

Roll No. ....

Question Booklet Number

O. M. R. Serial No.

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Question Booklet Number
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**M. Sc. (Fourth Semester)  
(NEP) EXAMINATION, 2025-26  
ZOOLOGY**

**(Applied Environmental Biology) (Elective)**

Paper Code							
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Questions Booklet  
Series

**A**

Time : 1:30 Hours ]

[ Maximum Marks : 75

**Instructions to the Examinee :**

1. Do not open the booklet unless you are asked to do so.
2. The booklet contains 100 questions. Examinee is required to answer 75 questions in the OMR Answer-Sheet provided and not in the question booklet. All questions carry equal marks.
3. 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.

**परीक्षार्थियों के लिए निर्देश :**

1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।
2. प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। सभी प्रश्नों के अंक समान हैं।
3. 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. The statistical study of human population is known as :
  - (A) Demography
  - (B) Biometry
  - (C) Anthropology
  - (D) Ecology
2. Which stage of the Demographic Transition Model shows a rapidly declining death rate but a high birth rate ?
  - (A) Stage 1
  - (B) Stage 2
  - (C) Stage 3
  - (D) Stage 4
3. The “Content and criteria standards” for air quality in India are primarily governed by :
  - (A) NAAQS
  - (B) WHO
  - (C) UNICEF
  - (D) MINAS
4. “Secondary treatment” in a sewage plant is essentially a :
  - (A) Physical process
  - (B) Mechanical process
  - (C) Biological process
  - (D) Chemical process
5. Global warming is primarily associated with the accumulation of :
  - (A) Oxygen
  - (B) Nitrogen
  - (C) Carbon Dioxide
  - (D) Argon
6. Which specific parameter is used to measure the efficiency of a sedimentation tank ?
  - (A) Surface Overflow Rate
  - (B) pH level
  - (C) Temperature
  - (D) Colour
7. The expansion of cities into rural areas is called :
  - (A) Urbanization
  - (B) Urban Sprawl
  - (C) Industrialization
  - (D) Deglaciation
8. “Solid particles” (PM) in the atmosphere act as :
  - (A) Condensation nuclei
  - (B) Oxidizing agents
  - (C) Reducing agents
  - (D) Catalysts

9. Demographic “Momentum” refers to :
- (A) Rapid migration
  - (B) Continued growth after replacement fertility is reached
  - (C) Sudden death rate spike
  - (D) Urban sprawl speed
10. The “Urban Heat Island” effect is primarily caused by :
- (A) Low albedo and thermal mass of concrete
  - (B) High albedo of city surfaces
  - (C) Increased forest cover
  - (D) High wind speeds in cities
11. The main source of energy for the earth is :
- (A) Coal
  - (B) Solar
  - (C) Nuclear
  - (D) Wind
12. The first step in sewage treatment is usually :
- (A) Chlorination
  - (B) Aeration
  - (C) Screening/Filtration
  - (D) Sludge digestion
13. Environmental imbalance is often a direct result of :
- (A) Reforestation
  - (B) Over-exploitation of resources
  - (C) Organic farming
  - (D) Conservation
14. High population density in urban areas leads to :
- (A) Increased biodiversity
  - (B) Pressure on infrastructure
  - (C) Cleaner air
  - (D) Lower waste production
15. Malthusian theory suggests that population grows :
- (A) Arithmetically
  - (B) Geometrically
  - (C) Seasonally
  - (D) Not at all
16. Which process removes solid waste from sewage ?
- (A) Primary treatment
  - (B) Disinfection
  - (C) Tertiary treatment
  - (D) Evaporation

17. The primary goal of “Integrated Water Management” is :
- (A) Wasting water
  - (B) Sustainable use of water resources
  - (C) Building more dams only
  - (D) Increasing pollution
18. What happens during “Global Warming” ?
- (A) Earth’s average temperature decreases
  - (B) Earth’s average temperature increases
  - (C) Ice caps expand
  - (D) Sea levels drop
19. Which factor primarily regulates human population growth ?
- (A) Birth rate
  - (B) Death rate
  - (C) Migration
  - (D) All of the above
20. Criteria standards for sewage disposal in inland surface waters usually require BOD to be below :
- (A) 30 mg/l
  - (B) 100 mg/l
  - (C) 500 mg/l
  - (D) 10 mg/l
21. Degradation of natural resources leads to :
- (A) Economic stability
  - (B) Loss of biodiversity
  - (C) Improved climate
  - (D) Increased fertility
22. Demographic transition model explains :
- (A) Soil types
  - (B) Plant growth
  - (C) Water cycles
  - (D) Changes in birth/death rates over time
23. Which of the following is a “Point Source” of pollution ?
- (A) Agricultural runoff
  - (B) Factory discharge pipe
  - (C) City smog
  - (D) Forest fires
24. Sludge disposal is a major challenge in :
- (A) Air filtration
  - (B) Waste water treatment
  - (C) Soil testing
  - (D) Noise control

