

Roll. No.

Question Booklet Number

O.M.R. Serial No.

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

M.Sc. (SEM.-III) (NEP) (SUPPLE.) EXAMINATION, 2024-25

ZOOLOGY

(Ethology, Biodiversity and Wildlife Conservation)

Paper Code

B	0	5	0	9	0	1	T
---	---	---	---	---	---	---	---

**Question Booklet
Series**

A

Time : 1 : 30 Hours

Max. 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.
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 :

(Remaining instructions on last page)

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, उसे तुरन्त बदल लें।
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 छानना है। उत्तर को OMR उत्तर-पत्रक में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

(शेष निर्देश अन्तिम पृष्ठ पर)

1. What does biodiversity refer to?
 - (A) Number of humans
 - (B) Variety of life on Earth
 - (C) Number of trees only
 - (D) Air and water pollution
2. Which of the following is the most biodiverse ecosystem?
 - (A) Desert
 - (B) Tundra
 - (C) Tropical rainforest
 - (D) Arctic Ocean
3. Which is not a type of biodiversity?
 - (A) Genetic
 - (B) Species
 - (C) Ecosystem
 - (D) Solar
4. Which human activity reduces biodiversity the most?
 - (A) Farming
 - (B) Afforestation
 - (C) Deforestation
 - (D) Recycling
5. The variety of genes within a species is called:
 - (A) Species diversity
 - (B) Genetic diversity
 - (C) Ecosystem diversity
 - (D) Biome diversity
6. Which of the following is a method of conservation?
 - (A) Hunting
 - (B) Deforestation
 - (C) Recycling
 - (D) Urbanization
7. National Parks are meant to:
 - (A) Grow crops
 - (B) Conserve wildlife and nature
 - (C) Build houses
 - (D) Catch fish
8. Which species is known as the 'umbrella species' for conservation?
 - (A) Tiger
 - (B) Dog
 - (C) Cow
 - (D) Sparrow

9. Which of these is an endangered species?
- (A) Housefly
 - (B) Tiger
 - (C) Cow
 - (D) Cockroach
10. Which practice helps in conserving soil and biodiversity?
- (A) Monoculture
 - (B) Slash and burn
 - (C) Crop rotation
 - (D) Overgrazing
11. What is an extinct species?
- (A) Species found everywhere
 - (B) Species found in forests
 - (C) Species no longer existing
 - (D) Species that migrated
12. Which of the following is a cause of biodiversity loss?
- (A) Conservation
 - (B) Climate change
 - (C) Protected areas
 - (D) Plantation drives
13. Ex-situ conservation refers to:
- (A) Conservation in natural habitats
 - (B) Conservation outside natural habitats
- (C) Killing animals
- (D) Building dams
14. The Red Data Book provides information on:
- (A) Trees
 - (B) Soil types
 - (C) Threatened species
 - (D) National parks
15. A biodiversity hotspot is a region that:
- (A) has low species diversity
 - (B) is cold and dry
 - (C) has rich species diversity but under threat
 - (D) is free from human activity
16. Which of these is a biodiversity-rich country?
- (A) Iceland
 - (B) Canada
 - (C) Brazil
 - (D) Greenland
17. Which of the following helps increase biodiversity?
- (A) Pollution
 - (B) Habitat destruction
 - (C) Wildlife sanctuaries
 - (D) Overhunting

18. The Amazon Rainforest is located in:
- (A) Africa
 - (B) South America
 - (C) Asia
 - (D) Europe
19. Which of the following is a man-made threat to biodiversity?
- (A) Earthquake
 - (B) Volcanic eruption
 - (C) Industrial pollution
 - (D) Tsunami
20. Which of the following organizations works to conserve biodiversity globally?
- (A) FIFA
 - (B) WHO
 - (C) WWF (World Wide Fund for Nature)
 - (D) NATO
21. What does a biodiversity index measure?
- (A) Climate of a region
 - (B) Number of predators in an ecosystem
 - (C) Variety and abundance of species in an area
 - (D) Soil fertility
22. Which of the following is a commonly used biodiversity index?
- (A) BMI Index
 - (B) Simpson's Index
 - (C) Richter Scale
 - (D) Hertz Index
23. In Simpson's Index of Diversity, a higher value indicates:
- (A) Lower biodiversity
 - (B) Higher biodiversity
 - (C) No biodiversity
 - (D) Only one species present
24. What does the Shannon-Wiener Index take into account?
- (A) Only species richness
 - (B) Species richness and evenness
 - (C) Only number of predators
 - (D) Only plant diversity
25. Species richness refers to:
- (A) Number of genes in a species
 - (B) Number of habitats in an area
 - (C) Total number of species in an area
 - (D) Amount of food available
26. What does species evenness measure?
- (A) The height of organisms
 - (B) Distribution of individuals among species
 - (C) Number of extinct species
 - (D) The temperature of the habitat

