

Roll No. ....

Question Booklet Number

O. M. R. Serial No.

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## B. Sc. (Biotechnology) (Second Semester)

### EXAMINATION, July, 2022

### ENVIRONMENTAL SCIENCES

Paper Code								
BBT	2	0	0	3	/	AECC	0	2

Questions Booklet  
Series

B

Time : 1:30 Hours ]

[ Maximum Marks : 100

#### Instructions to the Examinee :

परीक्षार्थियों के लिए निर्देश :

- Do not open the booklet unless you are asked to do so.
  - The booklet contains 100 questions. Examinee is required to answer any 75 questions in the OMR Answer-Sheet provided and not in the question booklet. If more than 75 questions are attempted by student, then the first attempted 75 questions will be considered for evaluation. All questions carry equal marks.
  - Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.
- प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।
  - प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को किन्हीं 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। यदि छात्र द्वारा 75 से अधिक प्रश्नों को हल किया जाता है तो प्रारम्भिक हल किये हुए 75 उत्तरों को ही मूल्यांकन हेतु सम्मिलित किया जाएगा। सभी प्रश्नों के अंक समान हैं।
  - प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गए हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, तो उसे तुरन्त बदल लें।

(Remaining instructions on the last page)

(शेष निर्देश अन्तिम पृष्ठ पर)

***(Only for Rough Work)***

1. Extraction of minerals and metals from the earth is :
  - (A) Agriculture
  - (B) Industrial
  - (C) Mining
  - (D) None of the above
2. The idea of sustainable development was conceived in early :
  - (A) 1985
  - (B) 1980
  - (C) 1972
  - (D) 1992
3. In our country the percentage of land under forest is about :
  - (A) 20%
  - (B) 19%
  - (C) 25%
  - (D) 30%
4. Which of the following is a non-renewable natural resource ?
  - (A) Coal
  - (B) Forest
  - (C) Water
  - (D) Wild-life
5. Deforestation generally decreases :
  - (A) Rainfall
  - (B) Soil erosion
  - (C) Drought
  - (D) Global warming
6. For DNA, RNA and Protein which component is essential ?
  - (A) Oxygen
  - (B) Nitrogen
  - (C) Hydrogen
  - (D) Sulphur
7. Malaria is :
  - (A) Water related disease
  - (B) Water washed disease
  - (C) Water based disease
  - (D) None of the above
8. Both power and manure is provided by :
  - (A) Nuclear plants
  - (B) Thermal plants
  - (C) Biogas plants
  - (D) Hydroelectric plants

9. Lignite, Bituminous and Anthracite is the type of :
  - (A) Coal
  - (B) Fuel cell
  - (C) Wind power
  - (D) Tides
10. Which of the following is an air pollutant ?
  - (A) Oxygen
  - (B) Nitrogen
  - (C) Hydrogen
  - (D) Carbon mono-oxide
11. Acid rain is caused by increase in atmosphere the concentration of :
  - (A)  $O_3$
  - (D)  $CO_2$
  - (C)  $SO_2$  and  $NO_2$
  - (D) All of the above
12. pH of acid rain is :
  - (A) 7.0
  - (B) Less than 5.5
  - (C) 8.0
  - (D) None of the above
13. Gas leaked in Bhopal tragedy was :
  - (A) Methyl isocyanate
  - (B) Potassium isothiocyanate
  - (C) Ethyl isocyanate
  - (D) None of the above
14. Which of the following air pollution devices is used for removal of gaseous pollutants ?
  - (A) Cyclone separator
  - (B) Beg house
  - (C) Electrostatic precipitator
  - (D) Wet scrubber
15. BOD is :
  - (A) Biochemical Oxygen Demand
  - (B) Biological Oxygen Detail
  - (C) Biological Oxygen Demand
  - (D) None of the above
16. Fluoride pollution mainly affects :
  - (A) Kidney
  - (B) Heart
  - (C) Brain
  - (D) Teeth
17. Biomedical waste may be disposed by :
  - (A) Incineration
  - (B) Autoclave
  - (C) Pyrolysis
  - (D) All of the above
18. In Japan disease caused by eating fish inhabiting mercury contaminating water is :
  - (A) Bright disease
  - (B) Minimata disease
  - (C) Hiroshima disease
  - (D) Osteosclerosis

