

Dr. Tirath Roy

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

T2 EXAMINATION-APRIL 2018

B.Tech (BT/BI) VIII Semester and MTech (BT)

COURSE CODE: 11B2WBT853

MAX. MARKS: 25

COURSE NAME: Immunoinformatics

MAX. TIME: 1.30 Hrs

COURSE CREDITS: 3

*Note: All questions are compulsory. Carrying of mobile phone and calculator during examinations will be treated as case of unfair means.*

1. Discuss novel approaches used for the design of meningococcal vaccine. [4]

(CO-1)

2. What are DNA vaccines? Describe types of DNA vaccines, with their advantages and disadvantages. [5]

(CO-2)

3. Explain the procedure for the identification and computational characterization of T-cell epitopes for epitope vaccine design. [4]

(CO-3)

4. Explain the role of following parameters for the prediction of epitopes: [2\*2=4]

(a) Amino acid frequency (b) Secondary structure elements

(CO-3)

5. How you will perform a comparative analysis of epitope predictions? Give an example where by performing this kind of analysis you can develop a putative library of epitope candidates? [4]

(CO-2, 3)

6. How linear B-cell epitopes could be predicted for infectious diseases. Discuss how physicochemical properties could be used as a validation technique for computational characterization? [4]

(CO-3)