KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages) **Reg. No:……**

Question Code: 26E01512 **Course Code : 24UMMB41**

UG Degree - End Semester Examinations, April 2026

Fourth Semester

B.Sc., MICROBIOLOGY

Immunology and Immunotechnology

(For those who joined in July 2024 onwards)

Time : 3Hours **Maximum : 75 Marks**

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

CO:1 K:1 1. Recall: The primary site of B-lymphocyte maturation is:

(a) Thymus (b) Spleen

(c) Bone marrow (d) Lymph node

CO:1 K:1 2. Relate: Peyer's patches are found in

(a) Lymph nodes (b) Bone marrow

(c) Small intestine (d) Thymus

CO:2 K:1 3. Which immunoglobulin is the first antibody produced in primary immune response?

(a) IgG (b) IgM

(c) IgA (d) IgE

CO:2 K:2 4. In precipitation reaction, the antigen involved is usually:

(a) Particulate (b) Lipid

(c) Cellular (d) Soluble

CO:3 K:1 5. Hybridoma technology involves fusion of:

(a) T-cells and myeloma cells (b) Plasma cells and macrophages

(c) RBCs and lymphocytes (d) B-lymphocytes and myeloma cells

CO:3 K: 2 6. The agent commonly used for cell fusion in hybridoma technique is

(a) Trypsin (b) Lysozyme

(c) PEG (d) Catalase

CO:4 K:1 7. MHC class II molecules are mainly expressed on

(a) All body cells (b) Epithelial cells

(c) Antigen-presenting cells (d) Red blood cells

CO:4 K:2 8. Select: Hyperacute rejection is mediated by

(a) Preformed antibodies (b) T-lymphocytes

(c) NK cells (d) Macrophages

CO:5 K:1 9. Choose: Type IV hypersensitivity is also called

(a) Antibody-mediated hypersensitivity (b) Immediate hypersensitivity

(c) Delayed-type hypersensitivity (d) Immune complex disease

CO:5 K:2 10. Relate: Graves' disease primarily affects the

(a) Kidney (b) Heart

(c) Pancreas (d) Thyroid gland

PART – B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 250 words.

CO:1 K: 2 11. (a) Describe the primary lymphoid organs.

(OR)

(b) Write a short note on GALT and MALT.

CO:2 K:4 12. (a) Analyze the properties of antigens.

(OR)

(b) Examine structure of an antibody molecule.

CO:3 K: 2 13. (a) Explain the principle of hybridoma technology.

(OR)

(b) Explain the principle and applications of RIA.

CO:4 14. (a) Provide an inference on the structure and functions of MHC antigens.

K: 4

(OR)

(b) Classify the types of transplants with examples.

CO:5 15. (a) Explain the mechanism of Type I hypersensitivity reaction.

K: 3

(OR)

(b) Explain the pathogenesis of Rheumatoid arthritis.

PART – C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

CO:1 16. (a) Explain the structure and functions of secondary lymphoid organs.

K: 5

(OR)

(b) Explain cell-mediated immune responses.

CO:2 17. (a) Classify immunoglobulins with their functions.

K: 4

(OR)

(b) Explain the different mechanisms of Antigen-Antibody reactions.

CO:3 18. (a) Classify ELISA and add a note on its applications.

K: 4

(OR)

(b) Explain immunofluorescence technique.

CO:4 19. (a) Explain the mechanism of graft rejection.

K: 5

(OR)

(b) Explain graft acceptance and immunological tolerance.

CO:5 20. (a) Define autoimmune diseases and classify them.

K: 4

(OR)

(b) Analyze Modern Immunization Schedule in India.