

B. SC. DEGREE (C.B.C.S.S) EXAMINATION, JANUARY 2019
(2016 Admission Supplementary)
SEMESTER V - CORE COURSE (BOTANY)
BO5B06TB - CELL BIOLOGY AND GENETICS

Time : 3 Hours

Maximum Marks : 60

Part A

I. Answer all questions. Each question carries 1 marks **(5x1=5)**

1. What is the role of mitochondria in a cell?
2. What is a puff in a polytene chromosome?
3. Define central dogma
4. What is meant by the term linkage in genetics?
5. How does Turner's syndrome affect the body?

Part B

II. Answer any Five questions. Each question carries 2 marks **(5x2=10)**

6. Write a brief note on nucleus.
7. What are chromosomal aberrations? How are they caused?
8. What is meant by cell cycle? Draw a neat labelled diagram of cell cycle.
9. Cite the key features of Genetic code.
10. Differentiate between leading strand and lagging strand
11. Describe a test cross and a back cross with examples.
12. Brief note on sex chromosomes
13. Write a short note on cytoplasmic male sterility in plants.

Part C

III. Answer any Five questions. Each question carries 5 marks **(5x5=25)**

14. With a neat labelled diagram, describe the structure of the plasma membrane.
15. Describe the molecular mechanism of mutations.
16. Name the four steps of mitosis and briefly describe what happens in each step.
17. Discuss the enzymes and proteins involved in DNA replication
18. How does transcription occur in prokaryotes?
19. Differentiate complete and incomplete dominance with examples.
20. What is a dihybrid cross? Elucidate it with an example.
21. Brief note on any two sex chromosomal abnormalities in man

Part D

IV. Answer any Two questions. Each question carries 10 marks **(2x10=20)**

22. Write notes on special type of chromosomes you have studied
23. Describe the different forms of DNA
24. Give a detailed description on the different types of RNA and its function
25. Give a general account on the extra nuclear inheritance in plants.