25. "Sustainable Development" means meeting present needs without :
- (A) Using any resources
  - (B) Compromising future generations
  - (C) Paying taxes
  - (D) Using technology
26. Which soil type is known as "Regur" ?
- (A) Alluvial
  - (B) Red
  - (C) Black
  - (D) Laterite
27. The "Forest Survey of India" (FSI) publishes its reports every :
- (A) 1 year
  - (B) 2 years
  - (C) 5 years
  - (D) 10 years
28. The National Wasteland Development Board was established in :
- (A) 1980
  - (B) 1985
  - (C) 1990
  - (D) 1995
29. NGO stands for :
- (A) National Govt Office
  - (B) Non-Governmental Organization
  - (C) New Global Order
  - (D) Natural Gas Org
30. Agroforestry is a land-use system that combines :
- (A) Mining and Farming
  - (B) Trees and Crops
  - (C) Fisheries and Industry
  - (D) Roads and Forests
31. Which mineral is typically lost during "Leaching" in laterite soils ?
- (A) Iron
  - (B) Silica
  - (C) Aluminum
  - (D) Manganese
32. Deforestation leads to :
- (A) Soil fertility
  - (B) Soil erosion
  - (C) More oxygen
  - (D) More rainfall

33. The “World Conservation Strategy” (1980) involved :
- (A) IUCN, UNEP, WWF
  - (B) UN, WHO
  - (C) NASA, ISRO
  - (D) FAO, WTO
34. “Integrated Land Use Planning” seeks to balance :
- (A) Exports and Imports
  - (B) Economy and Environment
  - (C) Birth rates
  - (D) Mining and Space
35. Which state in India is known for “Van Panchayats” ?
- (A) Kerala
  - (B) Uttarakhand
  - (C) Gujarat
  - (D) Bihar
36. Which agency manages the “Red Data Book” in India ?
- (A) BSI and ZSI
  - (B) FBI
  - (C) Ministry of Finance
  - (D) ISRO
37. The primary objective of the ‘National Forest Policy’ (1988) is :
- (A) Earning revenue from timber
  - (B) Environmental stability and ecological balance
  - (C) Increasing grazing land
  - (D) Building dams in forests
38. Flora refers to :
- (A) Animal life
  - (B) Fungi
  - (C) Bacteria
  - (D) Plant Life
39. Fauna refers to :
- (A) Plants
  - (B) Animals
  - (C) Rocks
  - (D) Water bodies
40. Conservation of forests is essential to maintain :
- (A) Ecological balance
  - (B) Carbon dioxide levels
  - (C) Biodiversity
  - (D) All of the above

41. Which soil is best suited for growing tea and coffee ?  
(A) Alluvial  
(B) Laterite  
(C) Black  
(D) Desert
42. National Conservation Strategy (NCS) of India focuses on :  
(A) Only industrial growth  
(B) Integration of environmental concerns with development  
(C) Increasing imports  
(D) Discouraging NGOs
43. Which factor causes soil degradation ?  
(A) Salinization  
(B) Nutrient depletion  
(C) Erosion  
(D) All of the above
44. The primary role of NGOs in conservation is :  
(A) Making laws  
(B) Public awareness and grassroots action  
(C) Policing  
(D) Tax collection
45. What is the recommended forest cover for a country like India ?  
(A) 10%  
(B) 33%  
(C) 50%  
(D) 75%
46. Ex-situ conservation involves :  
(A) National Parks  
(B) Sanctuaries  
(C) Zoo/Botanical Gardens  
(D) Biosphere Reserves
47. Which of the following is a “Renewable” resource ?  
(A) Coal  
(B) Petroleum  
(C) Timber  
(D) Iron ore
48. “Afforestation” helps in :  
(A) Increasing soil erosion  
(B) Carbon sequestration  
(C) Reducing groundwater  
(D) Increasing temperature
49. “Wasteland” can be reclaimed by :  
(A) Over-irrigation  
(B) Social forestry and reforestation  
(C) Using more pesticides  
(D) Leaving it barren
50. Chipko Movement was related to :  
(A) Water conservation  
(B) Forest conservation  
(C) Soil testing  
(D) Noise pollution

