

N.A

TEE/MMB203/2021/2021 - 22



Library
Brainware University
Bhubaneswar, Odisha - 751013

BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Master of Science in Microbiology

Course Name – Immunology

Course Code - MMB203

(Semester II)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) The second most abundant Ig is
 - a) IgD
 - b) IgA
 - c) IgM
 - d) IgE
- (2) Ouchterlony test is a type of ____
 - a) Electrophoresis
 - b) Immunodiffusion
 - c) Blotting
 - d) Staining
- (3) An antigen preparation and an antibody preparation are tested by immunodiffusion. Three bands are found, indicating that
 - a) The antibody was impure
 - b) There was more than one antigen
 - c) There was one antigen and one antibody
 - d) The temperature was too high
- (4) Which of the following immunoglobulins makes the largest percentage in breast milk?
 - a) IgA
 - b) IgE
 - c) IgD
 - d) IgM
- (5) Oral polio drops contain
 - a) harvested antibodies
 - b) activated pathogens
 - c) attenuated pathogens
 - d) gamma globulins
- (6) Antigen binding sites are present in
 - a) Fab regions of an antibody
 - b) Fc region of an antibody
 - c) only in the light chain
 - d) only in the heavy chain
- (7) Which of the following is useful to STIMULATE antibody production?
 - a) An adjuvant
 - b) A hapten
 - c) Antiserum
 - d) Purified antigen
- (8) Which of the following cells is involved in cell-mediated immunity?
 - a) Cancer cells
 - b) Mast cells

- c) T cells
- (9) What is true about the IgM of humans?
- a) IgM can cross the placenta
- b) IgM can protect the mucosal surface
- c) IgM is produced by high-affinity plasma cells
- d) IgM is primarily restricted in the circulation
- (10) Which will not stimulate an immune response unless they are bound to a larger molecule?
- a) Antigen
- b) Virus
- c) Hapten
- d) Antibody
- (11) Monoclonal antibodies recognize a single:
- a) Antigen
- b) Bacterium
- c) Virus
- d) Epitope
- (12) The light chains are encoded by either kappa or lambda genes. These genes consist of different segments that encode for the variable and constant domain. They are:
- a) V-J-C
- b) C-J-V
- c) J-V-C
- d) None of these
- (13) Name the heavy chain of immunoglobulin G.
- a) μ
- b) ϵ
- c) α
- d) γ
- (14) What is the name of MHC in humans?
- a) HLA
- b) H2
- c) Adjuvants
- d) Haplotype
- (15) Which of the following statement is INCORRECT about superantigens?
- a) Viral or bacterial proteins
- b) Endogenous by nature
- c) Unique binding ability
- d) Activate a large number of T-cells
- (16) Out of these, which transcription factor does not take part in B-cell activation?
- a) Abl
- b) NF- κ B
- c) Jun
- d) Fos
- (17) Cytokinin which acts as a growth factor of B-cell is _____
- a) IFN γ
- b) IL-10
- c) IL-13
- d) TNF β
- (18) Major Histocompatibility Complex is a tight cluster of linked _____
- a) Carbohydrates
- b) proteins
- c) Genes
- d) lipids
- (19) The test that is done prior to transplantation surgery to determine the compatibility of MHC proteins between donar and recipient is called
- a) MHC matching
- b) MHC typing
- c) tissue typing
- d) blood HLA test
- (20) Which of the following statement is true about the Malarial parasites?
- a) Malarial parasites can be best obtained from a patient when the temperature comes to normal
- b) Malarial parasites can be best obtained from a patient, an hour before the rise of temperature
- c) Malarial parasites can be best obtained from a patient, a few hours after the temperature reaches normal
- d) Malarial parasites can be best obtained from a patient when the temperature rises with rigour
- (21) Name the group of pattern recognition molecules which functions exclusively as a signaling receptor?

LIBRARY
Biology Department
University of Toronto

- a) CRP
c) MBL
- b) Toll-like receptor
d) LPS
- (22) T cells express a transmembrane protein that recognizes the peptide-loaded MHC (pMHC) to activate T cell-mediated immune response. The T-cell receptor is a
- a) protein of immunoglobulin superfamily
c) tyrosine kinase receptor superfamily
- b) seven transmembrane G protein family
d) is symmetrical, affecting the right and the left sides of the body
- (23) Rheumatoid arthritis is different from some other forms of arthritis as it
- a) occurs below the waist
c) generally occurs above the waist
- b) is more painful than other forms
d) is symmetrical, affecting the right and the left sides of the body
- (24) Helper CD4+ T lymphocytes recognize which one of the following types of molecules on dendritic cells?
- a) HLA class I antigen
c) Processed peptides from antigen
- b) HLA class III antigen
d) CD8 antigen
- (25) Helper T cells assist in the functions of
- a) certain B cells
c) certain B cells and other T cells
- b) certain T cells
d) None of these
- (26) Erythrocytes express the complement receptor help that transport and clear the immune complex from circulation. Which of the following complement receptor is expressed in the erythrocytes?
- a) CR1
c) CR3
- b) CR2
d) CR4
- (27) The initial complement component that is bound by complement-fixing antibodies is
- a) C5a
c) C5b
- b) C3
d) C9
- (28) Flow cytometry uses _____
- a) Heavy isotope
c) Immunological techniques
- b) Radioactive elements
d) Energy content
- (29) Which fluorescent dye can be used for red fluorescence?
- a) Rhodamine
c) Carmine
- b) Fluorescein
d) DAPI
- (30) Which of the following cell organelle actively participates in animal apoptosis?
- a) Vacuoles
c) Nucleus
- b) Chloroplast
d) Mitochondria
- (31) The concept of vaccination was first developed by
- a) Louis Pasteur
c) Edward Jenner
- b) Joseph Mister
d) Carl Landsteiner
- (32) Active immunity may be gained by
- a) natural infection
c) toxoids
- b) vaccines
d) all of these
- (33) The approach (s), which is/are currently followed to produce human monoclonal antibodies, is/are known as
- a) transformation of antigen specific B lymphocytes (EBV)
c) combination of EB Vand hybridoma techniques
- b) hybridization of 6-thioguanine-resistant human plasmacytoma with immune human lymphocytes
d) all of these