19. The major cause of global population growth in the 18th and 19th centuries was :
- (A) Decrease in death rate
  - (B) Industrial revolution
  - (C) Better medical facilities
  - (D) All of the above
20. Chipko Movement is related to :
- (A) Water conservation
  - (B) Soil conservation
  - (C) Forest conservation
  - (D) None of the above
21. Concept of ecofriendly product is :
- (A) Picture of tree
  - (B) Rising sun
  - (C) Earthen pitcher
  - (D) Picture of tiger
22. Who got Nobel Prize first as an environmentalist ?
- (A) Nelson Mandela
  - (B) Wangari Mathai
  - (C) Greta Dhanberg
  - (D) Rache Carson
23. What is characterized by excessive algal growth due to the increased availability of nutrients in water ?
- (A) Biomagnification
  - (B) Bioaccumulation
  - (C) Eutrophification
  - (D) Extraction
24. .... is defined as the accumulation of a particular substance in the body of the organisms at different trophic levels of a food chain.
- (A) Eutrophication
  - (B) Biomagnification
  - (C) Bioremediation
  - (D) None of the above
25. The word 'ecology' was coined by :
- (A) A. G. Tansley
  - (B) E. P. Odum
  - (C) G. Mendel
  - (D) E. E. Haeckel

26. The loss of biodiversity is due to :
- (A) Destruction of forests
  - (B) Environmental pollution
  - (C) The destruction of natural habitats of organism
  - (D) All of the above
27. The use of fossil fuels is responsible for the increase in the amount of which gas in the atmosphere ?
- (A) Argon
  - (B) Carbon dioxide
  - (C) Ozone
  - (D) Nitrogen
28. Which one of the following is the best source of generating electricity in India from the viewpoint of sustainable development ?
- (A) Atomic energy
  - (B) Coal
  - (C) Mineral oil and gas
  - (D) Hydroelectricity
29. Ozone layer thickness is measured in :
- (A) Millimeter
  - (B) Centimeter
  - (C) Decibels
  - (D) Dobson units
30. The part of atmosphere between stratosphere and thermosphere is :
- (A) Mesosphere
  - (B) Ionosphere
  - (C) Exosphere
  - (D) None of the above
31. An ecosystem consists of :
- (A) Green plants and animals
  - (B) Green plants and decomposers
  - (C) Producers and consumers
  - (D) Green plants, animals, decomposers and abiotic environment
32. Pyramid of energy is always :
- (A) Inverted
  - (B) Upright
  - (C) Rectangular
  - (D) None of the above

33. Population pyramids are useful to :
- (A) Express the population growth rates
  - (B) Express the age-sex distribution
  - (C) Indicate the birth rates
  - (D) Indicate the death rates
34. Global warming could affect :
- (A) Climate
  - (B) Food production
  - (C) Melting the glaciers
  - (D) All of the above
35. Formation of hole in ozone is maximum over :
- (A) India
  - (B) Antarctica
  - (C) Europe
  - (D) Africa
36. The study of interaction between living organism and environment is called as :
- (A) Ecosystem
  - (B) Ecology
  - (C) Phytogeography
  - (D) Phytosociology
37. The environment which has been modified by human activities is called as :
- (A) Natural environment
  - (B) Anthropogenic environment
  - (C) Urban environment
  - (D) Modern environment
38. Which one is the correct food chain ?
- (A) Phytoplankton → Zooplankton → Fish
  - (B) Zooplankton → Phytoplankton → Fish
  - (C) Grass → Fish → Zooplankton
  - (D) Zooplankton → Protozoan → Fish
39. Earth Day is celebrated on :
- (A) 22nd March
  - (B) 22nd April
  - (C) 31st June
  - (D) 5th January
40. Bhopal gas tragedy occurred in :
- (A) 1984
  - (B) 1986
  - (C) 1983
  - (D) 1999

