

**U.G. 6th Semester Examination - 2020****ZOOLOGY****Course Code : BZOOCCHC602****Course Title : Evolutionary Biology**

Full Marks : 30

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **ten** from the following:  $1 \times 10 = 10$
- a) Define species.
  - b) Define mass extinction.
  - c) What is coacervate particles?
  - d) What is 'Era'?
  - e) What do you mean by 'Hominin'?
  - f) Define mutation.
  - g) What do you mean by 'cline'?

- h) According to the 'Endosymbiosis theory', which cell organelles have an important role in the formation of the eukaryotic cell?
  - i) Give the name of any two ancestors and relatives of modern human (fossil records).
  - j) The K-T extinction marks the end of which era?
  - k) What is the importance of 'Hardy-Weinberg' principle?
  - l) Give an example of the Lamarck's proposition of 'Use and Disuse of Organs'.
  - m) What is 'sexual selection'?
  - n) Write down any two key characters of 'primate'.
  - o) What is 'cladogram'?
2. Answer any **five** from the following:  $2 \times 5 = 10$
- a) Write a short note on 'Molecular Clock'.
  - b) Distinguish between convergent and divergent evolution.
  - c) Write the salient features of 'RNA world'-hypothesis.
  - d) Write the salient features of Darwin's theory of 'Natural Selection'.

- e) Distinguish between Allopatric and Sympatric Speciation.
- f) What is 'Bottleneck Effect'?
- g) What are the main causes of 'Heritable Variation'?
- h) Point out some important modifications 'that took place in the body of Hyracotherium (Eohippus) to make them large, grazing and fast running animal (Equus).

3. Answer any **two** of the following:  $5 \times 2 = 10$

- a) How did Urey and Miller experimentally prove the 'abiogenic molecular evolution of life' on earth?  $3 + 2 = 5$
- b) Define adaptive radiation. Explain it with the example of Finch Speciation on the Galapagos (Darwin's Finches).  $2 + 3 = 5$
- c) What are the factors that influencing-Speciation? Write a short note on 'Hardy-Weinberg'- assumptions on evolution.  $2 + 3 = 5$

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