AAG-003-001631 Seat No. _____

Third Year B. Sc. (Microbiology) (Sem. VI) (CBCS) Examination

April/May - 2016

MB-601 : Immunology & Clinical Microbiology

Faculty Code : 003
Subject Code : 001631

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) There are two sections. Both are compulsory.
(2) Answers of Section-I are to be written in main answer sheet only.
(3) Numbers written on right indicate marks.

SECTION - I

1 Multiple Choice Questions : **20**

(1) Health Ministry of the Government initiates large scale school level vaccination programs to develop _____ among the community.

(A) Artificial Passive Immunity

(B) Innate Immunity

(C) Herd Immunity

(D) Natural Active Immunity

(2) What is anamnesis ?

(A) Auto immune response

(B) Immunological regulation

(C) Secondary immune response

(D) Immunological memory

(3) What is GALT ?

(A) Globulin Antigenic Lymphoid Tissue

(B) Gut Associated Lymphoid Tissue

(C) Globulin Associated Lymphocytic Tissue

(D) Global Antigenic Lymphoid Tissue

(4) T-cell antigen receptors are distinguished from antibodies by which of the following ?

(A) T-Cell receptors are glycosylated

(B) T-cell receptors must interact with antigen uniquely presented by APC but not with free antigen

(C) T-Cell receptors bind various cytokines

(D) T-cell receptors are mediators of allergic reactions

(5) Who proposed the chemical nature of antibody molecule ?

(A) Kohler and Milstein

(B) Tiselius and Kabat

(C) Edleman and Porter

(D) Behring and Kitasato

(6) The basic Ig unit is composed of:

(A) 2 identical heavy and 2 identical light chains.

(B) 2 identical heavy and 2 different light chains.

(C) 2 different heavy and 2 identical light chains.

(D) 2 different heavy and 2 different light chains.

(7) Which of the following gene clusters do not contribute to antigen binding ?

(A) V_L (B) C_L

(C) V_H (D) D

(8) Which of the following statement is incorrect regarding HAT selection ?

(A) HAT is a selective medium

(B) Aminopterin blocks de novo pathway of nucleotide synthesis

(C) Hypoxanthin is converted into Guanine by HGPRT

(D) Salvage pathway requires Aminopterin and Thymidine

(9) Which organ/tissue is affected in Multiple sclerosis ?

(A) Thyroid

(B) Adrenal cortex

(C) Myelin Sheath

(D) Synovial membrane

(10) All of them are autoimmune disorders, except which one?

(A) Multiple sclerosis

(B) Hashimoto's Thyroiditis

(C) Erythroblastosis foetalis

(D) Rheumatoid Arthritis

(11) Immunological unresponsiveness to self antigens is called:

(A) Tolerance

(B) Tolerogen

(C) Memory

(D) ADCC

(12) What is CEA and AFP ?

(A) They are examples of immunosuppressive drugs

(B) They are examples of autoimmune disorders

(C) They are examples of tumor antigens

(D) They are examples of anti histramine drugs

(13) What are siderophores ?

(A) Microbial virulence factors

(B) Microbial Iron chelators

(C) Enterochelin

(D) All of above

(14) Who is an example of a convalescent carrier ?

(A) The person who has open case of a disease

(B) The person who has recovered but harbors the pathogen

(C) The person who harbors the pathogen but not ill

(D) The person who is incubating the large no. of pathogens and yet not ill.

(15) The salk and sabin vaccines are examples of vaccine against which disease ?

(A) Rubella

(B) Mumps

(C) Poliomyelitis

(D) Tetanus

(16) Which organ provides hostile environment for microbes due to dryness, low pH and presence of antimicrobial substances in it ?

(A) Skin

(B) Lacrymal fluid

(C) Duodenum

(D) Urethra

(17) In which ELISA the microtitre plate well is coated with antibodies ?

(A) Indirect ELISA

(B) Sandwich ELISA

(C) Direct ELISA

(D) Competitive ELISA

(18) Bombay blood group is associated with which blood group owners ?

(A) A (B) B

(C) AB (D) O

(19) Which word is useful to describe the principle of Mancini method ?

(A) Radial Immunodiffusion

(B) Double Diffusion

(C) lmmunochromatography

(D) lmmunoelectrophoresis

(20) As per CDC criteria, the specimen should be collected _____ administration of antimicrobial agents.

(A) Before

(B) After

(C) During

(D) None

SECTION – II

2 (a) Answer in brief : (any **three**) **6**

(1) What are the characteristics of Adaptive immunity?

(2) Give names of chemical mediators of inflammation you know.

(3) Give examples of primary and secondary lymphoid organs.

(4) Write full forms : CEA, DPT, GVH, BCG

(5) What is APC ? Explain.

(6) What are adjuvants ?

(b) Answer in brief : (any **three**) **9**

(1) Discuss the structure of IgG with diagram.

(2) What do you mean by salvage and de novo pathway ?

(3) What is erythroblastosis foetalis ?

(4) Discuss the role of host in deciding immunogenicity of an antigen.

(5) What is class switch ? Describe the theories of antibody diversity.

(6) Explain antigenic determinants.

(c) Write short notes : (any two) **10**

(1) Inflammatory response

(2) Autoimmune diseases

(3) Classes of Antibody and their function

(4) Explain hybridoma technology with applications

(5) Discuss activation of adaptive immune response

3 (a) Answer in brief : (any **three**) **6**

(1) Briefly explain Immune response to Tumor.

(2) Enlist different types of vaccines.

(3) What is serum sickness ?

(4) Explain : Microbial adherence.

(5) Give names of natural and immune blood groups.

(6) Explain in brief : AP120E and BIOLOG.

(b) Answer in brief : (any **three**) **9**

(1) Briefly explain sandwich ELISA.

(2) What is haemostasis ?

(3) Write a note on pre erythrocytic and endoerythrocytic cycles of *p.vivax*.

(4) Describe causative agent, symptoms and control of tetanus and gas gangrene

(5) Explain Western Blot assay

(6) Describe Swab and Catheter.

(c) Write short notes : (any **two**) **10**

(1) Give an overview of transplantation and immunosuppresssion.

(2) Explain various microbial virulence factors.

(3) Discuss any two Gram negative pathogenic bacteria.

(4) Explain Human blood group systems.

(5) Describe various agglutination reactions used for diagnostic purpose.

———