



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours/Programme 4th Semester Examination, 2021

**MCBHGE04T/MCBGCOR04T- MICROBIOLOGY (GE4/DSC4)**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable..*

**Question No. 1 is compulsory and answer any *four* from the rest**

1. Answer any *four* questions from the following: 2×4 = 8
  - (a) What is the function of a hapten?
  - (b) What do you mean by clonal selection?
  - (c) What are the differences between polyclonal and monoclonal antibodies?
  - (d) Give two examples of antigen presenting cells.
  - (e) Name the causal agents of leprosy and cholera.
  - (f) What is toxoid? Give an example of toxoid.
  - (g) What are the causative agents of whooping cough and amoebic dysentery?
  - (h) What is nosocomial infection?
2.
  - (a) Explain the term ADCC. 2
  - (b) Describe the differences between allotypic and idiotypic determinants. 2
  - (c) Define epitope and paratope. 2
  - (d) What is the difference between antigen and immunogen? 2
3.
  - (a) What are the differences between humoral and cell mediated immunity? 2
  - (b) Name the Ig molecules that lack hinge regions. What are incomplete antibodies? 2
  - (c) What are plasma cells? 2
  - (d) Name the factors involved in host-pathogen interactions. 2
4.
  - (a) What are the differences between agglutination and precipitation? What is passive agglutination? 2+1
  - (b) Describe the term prozone effect. 2
  - (c) Explain the principle of ELISA. 3
5.
  - (a) What are the differences between primary and secondary immune response? 4
  - (b) What is an adjuvant? Give an example of adjuvant. 1+1
  - (c) What are different types of mycoses? 2

6. (a) What are the differences between exotoxin and endotoxin? 4  
(b) Explain the mechanism of cholera toxin with a suitable diagram. 4
7. (a) What do you mean by virulence and toxigenicity? 2  
(b) Write down the Koch's postulates. 4  
(c) What do you mean by an opportunistic pathogen? 2
8. (a) To which family does pox virus belong? 1  
(b) Name the causative agent of meningitis. 1  
(c) State the pathogenesis caused by rubella virus. 2  
(d) State the mechanism of action of sulfonamide and acyclovir. 2  
(e) What is pathogenicity island? 2
9. (a) Differentiate between the various isotypes of the immunoglobulins. 4  
(b) What are the symptoms of malaria? 2  
(c) Name two normal microflora of: (i) throat (ii) urogenital tract. 1+1

**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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