51. The gradual process of change in an ecosystem over time is called :
- (A) Evolution
  - (B) Ecological Succession
  - (C) Mutation
  - (D) Eutrophication
52. The functional unit of the environment is :
- (A) Population
  - (B) Community
  - (C) Ecosystem
  - (D) Biome
53. Which factor is considered an “Edaphic” factor ?
- (A) Rainfall
  - (B) Soil
  - (C) Light
  - (D) Wind
54. Acid rain is primarily caused by oxides of :
- (A) Carbon and Nitrogen
  - (B) Sulphur and Nitrogen
  - (C) Carbon and Hydrogen
  - (D) Oxygen and Argon
55. The ozone layer is found in the :
- (A) Troposphere
  - (B) Exosphere
  - (C) Mesosphere
  - (D) Stratosphere
56. Ecological succession that starts on bare rock is :
- (A) Hydrarch
  - (B) Xerarch
  - (C) Autogenic
  - (D) Secondary
57. Photochemical smog is a mixture of pollutants that includes :
- (A) Carbon and Hydrogen
  - (B) Ozone, PAN, and NO<sub>x</sub>
  - (C) SO<sub>2</sub> and Dust
  - (D) Methane
58. The first species to inhabit a bare area are called :
- (A) Climax species
  - (B) Pioneer species
  - (C) Seral species
  - (D) Parasites

59. The study of the relationship between a single species and its environment is :
- (A) Autecology
  - (B) Synecology
  - (C) Paleoecology
  - (D) Geology
60. Population dynamics refers to :
- (A) Fixed population size
  - (B) Changes in population over time
  - (C) Soil movement
  - (D) Wind patterns
61. Which gas acts as a “Secondary Pollutant” ?
- (A) Carbon Monoxide
  - (B) Sulfur Dioxide
  - (C) Ozone (Ground level)
  - (D) Nitrogen Dioxide
62. Which compound is most responsible for Ozone depletion ?
- (A) CO<sub>2</sub>
  - (B) CH<sub>4</sub>
  - (C) CFCs
  - (D) NH<sub>3</sub>
63. The concentration of a pollutant as it moves up the food chain is called :
- (A) Biomagnification
  - (B) Bioaccumulation
  - (C) Biosynthesis
  - (D) Biodegradation
64. The final stable community in an ecological succession is the :
- (A) Pioneer community
  - (B) Seral stage
  - (C) Climax community
  - (D) Intermediate stage
65. “Ecological Niche” refers to :
- (A) The place where an organism lives
  - (B) The functional role of an organism
  - (C) The group of organisms
  - (D) The temperature of a region
66. Topographic factors include :
- (A) Soil pH
  - (B) Slope and Altitude
  - (C) Rainfall
  - (D) Bacteria

67. What is the main source of Nitrogen Oxides in cities ?
- (A) Agriculture
  - (B) Vehicle exhaust
  - (C) Volcanic eruptions
  - (D) Photosynthesis
68. Ozone protection is the main goal of which international protocol ?
- (A) Kyoto Protocol
  - (B) Rio Summit
  - (C) Paris Agreement
  - (D) Montreal Protocol
69. In a population, “Natality” means :
- (A) Death rate
  - (B) Growth rate
  - (C) Migration rate
  - (D) Birth rate
70. “Secondary Succession” starts in an area where :
- (A) No life existed
  - (B) Soil is already present
  - (C) Only rocks exist
  - (D) Only water exists
71. The “Black Cloud” of pollutants in industrial areas is largely composed of :
- (A) Oxygen
  - (B) Nitrogen
  - (C) Particulate Carbon (Soot)
  - (D) Water vapor
72. Air pollution causes :
- (A) Respiratory problems
  - (B) Better vision
  - (C) Increased hearing
  - (D) Soil fertility
73. Basic concepts of populations include “Mortality” which means :
- (A) Death rate
  - (B) Birth rate
  - (C) Migration rate
  - (D) Growth rate
74. Prevention and control of air pollution in India is governed by :
- (A) Water Act 1974
  - (B) Air Act 1981
  - (C) Forest Act 1927
  - (D) Wildlife Act 1972

