



'সমানো মন্ত্র: সমিতি: সমানী'

## UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 3rd Semester Examination, 2021

### CC6-MICROBIOLOGY

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.*

1. Answer any **five** questions from the following: 1×5 = 5
  - (a) Give examples of GPCR.
  - (b) Define secondary messenger.
  - (c) Name one drug which block mitosis.
  - (d) How many chromosomes are present in a human cell after S-phase?
  - (e) What are protofilaments?
  - (f) What is plasmodesmata?
  - (g) What is pericentriolar material?
  - (h) Write the function of p53.
  
2. Answer any **three** questions from the following: 5×3 = 15
  - (a) How are forces generated to move chromosomes and separate the poles in mitotic spindle? 5
  - (b) What is SRP protein? Write a note on insertion of protein into ER membrane. 2+3
  - (c) Explain the structure and function of Nuclear pore complex. 5
  - (d) Emphasizing the role of cdk and cyclin proteins. Explain the eukaryotic regulation in G1 and G2 phase of cell cycle. 5
  - (e) How protein glycosylation takes place in Golgi apparatus? 5
  
3. Answer any **two** questions from the following: 10×2 = 20
  - (a) Write a short note on: 5+5
    - (i) Active transport of molecules through the membrane
    - (ii) Membrane proteins.
  - (b) Explain the role of GTP in assembly and disassembly of microtubule. Write down the differences between microtubule, actin filament and intermediate filament. 6+4
  - (c) Write down with suitable diagram the activation, relay and deactivation of GPCR based signalling pathway. 4+3+3
  - (d) Write short note on: 5+5
    - (i) Chloroplast
    - (ii) Peroxisomes.

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