



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 3rd Semester Examination, 2022

CC6-MICROBIOLOGY

CELL BIOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

1. Answer any **five** of the following: 1×5 = 5
 - (a) What is the function of peroxisome?
 - (b) What is the endosymbiotic theory of mitochondria?
 - (c) Mention two important differences between lipid bilayer and lipid monolayer of CM.
 - (d) What is apoptosis?
 - (e) What is sarcoma?
 - (f) Why is crossing over important in meiosis?
 - (g) What are polyribosomes?
 - (h) What are the functions of actin?

2. Answer any **three** of the following: 5×3 = 15
 - (a) What are GPCRs? Describe GPCR signalling process in brief. 1+4
 - (b) What is the basic difference between apoptosis and necrosis? What are the caspases and procaspases? 2+3
 - (c) Briefly describe different properties of cancer cells. 5
 - (d) Describe the structure and function of mitochondria. 5
 - (e) What are caveolae and what is their role in plasma membrane? Write a short note on lysosomes. 2+3

3. Answer any **two** of the following: 10×2 = 20
 - (a) Describe the different phases of cell cycle giving emphasis on cell cycle checkpoints. 10
 - (b) Describe the process of mitosis. Make a note on significance of the process. 8+2
 - (c) Explain the process of protein folding, processing and quality control in ER in brief. 10
 - (d) Write a short note on different types of receptors. Describe the cAMP signalling pathway. 5+5

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