41. Chernobyl disaster occurred in :
- (A) 1984
  - (B) 1986
  - (C) 1983
  - (D) 1999
42. Forest and wildlife are :
- (A) Renewable resources
  - (B) Inexhaustible resources
  - (C) Non-renewable resources
  - (D) None of the above
43. Which of following is a non-renewable resources ?
- (A) Minerals
  - (B) Forest
  - (C) Water
  - (D) Wildlife
44. Soil erosion can be prevented by :
- (A) Overgrazing
  - (B) Removal of vegetation
  - (C) Afforestation
  - (D) Deforestation
45. Which of the following reasons about the deforestation is not true ?
- (A) Population explosion
  - (B) Agriculture
  - (C) Cash crop economy of third world
  - (D) Mineral conservation
46. The value of forest often higher when it is left standing than it could be worth when it is harvested. Which of the following factors is most supportive to the above statement ?
- (A) Increase in timber value
  - (B) Increase in wildlife
  - (C) Increase in ecotourism
  - (D) Increase in forest product
47. Harnessing of nuclear energy often cause :
- (A) Air pollution
  - (B) Water pollution
  - (C) Thermal pollution
  - (D) Noise pollution



48. Common energy source in Indian villages is :
- (A) Coal
  - (B) Forest
  - (C) Water
  - (D) Wood and animal dung
49. Which of the following is disadvantage of most of the renewable energy resources ?
- (A) Highly pollution
  - (B) High waste disposal cost
  - (C) Unreliable supply
  - (D) High running cost
50. Photovoltaic energy is the conversion of sunlight into :
- (A) Electricity
  - (B) Biogas energy
  - (C) Hydrogen
  - (D) Coal
51. The main component of compressed natural gas is :
- (A) Methane
  - (B) Ethane
  - (C) Propane
  - (D) Butane
52. Smog is :
- (A) A natural phenomenon
  - (B) A combination of smoke and fog
  - (C) Colourless
  - (D) All of the above
53. Eutrophication is due to :
- (A) N & P fertilizers
  - (B) Pesticides
  - (C) Both (A) and (B)
  - (D) All of the above
54. Which of the following devices is suitable for the removal of finest dust from air ?
- (A) Cyclone separator
  - (B) Electrostatic precipitator
  - (C) Wet scrubber
  - (D) Fabric filter

55. Which of the following is a non-point source of water pollution ?
- (A) Factories
  - (B) Sewage treatment plant
  - (C) Urban and suburban land
  - (D) All of the above
56. Septic tank is :
- (A) An aerobic attached growth treatment plant
  - (B) An aerobic suspended growth biological treatment system
  - (C) An aerobic attached growth biological treatment system
  - (D) All of the above
57. The atmosphere of big cities is polluted most by :
- (A) Household waste
  - (B) Radioactive waste
  - (C) Automobile exhaust
  - (D) Pesticides
58. Ozone Day is celebrated on :
- (A) January 30
  - (B) April 21
  - (C) September 16
  - (D) December 25
59. The ultraviolet radiations in the stratosphere are absorbed by :
- (A) Sulphur dioxide
  - (B) Ozone
  - (C) Oxygen
  - (D) Argon
60. Increasing skin cancer and high mutation rate are the result of :
- (A) Ozone depletion
  - (B) Acid rain
  - (C) CO<sub>2</sub> pollution
  - (D) CO pollution
61. Which of the following is not a 'greenhouse gas' ?
- (A) Oxygen
  - (B) Carbon dioxide
  - (C) Chloroflourocarbons
  - (D) Methane
62. Greenhouse effect is related to :
- (A) Green trees on house
  - (B) Global warming
  - (C) Grasslands
  - (D) Greenery in country

63. Forest Conservation Act extends to the whole of India, except :
- (A) Utter Pradesh
  - (B) Karnataka
  - (C) Jammu and Kashmir
  - (D) Haryana
64. Penalty for the Forest Conservation Act is :
- (A) Under Section 3A
  - (B) Under Section 4A
  - (C) Under Section 12A
  - (D) Under Section 8A
65. The entire National Capital Territory of Delhi has been declared as water pollution prevention control area under :
- (A) Section 21 of Water Act
  - (B) Section 23 of Water Act
  - (C) Section 19 of Water Act
  - (D) Section 24 of Water Act
66. As per the Forest Act, cultivation of which of the following is a non-forest activity ?
- (A) Tea
  - (B) Mulberry
  - (C) Rubber
  - (D) All of the above
67. Environmental concern was started only after :
- (A) Stockholm Conference
  - (B) Earth Summit
  - (C) Geneva Summit
  - (D) G-7 Summit
68. In an ecosystem, the flow of energy is :
- (A) Bidirectional
  - (B) Cyclic
  - (C) Unidirectional
  - (D) Multidirectional

