

2022
B.A./B.Sc.
Second Semester
CORE – 4
ZOOLOGY
Course Code: ZOC 2.21
(Cell Biology)

Total Mark: 70
Time: 3 hours

Pass Mark: 28

Answer five questions, taking one from each unit.

UNIT-I

1. Distinguish between prokaryotic and eukaryotic cells giving examples. Add a note on the similarities and differences of virus, viroids and mycoplasma. 9+5= 14
2. Describe the mechanism of active and passive transport system in living organisms. Draw a schematic diagram depicting the mechanism. 10+4=14

UNIT-II

3. Describe the morphology, types, and function of endoplasmic reticulum with the help of a labelled diagram. 7+4+3=14
4. What is protein sorting? Explain the role of ER, Golgi apparatus and lysosomes in protein transport with the help of a flow diagram. 3+9+2=14

UNIT-III

5. Write a short note on the following: 7×2=14
 - (a) Structures and semi-autonomic nature of mitochondria.
 - (b) Peroxisomes

6. With the help of a diagram, discuss the structure and function of microtubules and intermediate filaments. 2+6+6=14

UNIT-IV

7. What is nuclear pore complex? Explain its morphology with the help of a diagram and state its function. 2+12=14
8. Write a short note on the following: 7×2=14
- (a) Polytene chromosome
 - (b) Supernumerary chromosome

UNIT-V

9. How is meiosis different from mitosis? Explain the different stages of meiosis and state its significance. 3+11=14
10. Explain cell cycle with a neat labelled diagram. How is it regulated? 7+7=14
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