

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2019 - 2020 & thereafter)

SUBJECT CODE: 19BY/PC/IM34

M. Sc. DEGREE EXAMINATION - NOVEMBER 2022
BIOTECHNOLOGY
THIRD SEMESTER

COURSE : CORE
PAPER : IMMUNOTECHNOLOGY
TIME : 3 HOURS

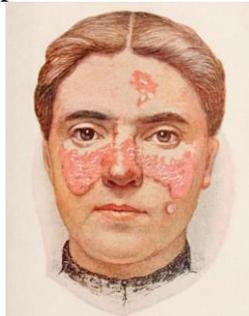
MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS:

(10 x 2 = 20)

1. What is the main function of eosinophils?
2. Differentiate between apoptosis and necrosis.
3. What is an adjuvant? Give an example.
4. An antigen A is a protein and an antigen B is a lipid, predict the immunogenicity based on the chemical composition.
5. Where are the MHC genes located in humans?
6. Define MAC.
7. Sarah was stung by a bee and immediately suffered from acute asthma and urticaria, what type of hypersensitivity could it be?
8. Identify and comment on the type of autoimmune disorder.



9. A person was suffering from joint and muscle pain and was advised to ANA test. The test result was negative. Comment.
10. Mothers vaccinated with mRNA Covid-19 vaccine, revealed that their breast milk contained both IgA and Ig G. Comment on the immunity of the mother and the infant.

SECTION – B

ANSWER ALL QUESTIONS.

(5 x 8 = 40)

11. (a) Compare and contrast innate and adaptive immunity.
(or)
(b) Relate the structure of the thymus to its immunological function.
12. (a) Give an account on the properties of antigens.
(or)
(b) *IL-6* is a predictor of postmenopausal bone loss. Elaborate.
13. (a) Relate MHC Class I molecule to the processing and presentation of antigens.
(or)
(b) Present an overview of the activation of the classical pathway of the complement system.

14. (a) Explain organ specific autoimmunity with an example.
(or)
(b) Tabulate the types of graft rejection and comment on the basis of rejection.
15. (a) Design an experiment using Rocket Immunoelectrophoresis to quantify a given antigen.
(or)
(b) Design an experiment to compare antigenic determinants.

SECTION – C

ANSWER ANY TWO QUESTIONS.

(2x20 = 40)

16. Elucidate the formation of a neutrophil and highlight its immunological function.
17. Discuss why Hybridoma technology is referred to as the gateway for therapeutic antibodies.
18. Hypersensitivity is a serious disorder of the immune system. Justify.
19. Vaccines play an essential role in the prevention of pandemics. Discuss.
