

**CET (PG) – 2017****Booklet Series Code : A****Important :** Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet.

(In Figures)

(In Words)

Roll No. :

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O.M.R. Answer Sheet Serial No. :

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Signature of the Candidate : .....

**Subject : M.Sc. (Environment Science)**

Time : 90 Minutes]

[Maximum Marks : 75

No. of Questions : 75]

[Total No. of Printed Pages : 16

**DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO****INSTRUCTIONS :**

- Write your Roll No. on the Question Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
- 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**.
- Do not make any identification mark on the Answer Sheet or Question Booklet.
- To open the Question Booklet remove the paper seal gently when asked to do so.
- 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.
- 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**.
- 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.
- Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the questions given in the Question Booklet.
- 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.
- For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
- For rough work only the sheets marked "**Rough Work**" at the end of the Question Booklet be used.
- 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.**
- After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
- 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.
- 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.
- Telecommunication equipment such as pager, cellular phone, wireless, scanner, etc., is not permitted inside the examination hall. Use of calculator is not allowed.

**SEAL**

- The chloroplast is ribbon shaped in :**  
(A) *Chlamydomonas* (B) *Spirogyra*  
(C) *Ulothrix* (D) *Volvox*
- Which of the following is not related to pleasant earth odour after the rain ?**  
(A) Yeast (B) Actinomyces  
(C) Streptomyces (D) Geosmin
- Which of the following is commonly known as Baker's Yeast ?**  
(A) *Saccharomyces uvarum* (B) *Saccharomyces bayanus*  
(C) *Saccharomyces cerevisiae* (D) *Candida albicans*
- Which of the following is known as Resurrection plant ?**  
(A) *Selaginella lepidophylla* (B) *Equisetum debile*  
(C) *Pteris vittata* (D) *Salvinia molesta*
- Which of the following is commonly known as hornwort ?**  
(A) *Funaria* (B) *Riccia*  
(C) *Marchantia* (D) *Anthoceros*
- Chilgoza is obtained from which of the following plants ?**  
(A) *Pinus gerardiana* (B) *Cycas revoluta*  
(C) *Ginkgo biloba* (D) *Cedrus deodara*
- Which of the following is regarded as living fossil ?**  
(A) *Abies pindrow* (B) *Ginkgo biloba*  
(C) *Pinus roxburghii* (D) *Cedrus deodara*

8. Gram belongs to which of the following plant families ?
- (A) *Gramineae* (B) *Poaceae*  
(C) *Fabaceae* (D) *Solanaceae*
9. Which of the following plants yields drug for the treatment of cancer ?
- (A) *Vinca rosea* (B) *Mangifera indica*  
(C) *Tagetes erecta* (D) *Ficus infectoria*
10. Botanically, Ovule is equivalent to :
- (A) Embryo sac (B) Megaspore  
(C) Megasporophyll (D) Megasporangium
11. Saffron is obtained from which part of the flower ?
- (A) Anthers and filaments (B) Style and Stigma  
(C) Sepals (D) Petals
12. Who among the following coined the term ecology ?
- (A) Arthur Tansley (B) Ernst Haeckel  
(C) Alexander von Humboldt (D) Eugene Odum
13. Which of the following lacks wetland ?
- (A) Netherlands (B) England  
(C) Norway (D) Antarctica
14. Lakes in which of the following countries are severely affected by acid rain ?
- (A) Sweden (B) Thailand  
(C) South Korea (D) Afghanistan

15. Earth Summit 2012 was held in :

- (A) Stockholm (B) Cancun  
(C) New York (D) Rio de Janeiro

16. The concept of *Biodiversity Hotspots* was given by :

- (A) Norman Myers  
(B) Edward Wilson  
(C) Alexander von Humboldt  
(D) John Harper