69. Environmental protection is the responsibility of :
- (A) Government of India
  - (B) NGOs
  - (C) Individuals
  - (D) All of the above
70. The word 'environment' has been derived from which of the French word which mean 'to surround' ?
- (A) Environment
  - (B) Oikos
  - (C) Aqua
  - (D) None of the above
71. A food web consists of :
- (A) A portion of food chain
  - (B) An organism position in a food chain
  - (C) Network of food chain
  - (D) All of the above
72. Over-grazing results in :
- (A) Productive soil
  - (B) Soil erosion
  - (C) Retention of useful species
  - (D) All of the above
73. Which of the following is a major environmental issue involved in mining ?
- (A) Air pollution from dust
  - (B) Water pollution
  - (C) Soil pollution
  - (D) All of the above
74. EIA can be expanded as :
- (A) Environment Impact Assessment
  - (B) Environmental Investigation Agency
  - (C) Environmental Impact Assessment
  - (D) Environmental Impact Analysis
75. Cholera and typhoid are caused by :
- (A) Worms
  - (B) Bacteria
  - (C) Virus
  - (D) Fungi

76. In which year was the “project tiger” launched in India ?
- (A) 1973
  - (B) 1983
  - (C) 1993
  - (D) 1972
77. Which of the following is necessary for photosynthesis ?
- (A) Sulphur
  - (B) Phosphorus
  - (C) Chlorophyll
  - (D) Chloroform
78. Which of the following energy is stored in the earth ?
- (A) Mechanical energy
  - (B) Solar energy
  - (C) Chemical energy
  - (D) Geothermal energy
79. Animals whose primary source of food is based on plants are known as :
- (A) Carnivores
  - (B) Herbivores
  - (C) Omnivores
  - (D) None of the above
80. Which of the following is the first trophic level in the food chain ?
- (A) Herbivores
  - (B) Carnivores
  - (C) Green plants
  - (D) All of the above
81. CNG stands for :
- (A) Common Natural Gas
  - (B) Compressed National Gas
  - (C) Compressed Natural Gas
  - (D) Certified National Gas
82. On which day is the World Environment Day celebrated ?
- (A) 5th April
  - (B) 15th May
  - (C) 5th June
  - (D) 25th April
83. Which of the following are the negative health effects of noise pollution ?
- (A) Hypertension
  - (B) Hearing loss
  - (C) Stress and headache
  - (D) All of the above

84. CPCB stands for :
- (A) Control Pollution Control Board
  - (B) Central Pollution Central Board
  - (C) Control Pollution Central Board
  - (D) Central Pollution Control Board
85. The ozone layer is present in :
- (A) Mesosphere
  - (B) Thermosphere
  - (C) Stratosphere
  - (D) None of the above
86. The pollutants that decomposable and manageable in nature are termed as :
- (A) Non-renewable pollutants
  - (B) Non-biodegradable pollutants
  - (C) Biodegradable pollutants
  - (D) None of the above
87. Which of the following is said to be a biodegradable waste ?
- (A) Plastics
  - (B) Glasses
  - (C) Eggshell
  - (D) Polythene
88. Which of the following is a renewable source of energy ?
- (A) Coal
  - (B) Uranium
  - (C) Wind
  - (D) None of the above
89. Which of the following gases is present in the air in maximum amount in atmosphere ?
- (A) Nitrogen
  - (B) Oxygen
  - (C) Carbon dioxide
  - (D) Methane
90. Which of these are also known as detritivores ?
- (A) Decomposers
  - (B) Carnivores
  - (C) Herbivores
  - (D) None of the above
91. Which of the following agents is responsible for turning the Taj Mahal yellow ?
- (A) CO<sub>2</sub>
  - (B) CFCs
  - (C) SO<sub>2</sub>
  - (D) None of the above

