

**U.G. 5th Semester Examination - 2021**

**PHYSIOLOGY**

[HONOURS]

**Discipline Specific Elective (DSE)**

**Course Code : PHYSIOL-H-DSE-T-2**

**(Microbiology and Immunology)**

Full Marks : 40

Time : 2½ 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.*

1. Answer any **five** questions from the following:

2×5=10

- a) What do you mean by APC?
- b) What is retrovirus?
- c) Name one live attenuated and one inactivated vaccine.
- d) What is Hfr bacteria?
- e) What do you mean by allograft?
- f) What is Pasteurization?
- g) Define epitope and paratope.

2. Answer any **two** questions from the following:

5×2=10

- a) Classify bacteria on the basis of their external morphology. Give example of each type. 3+2

- b) Distinguish between Gram-positive and Gram-negative bacteria. What is the role of Porins present in the outer membrane of Gram-negative bacteria?

4+1

- c) What is vaccination? State the physiological importance of vaccination.

2+3

- d) Distinguish between affinity and avidity. What is  $\beta_2$  microglobulin?

4+1

3. Answer any **two** questions from the following:

10×2=20

- a) Write down the principle of ELISA. Describe the immunological detection mechanism through Sandwich ELISA.

3+7

- b) What do you mean by autoimmunity? Discuss the mechanism of any two autoimmune diseases.

2+4+4

- c) Write the basic structure of immunoglobulins with a neat diagram. Describe the mechanisms of antigen-antibody interactions.

6+4

- d) What is complement system? Describe the classical pathway of complement system. What are polyclonal antibodies?

2+6+2