27. A low biodiversity index may indicate:
- (A) A healthy ecosystem
 - (B) A stable climate
 - (C) Environmental stress or disturbance
 - (D) High food availability
28. Which index value range typically represents the Simpson's Diversity Index (D)?
- (A) 0 to 10
 - (B) 0 to 100
 - (C) 0 to 1
 - (D) 1 to 1000
29. If an area has many individuals of one species and few of others, its evenness is:
- (A) High
 - (B) Low
 - (C) Moderate
 - (D) Not measurable
30. Why are biodiversity indexes useful?
- (A) To increase pollution
 - (B) To remove invasive species
 - (C) To assess and compare ecosystem health
 - (D) To measure rainfall
31. What is the main goal of conservation strategies?
- (A) Increase industrial production
 - (B) Protect natural resources and biodiversity
 - (C) Promote urbanization
 - (D) Build more roads
32. Which of the following is an in-situ conservation method?
- (A) Botanical gardens
 - (B) Seed banks
 - (C) National parks
 - (D) Zoos
33. What does ex-situ conservation involve?
- (A) Protecting species in their natural habitat
 - (B) Conserving species outside their natural habitat
 - (C) Planting more crops
 - (D) Logging and deforestation
34. Which strategy helps to prevent soil erosion?
- (A) Overgrazing
 - (B) Deforestation
 - (C) Contour plowing
 - (D) Mining
35. Wildlife sanctuaries are mainly established to:
- (A) Promote tourism
 - (B) Protect endangered species
 - (C) Expand agricultural land
 - (D) Build cities

36. Which of these is a renewable resource?
- (A) Coal
 - (B) Petroleum
 - (C) Wind energy
 - (D) Natural gas
37. Afforestation is the process of:
- (A) Cutting down forests
 - (B) Growing plants in deserts
 - (C) Planting trees in barren lands
 - (D) Digging trenches
38. The practice of using resources in a way that meets present needs without compromising future needs is called:
- (A) Industrialization
 - (B) Overexploitation
 - (C) Sustainable development
 - (D) Urban development
39. Which international agreement aims to protect biodiversity?
- (A) Paris Agreement
 - (B) Kyoto Protocol
 - (C) Convention on Biological Diversity
 - (D) Geneva Convention
40. What is the role of a biosphere reserve?
- (A) Promote mining in forest areas
 - (B) Protect both wildlife and human settlements
 - (C) Conserve biodiversity and support research
 - (D) Convert forests into farmland
41. Which of the following is a biodiversity hotspot in India?
- (A) Thar Desert
 - (B) Indo-Gangetic Plain
 - (C) Western Ghats
 - (D) Sundarbans
42. Who introduced the concept of 'Biodiversity hotspot'?
- (A) Charles Darwin
 - (B) Norman Myers
 - (C) Edward Wilson
 - (D) Rachel Carson
43. A region must have at least ____% of its original natural vegetation lost to be classified as a biodiversity hotspot.
- (A) 10%
 - (B) 30%
 - (C) 50%
 - (D) 70%

44. How many biodiversity hotspots are currently recognized globally?
- (A) 25
(B) 34
(C) 36
(D) 40
45. Which of the following is not a criterion for a biodiversity hotspot?
- (A) High population density
(B) High species endemism
(C) High level of habitat loss
(D) Presence of at least 1,500 vascular plants as endemics
46. What is the purpose of the Red Data Book?
- (A) To record environmental laws
(B) To document endangered and extinct species
(C) To list protected areas
(D) To catalog medicinal plants
47. The Red Data Book is published by which organization?
- (A) UNEP
(B) WWF
(C) IUCN
(D) UNESCO
48. In the Red Data Book, species classified as 'Critically Endangered' are those that:
- (A) are abundant and widespread
(B) are at an extremely high risk of extinction in the wild
(C) are newly discovered
(D) have recovered from endangerment
49. What color is typically associated with the most threatened species in the Red Data Book?
- (A) Green
(B) Blue
(C) Yellow
(D) Red
50. Which of the following Indian animals is listed as Critically Endangered in the IUCN Red List?
- (A) Indian Peafowl
(B) Bengal Tiger
(C) Great Indian Bustard
(D) Asiatic Lion
51. Which hormone primarily regulates reproductive behaviour in males?
- (A) Estrogen
(B) Oxytocin
(C) Testosterone
(D) Progesterone

