



DBJ-003-2015009

Seat No. _____

B. Sc. (Sem. V) Examination

June - 2022

MB - 501 : Microbiology

(Immunology) (2019)

Faculty Code : 003

Subject Code : 2015009

Time : 2.30 Hours]

[Total Marks : 70

Instructions:

- (1) Attempt any five (5) questions from the given questions.
- (2) All questions carry equal marks.
- (3) Support your answer with neat labelled diagram wherever applicable.

1 (a) Answer specifically: 4×1=4

- (a) Define – Immunity.
- (b) Draw – Eosinophil cell.
- (c) What is Primary response?
- (d) True or False: Thymus is a Primary lymphoid organ.

(b) Answer specifically: 1×2=2

What is herd Immunity?

(c) Answer specifically: 1×3=3

Explain the process of Phagocytosis.

(d) Write short note: 1×5=5

Secondary Organs of Immune system.

2 (a) Answer specifically: 4×1=4

- (a) Define – Specific immunity.
- (b) Draw – Neutrophil cell
- (c) What is Stem cell?
- (d) True or False: Mast cells are phagocytic cells.

- (b) Answer specifically: $1 \times 2 = 2$
Enlist properties of immune system.
- (c) Answer specifically: $1 \times 3 = 3$
Explain: Acquired Immunity
- (d) Write short note: $1 \times 5 = 5$
Innate Immunity
- 3** (a) Answer specifically: $4 \times 1 = 4$
(a) Define – Immunogen
(b) Draw – IgG
(c) What is Heptane?
(d) True or False: IgM is pentameric.
- (b) Answer specifically: $1 \times 2 = 2$
What is Polyclonal antibody?
- (c) Answer specifically: $1 \times 3 = 3$
Discuss factors affecting the immunogenicity of an immunogen.
- (d) Write short note: $1 \times 5 = 5$
Monoclonal antibody production.
- 4** (a) Answer specifically: $4 \times 1 = 4$
(a) Define – Clone
(b) Draw – IgM
(c) What is Adjuvant?
(d) True or False: IgE is a secretory antibody.
- (b) Answer specifically: $1 \times 2 = 2$
What is clonal selection theory?
- (c) Answer specifically: $1 \times 3 = 3$
Discuss Biological functions of an antibody molecule.
- (d) Write short note: $1 \times 5 = 5$
Immunoglobulin classes.
- 5** (a) Answer specifically: $4 \times 1 = 4$
(a) Define – Opsonization
(b) Draw MHC class-1 molecule
(c) What are Complements?
(d) True or False: B Lymphocytes are responsible for cell mediated immunity.

- (b) Answer specifically: $1 \times 2 = 2$
What are cytokines?
- (c) Answer specifically: $1 \times 3 = 3$
Explain: Processing and presentation of endogenous antigen.
- (d) Write short note: $1 \times 5 = 5$
Complement activation.
- 6** (a) Answer specifically: $4 \times 1 = 4$
(a) Define – Plasma cells.
(b) Draw – MHC class-2 molecule
(c) Which Ig molecule is found on the surface of B lymphocytes as its receptors?
(d) True or False: Dendritic cells are phagocytic cells.
- (b) Answer specifically: $1 \times 2 = 2$
What are Exogenous antigens ?
- (c) Answer specifically: $1 \times 3 = 3$
Explain : Generation of Humoral immune response
- (d) Write short note: $1 \times 5 = 5$
Structure and function of MHC molecules
- 7** (a) Answer specifically: $4 \times 1 = 4$
(a) Define – Tumor Specific antigens.
(b) Define: Hypersensitivity
(c) What is immunodeficiency?
(d) True or False: IgE mediates Type-I hypersensitivity.
- (b) Answer specifically: $1 \times 2 = 2$
How many types of grafts are there?
- (c) Answer specifically: $1 \times 3 = 3$
Explain: Types of graft rejection mechanism.
- (d) Write short note: $1 \times 5 = 5$
Hypersensitivity
- 8** (a) Answer specifically: $4 \times 1 = 4$
(a) Define – Tumor Associated antigens.
(b) Define: Autoimmunity
(c) What is Xenograft?
(d) True or False: Autoimmunity arise due to some sort of immunodeficiency.

- (b) Answer specifically: $1 \times 2 = 2$
What mediates Type-IV hypersensitivity?
- (c) Answer specifically: $1 \times 3 = 3$
Briefly explain organ specific Autoimmune diseases?
- (d) Write short note: $1 \times 5 = 5$
Immunodeficiency
- 9 (a) Answer specifically: $4 \times 1 = 4$
(a) Define – Normal flora
(b) Define: Toxin
(c) What is opportunistic pathogenes?
(d) True or False: Normal flora are essential for the development of immune system.
- (b) Answer specifically: $1 \times 2 = 2$
Enlist normal flora of GIT.
- (c) Answer specifically: $1 \times 3 = 3$
Briefly explain microbial adherence factors.
- (d) Write short note: $1 \times 5 = 5$
Vaccines
- 10 (a) Answer specifically: $4 \times 1 = 4$
(a) Define – Vaccine.
(b) Define: Exotoxins
(c) Enlist normal flora of skin
(d) True or False: Endotoxins are more potent than Exotoxins
- (b) Answer specifically: $1 \times 2 = 2$
Enlist beneficial role of normal flora for a human host.
- (c) Answer specifically: $1 \times 3 = 3$
Briefly explain various microbial virulence factors.
- (d) Write short note: $1 \times 5 = 5$
Stages in the process of infection.
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