

20P229

(Pages: 2)

Name.....

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2021

(CUCSS - PG)

(Regular/Supplementary/Improvement)

CC19P BO2 C06 - CELL BIOLOGY, MOLECULAR BIOLOGY, BIOPHYSICS

(Botany)

(2019 Admission onwards)

Time: Three Hours

Maximum: 30 Weightage

I. Answer any *four* questions. Each question carries 2 weightage.

1. Explain the role of Major Histocompatibility Complex (MHC) in tissue transplantation.
2. Give an account on cellular interactions and its applications.
3. Explain the DNA repair mechanisms in prokaryotes.
4. List any four applications of Molecular Phylogenetics.
5. Give an account on cellular changes during ageing.
6. Describe synaptonemal complex.
7. Elaborate the types of transcription factors that are involved in eukaryotic gene regulation

(4 × 2 = 8 Weightage)

II. Answer any *four* questions. Each question carries 3 weightage.

8. State the principle of Electrophoresis. What is the difference between uses of agarose gel electrophoresis and polyacrylamide gel electrophoresis (PAGE).
9. Explain the process of apoptosis and add a note on ageing.
10. Explain different kinds of Chromosome banding.
11. What is meant by Go cells and mitotic inducers?
12. Describe eukaryotic DNA replication with special emphasis to the enzymes involved.
13. Explain the molecular mechanism of mutation.
14. Give a brief account on Chromatography and its types.

(4 × 3 = 12 Weightage)

III. Answer any *two* questions. Each question carries 5 weightage.

15. Write an essay on different types of Centrifugation and its applications.
16. Explain the following relationship: DNA formats RNA, which makes proteins.
17. Write an essay on abnormal human karyotypes.

18. Write an essay on the genetic basis of malignant transformation with special reference to Protooncogenes and Tumour Suppressor Genes. Also add a note on cancer.

(2 × 5 = 10 Weightage)
