

B.Sc. (Honours) Examination, 2019

Semester–II(CBCS)

Zoology

Course – CC-4

(Cell Biology)

Time: Three Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer *any five* questions.

1. Describe the different types transport systems across cell membranes with diagrams and examples. 8
 2. Describe the role of MPF in mitotic cell division. How MPF activity is regulated by means of phosphorylation and dephosphorylation? 6+2=8
 3. What do you know about GPCR? Write down the role of cAMP in GPCR signalling using suitable example. 3+5=8
 4. What are the main protein fibers of cytoskeleton? Compare them with suitable diagram. Elaborate the structure and function of Flagella. 1+3+2+2=8
 5. Explain the ultra-structure of nucleus with diagram. What is nuclear pore complex? Explain nuclear transport mechanism. 4+1+3=8
 6. What is endosymbiotic theory? Give evidences in favour of endosymbiotic theory with special reference to mitochondria. What is Electron Transport Chain (ETC)? Write the name of the initiator and the final electron acceptor of ETC. 2+3+1+2=8
 7. Write short notes on the following (*any two*): 4×2=8
 - (a) Structure and function of tight junctions.
 - (b) Function of Golgi complex.
 - (c) Virus.
 - (d) Function of Peroxisome.
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