75. Pioneer species in a Xerarch succession are usually :
- (A) Trees
  - (B) Lichens
  - (C) Ferns
  - (D) Herbs
76. The Ganga Action Plan (GAP) was launched in :
- (A) 1975
  - (B) 1995
  - (C) 1985
  - (D) 2005
77. Minamata disease is caused by poisoning of :
- (A) Lead
  - (B) Cadmium
  - (C) Fluoride
  - (D) Mercury
78. Noise is measured in :
- (A) Joules
  - (B) Decibels (dB)
  - (C) Watts
  - (D) Meters
79. Excessive Fluoride in water leads to :
- (A) Typhoid
  - (B) Skeletal Fluorosis
  - (C) Malaria
  - (D) Minamata
80. Marine pollution is primarily caused by :
- (A) Oil spills
  - (B) Deep sea fish
  - (C) Rain
  - (D) Seaweed
81. Solid waste management involves :
- (A) Landfills
  - (B) Incineration
  - (C) Recycling
  - (D) All of the above
82. "Eutrophication" is caused by an excess of :
- (A) Oxygen
  - (B) Nutrients (Nitrogen/Phosphorus)
  - (C) Salt
  - (D) Lead

83. Lead pollution can cause damage to the :
- (A) Nervous system
  - (B) Hair
  - (C) Fingerprints
  - (D) Clothing
84. Noise pollution can lead to :
- (A) Hearing loss
  - (B) Hypertension
  - (C) Stress
  - (D) All of the above
85. Wetland conservation is crucial for :
- (A) Groundwater recharge
  - (B) Biodiversity
  - (C) Flood control
  - (D) All of the above
86. Which of these is a non-biodegradable waste ?
- (A) Paper
  - (B) Plastic
  - (C) Food waste
  - (D) Wood
87. BOD stands for :
- (A) Biological Oxygen Demand
  - (B) Basic Oxygen Dose
  - (C) Bio Organic Decay
  - (D) Bacterial Oxygen Deficit
88. High BOD in a water body indicates :
- (A) High purity
  - (B) High organic pollution
  - (C) Low bacterial activity
  - (D) High dissolved oxygen
89. The “R’s” of waste management are :
- (A) Run, Read, Rise
  - (B) Reduce, Reuse, Recycle
  - (C) Race, Rest, Rule
  - (D) Road, Rail, River
90. Which law governs water pollution control in India ?
- (A) Water (Prevention and Control) Act, 1974
  - (B) Air Act, 1981
  - (C) Wildlife Act, 1972
  - (D) Forest Act, 1927
91. “Blue Baby Syndrome” is caused by excess of ..... in drinking water.
- (A) Fluoride
  - (B) Nitrates
  - (C) Lead
  - (D) Mercury

92. Which method is most eco-friendly for disposing of organic kitchen waste ?
- (A) Composting
  - (B) Burning
  - (C) Open dumping
  - (D) Throwing in drains
93. The “Safe Limit” of noise for a residential area during the day is :
- (A) 55 dB
  - (B) 90 dB
  - (C) 120 dB
  - (D) 30 dB
94. Biomedical waste from hospitals should be disposed of using :
- (A) Open landfills
  - (B) Incineration
  - (C) Recycling with food plastic
  - (D) Throwing in drains
95. Mercury enters the food chain primarily through :
- (A) Air
  - (B) Bioaccumulation in fish
  - (C) Soil
  - (D) Direct contact
96. Measurement of water quality parameters includes :
- (A) TDS, pH, DO, BOD
  - (B) Only color
  - (C) Only smell
  - (D) Height of waves
97. Solid waste management is governed by :
- (A) SWM Rules 2016
  - (B) Forest Act
  - (C) Motor Vehicle Act
  - (D) Companies Act
98. The Ramsar Convention is related to the conservation of :
- (A) Forests
  - (B) Deserts
  - (C) Wetlands
  - (D) Oceans
99. Groundwater pollution is often difficult to treat because :
- (A) It is easily accessible
  - (B) It moves very slowly
  - (C) It has no bacteria
  - (D) It is always cold
100. Which chemical is used as a coagulant in water treatment ?
- (A) Alum (Aluminum Sulfate)
  - (B) Sugar
  - (C) Sodium Chloride
  - (D) Potassium Nitrate

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

4. Four alternative answers are mentioned for each question as—A, B, C & D in the booklet. The candidate has to choose the correct 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 सही उत्तर छँटना 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।