

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

SUBJECT CODE: 11ZL/MC/IM54

B.Sc. DEGREE EXAMINATION - NOVEMBER 2014
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY
FIFTH SEMESTER

COURSE : MAJOR CORE
PAPER : IMMUNOLOGY
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS

(10 x 3 = 30)

1. Define

- a) Hapten b) Autocrine action c) Antibody affinity

2. State True or False

- a) IgM is a pentamer.
b) The lymph nodes are secondary lymphoid organs.
c) AMI is effective against intracellular pathogens.
d) Eosinophil is derived from the lymphoid stem cell.
e) Complement has no role to play in humoral immune response.
f) Hinge is absent in IgG.

3. Fill in the blanks

- a) _____ are the major effector cells against helminth parasites.
b) _____ cells are involved in anemnestic immune response.
c) _____ enhances the immune response to an antigen.

4. Match the following

- a) Transfusion reaction - Opsonin
b) Phagocytosis - Class I MHC
c) T_c cells - J chain
d) Ig - Type II Hypersensitive reaction
e) IgM - Secondary immune response
f) IgG - Porter

5. Choose the correct answer

- a) _____ agglutinates viral particles.
(i) IgM (ii) IgG (iii) IgA
- b) B cells which have not encountered an antigen are called _____.
(i) Pre-B cell (ii) Pro-B cell (iii) Naive B cell
- c) Vaccination is a type of _____ immunity.
(i) Active (ii) Passive (iii) Natural

6. Distinguish

- a) Type I Hypersensitivity and Type II Hypersensitivity
- b) Passive immunity and Active immunity
- c) Epitope and CDR

7. Expand

- a) ELISA b) HLA c) CDR
8. **Name** any three cells of the immune system derived from the myeloid stem cell.
9. **Draw and label** – Thymus
10. Give the **principle** behind Booster dose in Vaccination. Give any one example.

SECTION – B**ANSWER ANY FIVE QUESTIONS****(5x6=30)****(Draw diagrams where necessary)**

- 11. Draw and describe the structure of the spleen.
- 12. Draw and enlist the role of Macrophages and Neutrophils in the immune system.
- 13. Discuss Type II Hypersensitive reactions.
- 14. 'Innate immunity constitutes our body's first line of defence'- Justify.
- 15. Discuss the preparation and uses of Antivenins giving any two examples.
- 16. What are Cytokines? Enlist their nomenclature and any five functions of cytokines.
- 17. What is transplantation? Enlist any five causes of graft rejection.

SECTION – C**ANSWER ANY TWO QUESTIONS****(2 x 20 = 40)****(Draw diagrams where necessary)**

- 18. Explain the structure of an antibody molecule. Add a note on IgA and IgE.
- 19. What is Zeta potential? Enlist the principle and applications of Coomb's test.
- 20. What are the immune responses to bacterial infections? Enlist the evasive mechanisms of the bacteria to the host's responses.
- 21. Represent the Pathways of Complement activation in the form of a neat flowchart. Discuss the consequences of complement activation.
