

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2024
(Fourth Semester)

Branch – ZOOLOGY

EVOLUTION

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. What is the primary driving force behind evolution?
(i) Natural selection (ii) Artificial selection
(iii) Genetic drift (iv) Mutation
2. Fossil evidence is crucial in supporting Darwin's theory because it:
(i) Confirms the fixity of species
(ii) Shows sudden and drastic changes in species
(iii) Provides a record of gradual changes over time
(iv) Rejects the concept of natural selection
3. What is speciation?
(i) Evolution of a single species
(ii) Formation of new species
(iii) Extinction of a species
(iv) Genetic variation within a species
4. Which of the following is an example of convergent evolution?
(i) The wings of bats and birds
(ii) The fins of fish and dolphins
(iii) The limbs of cats and dogs
(iv) The leaves of deciduous and evergreen trees
5. During which geological epoch did the evolution of horses begin?
(i) Pleistocene (ii) Miocene
(iii) Holocene (iv) Eocene

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Describe the findings from the Urey Miller experiment.
OR
b Outline the Oparin and Haldane theory of biochemical evolution.
- 7 a Summarize the basic principles of Lamarckism theory.
OR
b Describe the salient features of mutation theory.
- 8 a Differentiate the temporal and behavioral isolation.
OR
b Highlight the stages of sympatric speciation.

Cont...

- 9 a Explain the concept of adaptive radiation in evolution.
OR
b Illustrate the causes of adaptive radiation in evolution.
- 10 a Outline the features of Merychippus horse.
OR
b Differentiate the distinctive characteristics of Ape and Humans.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

- 11 a Elucidate the comparative anatomy evidence of evolution.
OR
b Discuss the physiological evidence of evolution.
- 12 a Explain the natural selection of industrial melanism.
OR
b Discuss the geological time scale and their types.
- 13 a Explain the reproductive isolation mechanism of evolution.
OR
b Differentiate the allopatric and parapatric speciation.
- 14 a Explain the convergent evolution and their examples.
OR
b How do animals use warning coloration and mimicry to protect themselves? Explain.
- 15 a Discuss the evolution history of Equus Horse.
OR
b Examine the cultural evolution of man and their characteristics.

Z-Z-Z

END