



**WEST BENGAL STATE UNIVERSITY**

B.Sc. Honours 5th Semester Examination, 2021-22

**PHYADSE02T-PHYSIOLOGY (DSE1/2)**

**MICROBIOLOGY AND IMMUNOLOGY**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates are required to give their answers in their own words as far as practicable.  
All symbols are of usual significance.*

**Answer any five questions from the following**

8×5 = 40

1. Write notes on the following: 4×2 = 8
  - (a) Bacterial growth curve
  - (b) Autoimmune disease.
  
2. Classify immunoglobulins. What are the differences in phagocytosis process in neutrophils and monocytes? What is non-specific immunity? 3+3+2
  
3. Describe the structural differences in the cell wall of Gram-positive and Gram-negative bacteria. Give two examples of Gram-positive and Gram-negative bacteria respectively. 5+3
  
4. (a) State the difference between T cell dependent and T cell independent antigen. 3+3+2
  - (b) Describe the process of passive immunization.
  - (c) What are monoclonal antibodies?
  
5. (a) State the use of antibiotics. 2+2+4
  - (b) What is the difference between antigen and haptan?
  - (c) What are the major MHC proteins?
  
6. (a) Describe the difference between sterilization and pasteurization. 5+3
  - (b) How can antibody titer be determined?

7. (a) What are the different types of vaccines available in market? Give one example of each. 4+4  
(b) Discuss secondary immune response.
8. (a) What is meant by hypersensitivity? Classify with examples. (2+4)+2  
(b) Define cytokines with examples.

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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