

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2011 – 12 & thereafter)

SUBJECT CODE: 11BY/PC/IM34
M. Sc. DEGREE EXAMINATION, NOVEMBER 2013
BIOTECHNOLOGY
THIRD SEMESTER

COURSE : CORE
PAPER : IMMUNOTECHNOLOGY
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS:

(20 x 1 = 20)

DEFINE / EXPLAIN THE FOLLOWING.

1. At what age does the thymus reach its maximal size?
 - a. during first year of life
 - b. teenage
 - c. between 40 & 50 years
 - d. After 70 years of age
2. The memory response of adaptive immunity is
 - a. for short duration
 - b. persistent memory
 - c. for minimal period
 - d. none of the above
3. Specialized cells of phagocytosis
 - a. B cells
 - b. Neutrophils
 - c. dendric cells
 - d. NK cells
4. Substances that are mixed with antigen & injected will enhance the immunogenicity of the antigen is called
 - a. Epitope
 - b. Adjuvant
 - c. Paratope
 - d. Toxoid
5. The predominant Ig class in external secretions like milk, tears etc is
 - a. Ig A
 - b. Ig G
 - c. Ig M
 - d. Ig D
6. Catalytic antibodies are
 - a. Ribozyme
 - b. Enzyme
 - c. Abzyme
 - d. Zymogen
7. The interaction between antibody & particulate antigen is
 - a. Precipitation
 - b. Precipitin
 - c. Agglutination
 - d. Agglutinin

8. Double immunodiffusion is based on
 - a. Mancini method
 - b. Ouchterlony method
 - c. Agglutination method
 - d. None of the above
9. T cells with CD8 will recognize
 - a. Class I MHC
 - b. Class II MHC
 - c. Class III MHC
 - d. None of the above
10. Professional antigen presenting cells
 - a. Dendritic cells
 - b. Macrophages
 - c. B cells
 - d. All the above
11. Cytokines secreted by leukocytes are
 - a. Lymphokines
 - b. Interleukins
 - c. Monokines
 - d. Chemokines
12. Anaphylactic reactions initiated by Ag or Ag-Ab complex is
 - a. Immediate hypersensitivity
 - b. Delayed hypersensitivity
 - c. Persistent hypersensitivity
 - d. Prolonged hypersensitivity
13. Inappropriate responses of the system against self components is
 - a. Tolerance
 - b. Hypersensitivity
 - c. Autoimmunity
 - d. Peripheral tolerance
14. Polyclonal B cell activators are
 - a. Antigens
 - b. Mitogens
 - c. Antibodies
 - d. All the above
15. Measuring the activation & effector phases of cell-mediated cytotoxic response is done by
 - a. Mixed lymphocyte reaction
 - b. Cell-mediated lympholysis
 - c. Graft-versus-host
 - d. All the above
16. Dendritic cells are very potent activators of
 - a. Naïve cells
 - b. Effector cells
 - c. Memory cells
 - d. All the above

17. Live attenuated vaccines require
 - a. Only one dose
 - b. One dose+ 1 booster
 - c. One dose+ 2 boosters
 - d. One dose+ 3 boosters
18. DNA vaccination will induce
 - a. Humoral antibody response
 - b. Cell-mediated response
 - c. Both a & b
 - d. None of the above
19. Preformed antibodies are transferred to a recipient is called
 - a. Active immunization
 - b. Passive immunization
 - c. Vaccination
 - d. None of the above
20. Innate immune mechanisms include
 - a. Complement
 - b. Interferons
 - c. NK cells
 - d. All the above

SECTION – B

ANSWER ANY FOUR QUESTIONS. EACH IN ABOUT 600WORDS: (4 x 10 = 40)

21. Give a note on various autoimmune disorders.
22. Describe about innate & adaptive immunity.
23. Describe the structure & biological activities of immunoglobulin.
24. Explain complement system.
25. Describe active & passive immunization.
26. What are antigens? Give its classification & characteristic features.

SECTION – C

ANSWER ANY TWO QUESTIONS. EACH IN ABOUT 1500WORDS :(2x20 = 40)

27. Explain Hybridoma technology.
28. Explain MHC in detail.
29. What are vaccines? Give an account on the different types of Vaccine.
30. What are cytokines? Enumerate the role of cytokines in immune response.
