



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL
B.Sc. Major 1st Semester Examination, 2023

UPSIMAJ11001-PHYSIOLOGY

CELLULAR BASIS OF PHYSIOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

1. Answer any **five** questions from the following: 1×5 = 5
- (a) What do you mean by homeostasis?
 - (b) State two functions of lysosome.
 - (c) What is active transport?
 - (d) Define cell junction.
 - (e) State the function of Golgi apparatus.
 - (f) Define hyperplasia.
 - (g) What is necrosis?
 - (h) State one example of symport.

GROUP-B

Answer any three from the following

5×3 = 15

2. Briefly discuss the structure of gap junction. Mention the features of anaphase. 3+2
3. Discuss the functions of endoplasmic reticulum with special reference to protein processing and sorting. What are microsomes? 4+1
4. Define feedback system. What are the main differences between negative and positive feedback system? Give examples. 2+2+1
5. Describe the structure and functions of nucleus. 5
6. Enumerate the factors affecting the rate of diffusion through the cell membrane. 5

GROUP-C

Answer any two from the following

10×2 = 20

7. With the help of suitable diagrams write different types of tissues. 10

8. Describe the characteristic feature of carrier mediated transport. State the structural difference between prokaryotic and eukaryotic cell. 6+4
9. Describe the fluid-mosaic model of cell membrane with diagram. What do you mean by passive transport? (5+3)+2
10. Write short notes on: 5+5
- (a) Microtubules and microfilaments
 - (b) $\text{Na}^+ - \text{K}^+$ pump.

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