52. Courtship behaviour in animals is primarily meant to:
- (A) Defend territory
 - (B) Avoid predators
 - (C) Attract mates
 - (D) Establish dominance
53. Which of the following is an example of asexual reproduction?
- (A) Budding in Hydra
 - (B) Internal fertilization in mammals
 - (C) External fertilization in frogs
 - (D) Copulation in reptiles
54. Which reproductive strategy involves producing many offspring with low survival rates?
- (A) K-selection
 - (B) Monogamy
 - (C) Parental investment
 - (D) r-selection
55. In birds, which behaviour is commonly associated with attracting mates?
- (A) Hibernation
 - (B) Nest building
 - (C) Migration
 - (D) Song calling
56. Which of these is a secondary sexual characteristic in male peacocks?
- (A) Long tail feathers
 - (B) Large beak
 - (C) Sharp claws
 - (D) Bright eye color
57. Which of the following is not a function of reproductive behaviour?
- (A) Mate selection
 - (B) Nest construction
 - (C) Thermoregulation
 - (D) Parental care
58. Which term describes organisms that change sex during their lifetime?
- (A) Monogamous
 - (B) Polygamous
 - (C) Hermaphrodites
 - (D) Sequential hermaphrodites
59. Which behaviour ensures reproductive success by preventing other males from mating with a female?
- (A) Lekking
 - (B) Mate guarding
 - (C) Dispersal
 - (D) Cannibalism

60. Which of the following is an advantage of internal fertilization?
- (A) Requires water medium
 - (B) Lower energy investment
 - (C) Higher chance of fertilization
 - (D) Easier dispersal of offspring
61. Territorial behaviour in animals is mainly used to:
- (A) Promote group hunting
 - (B) Protect food and mating areas
 - (C) Reduce body temperature
 - (D) Attract predators
62. Which of the following is a common way animals mark territory?
- (A) Dancing
 - (B) Moulting
 - (C) Urination or scent marking
 - (D) Vocal mimicry
63. What is the term for physical or vocal displays used to defend territory without actual fighting?
- (A) Agonistic behaviour
 - (B) Passive aggression
 - (C) Courtship
 - (D) Migration
64. Which animal is well known for using song to establish territory?
- (A) Lion
 - (B) Robin
 - (C) Crocodile
 - (D) Octopus
65. Which of the following best describes a 'home range'?
- (A) The area where animals migrate
 - (B) An area with restricted access
 - (C) A shared area used for feeding and resting
 - (D) An exclusive breeding territory
66. Territorial behaviour tends to reduce:
- (A) Population
 - (B) Conflict over resources
 - (C) Reproduction
 - (D) Survival
67. Which of the following is not typically defended in territorial behaviour?
- (A) Water sources
 - (B) Food supply
 - (C) Mating partners
 - (D) Predators

68. In many species, only males are territorial during:
- (A) Summer
 - (B) Non-breeding season
 - (C) Breeding season
 - (D) Migration
69. Number of wild life sanctuaries in India are:
- (A) 282
 - (B) 492
 - (C) 403
 - (D) 98
70. Susceptibility to extinction increases due to:
- (A) Higher trophic level
 - (B) Large body size
 - (C) Small population size
 - (D) All of the above
71. Animal species should be protected because they are:
- (A) God's creation
 - (B) Useful to humans
 - (C) To be studied by zoologists
 - (D) Once lost, cannot be created
72. Siberian crane is a regular visitor of which bird sanctuary:
- (A) Chilka Lake
 - (B) Bharatpur
 - (C) Periyar
 - (D) Manas
73. Similipal is:
- (A) Sanctuary
 - (B) National Park
 - (C) Biosphere reserve
 - (D) Zoo
74. Govind Sagar Bird sanctuary, H.P. is famous for:
- (A) Teal, Ducks, Cranes
 - (B) Tiger, Rhinoceros
 - (C) Elephant, Hippopotamus
 - (D) Musk Deer, Jackal
75. Which chemical signal is often used to mark territory?
- (A) Neurotransmitter
 - (B) Enzyme
 - (C) Hormone
 - (D) Pheromone
76. What type of territory is defended only during certain seasons or times?
- (A) Core territory
 - (B) Transitory territory
 - (C) Seasonal territory
 - (D) Peripheral territory

