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3rd_SEMESTER

Roll No.

M.Tech. (BIOINFO)

Supplementary Examination

Feb-2019

BT_7011

Immunoinformatics

Time: 3:00 Hours

Max. Marks : 100

Note : Question 1 is compulsory. (30 marks)
Answer any 5 questions from question 2-7. (70 marks)
Assume suitable missing data, if any.

Part A Compulsory Section

Q.1 Write short notes on any 5 of the following:

- a. Vaccines
- b. High throughput screening
- c. Viral bioinformatics
- d. Autoimmunity
- e. Cancer Immunotherapeutics
- f. Mathematical disease model

Part B Answer any 5 questions from the following questions

Q.2 Describe how $\beta 2$ -/- and Invariant chain deficient mice will suffer from defects in MHC presentation.

Q.3 Explain the difference between immediate hypersensitivity and delayed type hypersensitivity.

Q.4 Give a comparative description of classical and alternative complement fixation pathways.

Q.5 What do you understand by HLA supertyping and what is its significance? How are computational methods useful in HLA supertyping?

Q.6 Explain how machine learning is useful in epitope prediction. Explain giving suitable case studies.

Q.7 Compare B and T cell signalling and explain how antibody or TCR repertoire for antigenic epitope formed?