) Claisen reaction
60. Nessler's reagent is used for the detection of :
(A) NH_4^+ (B) Mg^{2+}
(C) Na^+ (D) Ca^{2+}
61. Which amongst the following is a naturally occurring polymer ?
(A) Nylon (B) Polyethene
(C) Starch (D) Teflon
62. Our earth is :
(A) Perfect sphere (B) Geoid
(C) Ellipse (D) All of these

[Turn over

63. How many stages are there in a thunderstorm ?
(A) 1 (B) 3
(C) 5 (D) 7
64. Kyoto Protocol relates to :
(A) Ozone depletion (B) Ozone protection
(C) Desertification (D) Climate change
65. Kaziranga National Park is famous for :
(A) Lion (B) Deer
(C) Tiger (D) One-horned Rhino
66. Which of the following contains lead ?
(A) Paint (B) Synthetic food additives
(C) Cosmetics (D) Neem oil
67. Which of the following is a very destructive invasive fish included in the list of world's 100 worst invasive species ?
(A) Catla Catla (B) Common Carp
(C) Wallago Attu (D) Labeo
68. Kidney cells are known as :
(A) Chondrocytes (B) Nephrons
(C) Neurons (D) Hepatocytes
69. Earthworm belongs to :
(A) Annelida (B) Mollusca
(C) Amphibia (D) Arthropoda
70. Glycolipids are association of lipids with :
(A) Vitamins (B) Proteins
(C) Carbohydrates (D) Amino acids
71. Which of the following cities has the highest number of slum dwellers ?
(A) Kolkata (B) Chennai
(C) Bengaluru (D) Hyderabad

72. In India, Population census is carried under which ministry ?
- (A) Family Welfare (B) Social Welfare
(C) Human Resource Development (D) Home Affairs
73. Liquid nitrogen boils at :
- (A) -196°C (B) -194°C
(C) -192°C (D) -190°C
74. DDT was discovered by :
- (A) Rachel Carlson (B) Paul Muller
(C) Alexander Fleming (D) Robert Koch
75. The average salinity in sea water is :
- (A) 25 ppt (B) 30 ppt
(C) 35 ppt (D) 40 ppt