- (34) In monoclonal antibody technology, tumor cells that can replicate endlessly are fused with mammalian cells that produce an antibody. The result of this cell fusion is a
- a) myeloma
b) natural killer cell
c) hybridoma
d) lymphoblast
- (35) It is highly valued if the lymphocytes derived from the lymph node or tonsil tend to undergo fusion at
- a) high frequencies
b) moderate frequencies
c) low frequencies
d) at no frequency
- (36) The Southern blotting technique depends on
- a) similarities between the sequences of probe DNA and experimental DNA
b) similarities between the sequences of probe RNA and experimental RNA
c) similarities between the sequences of probe protein and experimental protein
d) the molecular mass of proteins
- (37) In which of the following cell mediated immunity (CMI) participates?
- a) Delayed hypersensitivity reaction
b) Graft versus host reaction
c) Allograft rejection
d) All of these
- (38) Natural killer cells are involved in
- a) tumour rejection
b) allograft rejection
c) non-specific killing of virus transformed target cells
d) all of these
- (39) Which is not an antigen-presenting cell (or APC)?
- a) B cells
b) PMNs
c) Dendritic cells
d) All of these
- (40) Antigen binding sites of an immunoglobulin are located in
- a) light chain alone
b) heavy chain alone
c) Fc region of the antibody
d) Fab regions of the antibody
- (41) Which is not a function of IgA?
- a) Protect mucosal surfaces
b) Fix complement
c) Protect eyes
d) Agglutinate antigen
- (42) The Immune system protect us by
- a) recognition only
b) Response only
c) recognition and response together
d) Identifying only
- (43) Identifying the Right answer
- a) Monocyte kills germs by phagocytosis in Blood
b) Neutrophil kills germs by phagocytosis in tissue
c) Neutrophil kills germs by phagocytosis in blood
d) Tissue macrophages are produced from neutrophil
- (44) TNF is released for employing
- a) inhibition of Tumor formation
b) Cancer cell destruction
c) Kill host pathogen cell
d) inhibit metastatic tumor
- (45) Microbes isolated directly from small pox beads and injected into individual. The method is known as
- a) Vaccination
b) Immuno sensation
c) Variolation
d) passive immunity formulation
- (46) The lymphatic system consists of all the following except
- a) blood
b) lymph nodes

L10R001
Biology 101
Lectures 1-10

- c) lymphatic vessels
 - d) lymph
- (47) All the cells of the immune system arise from
- a) cells in the synoatrial node
 - b) Stem cells in the bone marrow
 - c) primitive cells in the thymus
 - d) cells located primarily in the pons of the brain
- (48) Which of the following is true of antibody molecules?
- a) there are five different types of antibody molecules
 - b) all antibody molecules are composed of polysaccharide
 - c) an antibody molecule is often depicted as a Y
 - d) one end of an antibody is highly specific for binding an antigen
- (49) Aggregates of lymphoid nodules located in the wall of the ileum of the small intestine are-----
- a) Werner's nodes
 - b) ileal tonsils
 - c) Peyer's patches
 - d) submucosal tonsils
- (50) Which of the following is the major lymphoid organ that "trains" T lymphocytes to become immunocompetent?
- a) Peyer's patches
 - b) spleen
 - c) tonsils
 - d) thymus
- (51) Areas of lymphocytes suspended by reticular fibers in the spleen are known as-----
- a) medullary cords
 - b) red pulp
 - c) lymph sinuses
 - d) white pulp
- (52) MHC plays important role in all. Except
- a) Tissue transplantation
 - b) Blood transfusion
 - c) Antigen presentation
 - d) T-cell response
- (53) Which mouse does not have thymus and therefore does not have T cells?
- a) Nude
 - b) C57BL/6
 - c) Swiss
 - d) DBA/2
- (54) Which one of the following is not involved in innate cell-mediated immunity?
- a) Toll-like receptor
 - b) Nod molecules
 - c) T-cell receptor
 - d) Pattern-recognition receptor
- (55) Antibody that behaves as enzymes in catalyzing reactions are called:
- a) Isozymes
 - b) Holozymes
 - c) Lipozymes
 - d) Abzymes
- (56) Monoclonal antibodies can be used to detect:
- a) Protozoan infections
 - b) Diabetes
 - c) Viral pathogens
 - d) all of them
- (57) HIV cause a complete breakdown of immune system by:
- a) Binding to T-cells and destroying them
 - b) Binding to B cells and destroying them
 - c) Binding to T4 lymphocytes through CD4 antigen and destroying them
 - d) None of them
- (58) Which of these cells are usually found in the tissues?
- a) Red blood cell
 - b) Neutrophils
 - c) Mast cells
 - d) Platelets
- (59) The number of immunoglobulin domains in the heavy chain of antibody are
- a) 2
 - b) 4

c) 6

(60) MHC plays important role in all, except

a) Tissue transplantation

c) Antigen presentation

d) 8

b) Blood transfusion

d) T-cell response

Library
Brainware University
Baramulla, Kerala - 700125