

19U516

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Name:

Reg.No:

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS - UG)

CC19U ZOL5 B06 - CELL BIOLOGY AND GENETICS

(Zoology - Core Course)

(2019 Admission - Regular)

Time : 2.5 Hours

Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Why do we put oil on the specimen slide when it is kept under high magnification lens?
2. What is mounting in histology? Name two agents used for mounting.
3. What is kinetosome?
4. Give the structure of Nucleosome.
5. Distinguish between microfilaments and intermediate filaments.
6. Draw the structure of nuclear pore complex.
7. Give a summary of major mitotic events in each four sub-phase.
8. What are the characteristic changes that occur in an apoptotic cell?
9. What is epistasis?
10. Explain Atavism with an example.
11. What is complete linkage?
12. What is human colour blindness? Mention the inheritance type.
13. Comment on the importance of SRY gene.

14. Comment on sex-reversal with example.
15. Comment on Down's syndrome.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer *all* questions. Each question carries 5 marks.

16. What is Atomic Force Microscopy? What are the advantages and disadvantages of AFM over scanning electron microscope?
17. What is glycocalyx? What are their functions?
18. Give the structural details of Ribosome
19. Enumerate cancer cell characteristics.
20. Explain the inheritance of coat colour in rabbit.
21. Explain Crossing over frequency.
22. Explain various types of gene mutations.
23. Comment on autosomal gene mutation with examples.

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any *two* questions. Each question carries 10 marks.

24. What are the major modifications of plasma membrane? Add a note on the different functions of plasma membrane.
25. Elaborate the process of cell cycle.
26. Explain Rh factor and write a note on erythroblastosis foetalis.
27. Explain the chromosome mechanism of sex determination in different organisms.

(2 × 10 = 20 Marks)
