

(6 pages)

Reg. No. :

Code No. : 7422

Sub. Code : HZOE 11

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2015.

First Semester

Zoology

Elective – BIOSYSTEMATICS AND BIODIVERSITY

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Genetic organization of living beings is known as _____.
- (a) Phenotype (b) Genotype
(c) Morphogenesis (d) Heterozygous

2. Which one of the following is the main aim of plants bleeders?
- (a) To grow taller and taller plants
(b) To grow only plants
(c) To grow only seeds
(d) To increase the yield of grains and fruits per acre of land
3. As a rule, in breeding is possible between _____
- (a) Any two members of a species
(b) Any two members of a genus
(c) Any two members of an order
(d) Any two members of a family
4. Species of reproductively isolated when they are _____
- (a) Growing in different heights
(b) Growing together in the same area
(c) Infertile
(d) Flowering at different times
5. The term systematic was coined by _____
- (a) John Ray (b) De Candolle
(c) Theophrastus (d) Linnaeus

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6. IUBS stands for _____.
 (a) International Urbanized Biological System
 (b) International Urgent Biological System
 (c) International Urgent Biological Science
 (d) International Union Biological Science
7. EIA is abbreviation form of _____.
 (a) Environmental Impact Assessment
 (b) Ecosystem International Agency
 (c) Ecosystem International Agent
 (d) Environmental Input Area
8. Father of taxonomy is _____.
 (a) John Ray (b) Linnaeus
 (c) Aristotle (d) Darwin
9. The offspring from a cross between two individuals different in at least one set of characters is called _____.
 (a) Variant (b) Mutant
 (c) Polyploid (d) Hybrid
10. Cladistics is related with _____.
 (a) Phylogeny
 (b) Numerical taxonomy
 (c) Cytotaxonomy
 (d) None of these

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PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is Phenetics? And explain the importance of Phenetics in biosystematics.

Or

- (b) Write a brief notes on chemotaxonomy.

12. (a) Comment on the evolutionary significance of therapsids.

Or

- (b) Write a short note on lineage and describe the types and change of lineage.

13. (a) Huxley called birds as "Glorified Reptiles". Substantiate this statement.

Or

- (b) Describe the taxonomic characters of biological diversity.

14. (a) Give a brief account on the significance of trochophore.

Or

- (b) Distinguish between Chondrichthyes and Osteichthyes.

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15. (a) Comment on ICZN.

Or

- (b) Comment on following terms :
(i) Shanon-Weiner index
(ii) Brilloun diversity index.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Compare and contrast the five kingdom and six kingdom classifications.

Or

- (b) Explain the importance of reptilian skull in biosystematics.

17. (a) Write an essay on panmictic and apomictic species.

Or

- (b) Give an account on Species concept in biosystematics.

18. (a) Discuss the different kinds of taxonomic characters.

Or

- (b) Comment on the diversity of modern amphibians and briefly mention the major threats faced by this group.

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19. (a) Discuss the advantages of coelom and metamerism in animal world with suitable examples and narrate the significance.

Or

- (b) Comment on the phylogenetic position of molluscs among invertebrates and describe molluscan adaptive radiation.

20. (a) Describe how the relationship between habitat area and number of species relates to forecasting of future extinctions.

Or

- (b) Define the following diversity terms :

- (i) Diversity index
(ii) Endemism
(iii) Matrix
(iv) Domino effect
(v) Size matter.

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