STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI –600 086
(For candidates admitted during the academic year 2015 – 16 & thereafter)

SUBJECT CODE: 15BI/PE/IM14

M. Sc. DEGREE EXAMINATION, APRIL 2018
BIOINFORMATICS
FOURTH SEMESTER

COURSE : ELECTIVE
PAPER : IMMUNOINFORMATICS
TIME : 3 HOURS **MAX.MARKS: 100**

SECTION – A

ANSWER ALL QUESTIONS **(20X1=20 MARKS)**

1. ___, ___, ____ and ___ are the barriers exist in innate immunity.
2. APC expands ____.
3. The chronic inflammation of a delayed hypersensitivity reaction is mediated by ____
   A. Lymphokines, B. Histamine, C. Bradykinin, D. Complement.
4. Phagocytes are sub-divided into two main cell types ___ and ____.
5. What class of MHC receptors is found on the surface of all nucleated cells?
6. PCA stands for ____.
7. ___ neutralize the biological effects of diphtheria toxin.
8. Name few tools for epitope prediction.
9. _____ and ____ are databases for Immunoinformatics.
10. ___ developed vaccine in 1796 against smallpox.
11. What are the types of vaccine?
12. What is adjuvant?
13. ___ gene complex encodes MHC proteins in humans
14. Comment on Reverse vaccinology
15. State the Lipinski rule
16. HLA naming system in 2010 was developed by ____.
17. Define pathogen-host interactions.
18. ____ typing is important for both identification and characterization of variants of pathogens.
19. Define Pharmacophore according to IUPAC.
20. Define ADME.

..2

SECTION – B

ANSWER ANY FOUR QUESTIONS. (4X10=40 MARKS)

21. Describe immunopathology.
22. Explain adaptive and innate immunity.
23. Give a note on epitope mapping.
24. Write the mechanism of recognition of antigen by B cells.
25. Define vaccine and available designing tools.
26. Illustrate the uses of IMGT and HLA databases.
27. Detail the application and uses of VIDA.

SECTION – C

ANSWER ANY TWO QUESTIONS (2X20=40 MARKS)

28. Define MHC. Explain in detail about its polymorphism, causes and supertypes.
29. Give a detailed note on peptides with antimicrobial activity or antibiotic peptides.
30. Describe the functional prospecting of genes and transcripts.
31. Write a note on drug discovery.

****