92. Which of the following gases called Greenhouse gas ?
- (A) Methane
  - (B) Nitrogen
  - (C) Carbon dioxide
  - (D) Both (A) and (C)
93. The provisions for environmental protection in the constitution were made under :
- (A) 1976
  - (B) 1950
  - (C) 1982
  - (D) 1960
94. The Environment (Protection) Act of India was enacted in which of the following year ?
- (A) 1974
  - (B) 1977
  - (C) 1980
  - (D) 1986
95. A wide variety of living organisms is called :
- (A) Biodiversity
  - (B) Population
  - (C) Habitat
  - (D) Ecosystem
96. The term 'ecosystem' was proposed by :
- (A) Lindeman
  - (B) A. G. Tansley
  - (C) Grinnel
  - (D) Turesson
97. The part of the earth and its atmosphere in which organism live is :
- (A) Biosphere
  - (B) Biome
  - (C) Biomass
  - (D) Biota
98. Environmental education is important only at :
- (A) Primary school stage
  - (B) Secondary school stage
  - (C) College stage
  - (D) All stages
99. Which one of the following is an abiotic component of the ecosystem ?
- (A) Bacteria
  - (B) Plants
  - (C) Humus
  - (D) Fungi
100. The largest reservoir of nitrogen in our planet is :
- (A) Ocean
  - (B) Atmosphere
  - (C) Biosphere
  - (D) Fossil fuel

4. Four alternative answers are mentioned for each question as—A, B, C & D in the booklet. The candidate has to choose the most correct/appropriate answer and mark the same in the OMR Answer-Sheet as per the direction :

**Example :**

**Question :**

Q. 1 (A) ☒ (C) (D)

Q. 2 (A) (B) ☒ (D)

Q. 3 (A) ☒ (C) (D)

Illegible answers with cutting and over-writing or half filled circle will be cancelled.

5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.
6. All answers are to be given on OMR Answer sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.
7. Before writing anything on the OMR Answer Sheet, all the instructions given in it should be read carefully.
8. After the completion of the examination candidates should leave the examination hall only after providing their OMR Answer Sheet to the invigilator. Candidate can carry their Question Booklet.
9. There will be no negative marking.
10. Rough work, if any, should be done on the blank pages provided for the purpose in the booklet.
11. To bring and use of log-book, calculator, pager and cellular phone in examination hall is prohibited.
12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authentic.

**Impt. :** On opening the question booklet, first check that all the pages of the question booklet are printed properly. If there is any discrepancy in the question Booklet, then after showing it to the invigilator, get another question Booklet of the same series.

4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर—A, B, C एवं D हैं। परीक्षार्थी को उन चारों विकल्पों में से एक सबसे सही अथवा सबसे उपयुक्त उत्तर छोटना है। उत्तर को OMR आन्सर-शीट में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

उदाहरण :

प्रश्न :

प्रश्न 1 (A) ☒ (C) (D)

प्रश्न 2 (A) (B) ☒ (D)

प्रश्न 3 (A) ☒ (C) (D)

अपठनीय उत्तर या ऐसे उत्तर जिन्हें काटा या बदला गया है, या गोले में आधा भरकर दिया गया, उन्हें निरस्त कर दिया जाएगा।

5. प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
6. सभी उत्तर केवल ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर ही दिये जाने हैं। उत्तर-पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
7. ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाये।
8. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी OMR Answer Sheet उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें। परीक्षार्थी अपने साथ प्रश्न-पुस्तिका ले जा सकते हैं।
9. निगेटिव मार्किंग नहीं है।
10. कोई भी रफ कार्य, प्रश्न-पुस्तिका के अन्त में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।
11. परीक्षा-कक्ष में लॉग-बुक, कैलकुलेटर, पेजर तथा सेल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।
12. प्रश्न के हिन्दी एवं अंग्रेजी रूपान्तरण में भिन्नता होने की दशा में प्रश्न का अंग्रेजी रूपान्तरण ही मान्य होगा।

**महत्वपूर्ण :** प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्न-पुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सिरीज की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।