

U.G. 1st Semester Examination - 2021**PHYSIOLOGY****[HONOURS]****Course Code : PHYSIOL-H-CC-T-01**

Full Marks : 40

Time : $2\frac{1}{2}$ Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.***GROUP-A**1. Answer any **five** from the following questions: $2 \times 5 = 10$

- a) What is desmosome?
- b) What is antiport? Give example.
- c) Why blood is called specialized connective tissue?
- d) State the functions of peroxisomes.
- e) What are cristae?
- f) What is T-tubule?
- g) State the location and function of stratified squamous epithelia.
- h) What is myelin sheath and what is the function of it?

*[Turn Over]***GROUP-B**2. Answer any **two** from the following questions: $5 \times 2 = 10$

- a) What can freeze-fracture technique tell us about membrane proteins? 5
- b) Briefly give an idea about the different types of junctions present between the cells. 5
- c) Write briefly about different phases of cell cycle and their significance. 5
- d) Discuss with suitable example the difference between active and passive transport. 5

GROUP-C3. Answer any **two** from the following questions: $10 \times 2 = 20$

- a) What do you mean by homeostasis? Discuss with suitable example one negative and positive feedback homeostasis occurring in human body. $2 + 4 + 4 = 10$
- b) i) Briefly discuss about the types of intercellular signaling with proper example.
ii) Describe how tyrosine kinase acts as a signaling molecule to transmit extracellular signal to a cell. $6 + 4 = 10$

- c) i) How is aging different from senescence?
Mention how aging can be delayed.
 - ii) Briefly describe about endocrine and paracrine communication. $5+5=10$
 - d) i) What do you mean by semi-permeable membrane? What is the significance of this type of membrane in human physiology?
 - ii) Explain why cell membranes are fluid in nature. $6+4=10$
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