17. The water (Prevention and Control of Pollution) Act of India was enacted in the year :

- (A) 1974 (B) 1975  
(C) 1976 (D) 1977

18. Which of the following does not related to Project Tiger ?

- (A) Corbett (B) Rajaji  
(C) Periyar (D) Bharatpur

19. A typical Biosphere reserve has how many zones ?

- (A) 6 (B) 5  
(C) 4 (D) 3

20. Which Indian state does not have any National Park ?

- (A) Haryana (B) Jharkhand  
(C) Punjab (D) Rajasthan

21. The non-photosynthetic dark zone in a pond ecosystem is known as ..... Zone.
- (A) Photic (B) Autotrophic  
(C) Profundal (D) Pelagic
22. CITES refers to :
- (A) Council of International Trade in Endangered Species of Wild Fauna and Flora  
(B) Convention on Indian Trade in Endangered Species of Wild Fauna and Flora  
(C) Convention on International Trade in Endangered Species of Wild Fauna and Flora  
(D) Convention on International Treaty in Endangered Species of Wild Fauna and Flora
23. Which of the following is a secondary pollutant ?
- (A)  $\text{SO}_2$  (B) PAN  
(C) VOC (D)  $\text{CO}_2$
24. Which of the following is the oldest national park in India ?
- (A) Jim Corbett National Park (B) Valley of Flowers National Park  
(C) Bandipur National Park (D) Sundarbans National Park
25. Which amongst the following is not a criteria pollutant ?
- (A)  $\text{CO}_2$  (B)  $\text{O}_3$   
(C) Pb (D) Particulate Matter
26. Every year, World Wetlands Day is celebrated on :
- (A) 22<sup>nd</sup> April (B) 2<sup>nd</sup> February  
(C) 21<sup>st</sup> March (D) 22<sup>nd</sup> May

27. Which amongst the following is a non-conventional energy resource ?
- (A) Natural gas (B) Coal  
(C) Petrol (D) Tidal power
28. The Great Indian Bustard falls in ..... Category as per IUCN risk categories.
- (A) Data Deficient (B) Vulnerable  
(C) Critically Endangered (D) Endangered
29. Which of the following is the largest desert ?
- (A) Aravali (B) Sahara  
(C) Gobi (D) Antarctica
30. Grasslands with scattered trees are known as :
- (A) Pampas (B) Savannahs  
(C) Veldts (D) Everglades
31. Which of the following produce dioxins upon burning ?
- (A) Paper (B) Rice husk  
(C) Wheat straw (D) Polythene
32. Lime sludge is released by which of the following industries ?
- (A) Leather (B) Fertilizer  
(C) Paper (D) Steel
33. Which amongst the following volcanic rock types has the maximum silica content ?
- (A) Rhyolite (B) Dacite  
(C) Andesite (D) Basalt

34. Guanos are rich source of :
- (A) P and N (B) Ca and K  
(C) Na and K (D) S
35. Seeds that can be easily stored at room temperature are known as ..... seeds.
- (A) Recalcitrant (B) Orthodox  
(C) Synthetic (D) Photoblastic
36. The concept of sustainable development relates to :
- (A) UNDP (B) Brundtland commission  
(C) FAO (D) Conservation International
37. Ozone secretariat is located at :
- (A) Montreal (B) Nairobi  
(C) Stockholm (D) New York
38. The treaty designed to protect the *ozone layer* by phasing out the production of a number of substances believed to be responsible for *ozone depletion* is :
- (A) UNFCCC (B) Montreal Protocol  
(C) Stockholm Summit (D) Vienna Convention
39. Plague is caused by :
- (A) *Vibrio Cholerae* (B) *Plasmodium vivax*  
(C) *Salmonella typhi* (D) *Yersina pestis*
40. Which of the following can cause cancer after prolonged use ?
- (A) Acrylamide (B) Sorbic acid  
(C) Sulphites (D) Benzoates

41. Which of the following is a natural flavour enhancer ?
- (A) Sodium benzoate (B) Monosodium Glutamate  
(C) Sunset Yellow 3 (D) Aspartame
42. Which of the following is common allergen of foods ?
- (A) Pollens (B) Shell fish  
(C) Neem oil (D) Mustard oil
43. Which of the following is a preservative ?
- (A) Erythorbates (B) Sucralose  
(C) Monosodium Glutamate (D) Sodium benzoate
44. Which of the following is an antioxidant ?
- (A) Sucralose (B) Butylated hydroxyanisole  
(C) Acrylamide (D) Monosodium Glutamate
45. The current levels of CO<sub>2</sub> in the atmosphere is approx ..... ppm.
- (A) 350 (B) 375  
(C) 400 (D) 425
46. Which among the following GHGs contributes maximum to global warming ?
- (A) Water vapours (B) CO<sub>2</sub>  
(C) Ozone (D) CFC-12
47. Which of the following is a humectant ?
- (A) Lactase (B) Glycerin  
(C) Baking soda (D) Gelatin

