



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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