

Printed Pages : 2



EBT-031

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 154751**

Roll No.

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**B. Tech.**

(SEM. VII) (ODD SEM.) THEORY  
EXAMINATION, 2014-15  
**VACCINE TECHNOLOGY &  
IMMUNOINFORMATICS**

Time : 3 Hours]

[Total Marks : 100

**Note:** Attempt all questions.

1. Attempt any four parts. **5x4=20**
  - (a) Differentiate between innate and adaptive immunity.
  - (b) Explain the production of whole organism vaccine.
  - (c) What do you mean by cell mediated immune response?
  - (d) Discuss the toxoid vaccine.
  - (e) How vaccination is achieved against Hepatitis?
  
2. Attempt any two parts. **10x2=20**
  - (a) What is difference between ELISA and ELISPOT assay? Discuss the applications of ELISPOT assay.
  - (b) How principle of agglutination is used in diagnosis? Explain in detail with suitable diagram.
  - (c) Write short notes on the following
    - (i) Immunofluorescence technique
    - (ii) Immunoprecipitation

3. Attempt any two parts. **10x2=20**
- (a) Discuss the various applications of immunoinformatics.
  - (b) How reverse vaccinology plays role in modern vaccine designing?
  - (c) What do you mean by data mining ? How management information system is applied in immunoinformatics?
4. Attempt any two parts. **10x2=20**
- (a) Describe the various computational methods used for prediction of B cell epitopes.
  - (b) Illustrate the features of T cell epitopes. Discuss about TAP binders and MHC binders
  - (c) Write short notes on the following
    - (i) Differentiate between antigenecity and immunogenicity.
    - (ii) Hapten.
5. Attempt any two parts **10x2=20**
- (a) Discuss the Neural Networks and Principle Components analysis in the QSAR equations.
  - (b) What is QSPR? Discuss the method used for building a QSAR model.
  - (c) Write short notes on the following
    - (i) Cross validation coefficient in QSAR
    - (ii) Genetic algorithms.
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