48. Which of the following represents the connecting link between cartilaginous and bony fishes ?
- (A) Neopilina (B) Chimaera  
(C) Peripatus (D) Protopterus
49. FSH and LH hormones together are called as :
- (A) Stress hormones (B) Gonadotropic hormones  
(C) Neuro hormones (D) Growth hormones
50. Non-neuronal cells that provide support and protection for neurons in the central and peripheral nervous systems are known as :
- (A) Glial cells (B) Chondrocytes  
(C) Epithelial cells (D) Erythrocytes
51. Which one of the following enzymes is involved in packaging/supercoiling of DNA molecule ?
- (A) Topoisomerase (B) Helicase  
(C) DNA-Polymerase (D) All of these
52. Which of the following sub-cellular organelle is not bound by a double membrane ?
- (A) Nucleus (B) Endoplasmic Reticulum  
(C) Mitochondria (D) Chloroplast
53. Amphibians respire through :
- (A) Skin (B) Lungs  
(C) Both skin and lungs (D) Neither skin nor lungs
54. The first invertebrate to develop true nervous system belongs to which of the following phyla ?
- (A) Cnidaria (B) Annelida  
(C) Mollusca (D) Porifera

55. True metamorphosis is found in which of the following organism ?
- (A) Grasshoppers (B) Moth  
(C) Termites (D) Cockroach
56. Scurvy disease is due to the deficiency of :
- (A) Vitamin A (B) Ascorbic Acid  
(C) Calcium (D) Vitamin B Complex
57. The commercial method of bee keeping is known as :
- (A) Pisciculture  
(B) Horticulture  
(C) Silviculture  
(D) Apiculture
58. Surgical method/Sterilization in males to control population is known as :
- (A) Vasectomy  
(B) *In-vitro* fertilization  
(C) Tubectomy  
(D) *In-vivo* fertilization
59. Which of the following is a method of *in situ* conservation ?
- (A) Biosphere reserves  
(B) Botanical gardens  
(C) Seed banks  
(D) Zoological parks
60. Environment (Protection) Act of India was enacted in which of the following years ?
- (A) 1984 (B) 1985  
(C) 1986 (D) 1987

61. In an unpaired sample  $t$ -test with sample sizes  $n_1 = 15$  and  $n_2 = 15$ , the value of tabulated  $t$  should be obtained for how many degrees of freedom ?
- (A) 28 (B) 29  
(C) 30 (D) 31
62. Biological oxygen demand is a measure of which of the following ?
- (A) Total living matter present in water  
(B) Total nutrient content present in water  
(C) Organic matter present in water  
(D) Total gaseous content present in water
63. What is the approximate percentage of scores that fall within the two standard deviations of the mean in a normally distributed data ?
- (A) 34% (B) 68%  
(C) 95% (D) 99%
64. When a dice is thrown once, what is the probability of getting number 4 :
- (A) 33.3% (B) 50%  
(C) 16.3% (D) 66.6%
65. If all possible samples of size  $n$  are taken from a large population with a mean of 30 and standard deviation of 6, then the standard error of means equals 2.0 only for samples of size :
- (A) 2 (B) 4  
(C) 7 (D) 9

66. Which of the following statistical tests is non-parametric ?
- (A) ANOVA (B) Chi-square test  
(C) Correlation (D) t-test
67. Kaziranga National Park is famous for which of the following animals ?
- (A) Asiatic Lion  
(B) Giant Panda  
(C) Wild Bear  
(D) One-horned Rhino
68. World Environment Day is celebrated every year on :
- (A) March 22 (B) April 22  
(C) June 5 (D) September 16
69. There are 5 marbles in a bag, 4 are blue and 1 is red coloured. What is the probability of getting blue coloured marble ?
- (A) 0.80 (B) 0.20  
(C) 1.00 (D) 0.40
70. The primitive atmosphere of earth was devoid of :
- (A)  $\text{CH}_4$  (B)  $\text{NH}_3$   
(C)  $\text{H}_2\text{O}$  (D)  $\text{O}_2$

71. World Water Day is celebrated every year on :
- (A) June 22
  - (B) May 22
  - (C) April 22
  - (D) March 22
72. Which amongst the following is the most abundant metal in the earth's crust ?
- (A) Cu
  - (B) Al
  - (C) Na
  - (D) Ca
73. Which compound gives photochemical smog a brownish color ?
- (A)  $\text{NO}_2$
  - (B) NO
  - (C)  $\text{HNO}_2$
  - (D)  $\text{N}_2\text{O}_3$
74. How much amount of 6.8 M HCl must be added to water to get 3 L of 2M HCl ?
- (A) 0.88 L
  - (B) 1.76 L
  - (C) 17.6 L
  - (D) 8.8 L
75. The oxidation number for carbon in  $\text{CaC}_2\text{O}_4$  is :
- (A) +2
  - (B) +3
  - (C) +4
  - (D) +6