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Reg. No. :

**Code No. : 10705 E Sub. Code : JMZO 62/
SMZO 62**

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2020.

Sixth Semester

Zoology – Main

IMMUNOLOGY AND MICROBIOLOGY

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Father of Immunology is
 - (a) Robert Koch (b) Edward Jenner
 - (c) Louis Pasteur (d) Paul Ehrlich

2. One of the following is secondary lymphoid organ
 - (a) Bursa of Fabricius
 - (b) Thymus
 - (c) Tonsil
 - (d) Bone marrow

3. The protein of the antibody that binds with antigen is
- (a) Epitope (b) Mesotope
(c) Holotope (d) Paratope
4. Antigen–antibody reaction is called as
- (a) Agglutination (b) Cytolysis
(c) Precipitation (d) All of these
5. Substance which enhance the immune responses is
- (a) Hapten (b) Adjuvent
(c) Opsorin (d) Allergen
6. The large amount of immunoglobulin produce during primary immune response is
- (a) IgD (b) IgA
(c) IgE (d) IgM
7. The nuclear material without nuclear membrane is called as
- (a) Nucleolus (b) Nucleoid
(c) Nucleosome (d) Both (b) and (c)

8. In bacterial growth curve which phase is referred as growth phase
- (a) Lag phase (b) Log phase
(c) Stationary phase (d) Decline phase
9. The enzyme essential for biological nitrogen fixation is
- (a) Nitrase (b) Ammoniasase
(c) Nitrogenase (d) Oxy-Nitrase
10. The causative organism of Tuberculosis is
- (a) Bordetella pertusis
(b) Mycobacterium tuberculosis
(c) Streptococcus pyogenas
(d) Enteamebha histolytica

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Briefly explain about the structure and functions of Bursa of Fabricius.

Or

- (b) With neat labelled sketch describe the structure of Lymph node.

12. (a) With sketch explain the structural organisation of Immunoglobulin.

Or

- (b) Describe the antigen-antibody reaction, the precipitation with the help of precipitation curve.

13. (a) Lymphocyte as a unit of Immune system – Justify.

Or

- (b) What are stem cells? Explain their types and properties.

14. (a) Trace the historical milestones of microbiology.

Or

- (b) With neat sketch explain the structural organization of Bacterial cell.

15. (a) Differentiate food poisoning and food spoilage.

Or

- (b) Write short note on upper respiratory tract.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Distinguish between primary and secondary lymphoid organs. Give example.

Or

- (b) Describe the structure and functions of Thymus.

17. (a) Analyse different classes of Immunoglobulin and their properties.

Or

- (b) Bring out the Agglutination and Opsonization reactions and comment on their applications.

18. (a) Differentiate primary and secondary immune responses of humoral mediated immunity.

Or

- (b) Discuss the types of T cells and their function.

19. (a) Write in detail about continuous and batch culture of Bacteria.

Or

- (b) Critically analyse the types of media required for bacterial culture.

20. (a) Explain Gonorrhea with reference to causative organism symptoms, impact and control measures.

Or

- (b) Discuss the principles of food preservation and the routine methods adopted in food preservation.
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