

2025

M.Sc. 3rd Semester Examination
MICROBIOLOGY

Paper : MCB - 301

(Cell Biology)

Full Marks : 25

Time : One Hour

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *two* questions. 2×2=4

1. What are molecular motors? Give two examples.
2. Distinguish between proto-oncogene and oncogene.
3. State the importance of JAK-STAT pathway.
4. What is MPF?

Group - B

Answer any *two* questions. 4×2=8

5. What are cell cycle check points? Discuss critically the molecular mechanism of check point regulations by cyclin dependent kinase. 1+3

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(2)

6. Describe briefly about the emerging features of a cancer cell. How natural media differ from artificial media? 2+2
7. Briefly describe the structural features of G-protein coupled receptor (GPCR) with a suitable diagram.
8. Discuss the process of quorum sensing.

Group - C

Answer any *one* question.

8×1=8

9. Write down the role of different caspases in apoptosis with a suitable diagram. Describe the role of p53 gene in cell cycle regulation. 5+3
10. Describe how cancer cells overcome the effects of tumor suppressor genes during carcinogenesis. State the importance of anaphase promoting complex (APC) for induction of anaphase. 3+5

Internal Assessment : 5 marks