77. What is the main objective of establishing wildlife protected areas?
- (A) To promote tourism
 - (B) To conserve wildlife and their habitats
 - (C) To develop urban infrastructure
 - (D) To increase agricultural production
78. Which of the following is not a type of wildlife protected area in India?
- (A) National Park
 - (B) Wildlife Sanctuary
 - (C) Biosphere Reserve
 - (D) Industrial Zone
79. The Wildlife Protection Act was enacted in which year?
- (A) 1952
 - (B) 1962
 - (C) 1972
 - (D) 1982
80. Which of the following is covered under Schedule I of the Wildlife Protection Act, 1972?
- (A) Common house sparrow
 - (B) Indian Pangolin
 - (C) Nilgiri Tahr
 - (D) Bengal Tiger
81. Under the Wildlife Protection Act, 1972, hunting of wild animals is:
- (A) Allowed with a permit
 - (B) Completely banned
 - (C) Allowed during certain seasons
 - (D) Allowed for scientific research only
82. What authority is responsible for managing wildlife protected areas in India?
- (A) Forest Department
 - (B) Wildlife Crime Control Bureau
 - (C) Ministry of Agriculture
 - (D) Ministry of Transport
83. Which of the following is an example of a National Park in India?
- (A) Jim Corbett National Park
 - (B) Keoladeo Ghana Sanctuary
 - (C) Bharatpur Bird Sanctuary
 - (D) Kanha Biosphere Reserve
84. The term 'Sanctuary' in wildlife protection refers to:
- (A) An area where hunting is permitted
 - (B) An area where animals are protected but some human activities are allowed
 - (C) An urban park
 - (D) A breeding center for domestic animals

85. The Wildlife Protection Act, 1972 provides legal protection to how many schedules of animals?
- (A) 2
(B) 4
(C) 6
(D) 8
86. The primary purpose of a Biosphere Reserve is to:
- (A) Promote industrial development
(B) Conserve biodiversity with sustainable use of natural resources
(C) Develop tourism infrastructure
(D) Create hunting zones
87. The scientific study of animal behaviour is called:
- (A) Psychology
(B) Ethology
(C) Ecology
(D) Anatomy
88. Who is known as the father of Ethology?
- (A) Charles Darwin
(B) Ivan Pavlov
(C) Konrad Lorenz
(D) Karl von Frisch
89. Behaviour present at birth without learning is:
- (A) Instinctive
(B) Learned
(C) Conditional
(D) Acquired
90. The experiment of salivation in dogs by bell sound was done by:
- (A) Watson
(B) Pavlov
(C) Skinner
(D) Lorenz
91. Waggle dance in honeybees indicates:
- (A) Danger
(B) Food location
(C) Nest building
(D) Mating
92. Which bird is famous for courtship dance?
- (A) Crow
(B) Pigeon
(C) Peacock
(D) Parrot

93. The study of biological clocks is called:
- (A) Biorhythmology
 - (B) Cercado rhythmology
 - (C) Chronobiology
 - (D) Circadian mammalogy
94. Biological rhythm is a:
- (A) Function repeated through time in the same order and with the same, interval
 - (B) Events repeated at a particular time and at a particular place
 - (C) Device to measure time
 - (D) Physiological event, always under the control of environment
95. The first circadian mutants were discovered in:
- (A) *Apis cerana*
 - (B) Cicada
 - (C) *Drosophila melanogaster*
 - (D) *Neurospora*
96. In *Drosophila melanogaster*, circadian movements are under the control of:
- (A) Only per gene
 - (B) Per and tim genes
 - (C) d clock and dB mall genes
 - (D) All of the above
97. The most-light sensitive protein produced during biological clock of *Drosophila melanogaster*'s is:
- (A) PER protein
 - (B) JRK protein
 - (C) CYC protein
 - (D) TIM protein
98. Control of 14. In man circadian rhythms are under the:
- (A) Thalamus
 - (B) Suprachiasmatic nuclei
 - (C) Pineal gland
 - (D) Melatonin
99. Circadian rhythms are
- (A) Highly sensitive to temperature
 - (B) Moderately sensitive to temperature
 - (C) Slightly sensitive to temperature
 - (D) Not sensitive to temperature
100. The adaptive value of communication is:
- (A) No effect on survival
 - (B) Increases fitness
 - (C) Reduces fitness
 - (D) Only for fun

Rough Work / रफ कार्य

Example :

Question :

Q.1 (A) ● (C) (D)

Q.2 (A) (B) ● (D)

Q.3 (A) ● (C) (D)

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 & 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.

उदाहरण :

प्रश्न :

प्रश्न 1 (A) ● (C) (D)

प्रश्न 2 (A) (B) ● (D)

प्रश्न 3 (A) ● (C) (D)

5. प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
6. सभी उत्तर केवल ओ०एम०आर० 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. ओ०एम०आर० 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 में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।
11. परीक्षा-कक्ष में लॉग-बुक, कैल्कुलेटर, 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 प्रश्नपुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सिरिज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।