Q. Code:888434

Reg. No. | | | | | | | | | |

M.E. / M.TECH. DEGREE EXAMINATIONS, MAY 2019

Second Semester

BY18202-IMMUNOTECHNOLOGY

(Biotechnology)

(Regulation 2018)

Time: Three Hours **Maximum : 100 Marks**

Answer **ALL** questions

PART A - (10 X 2 = 20 Marks)

1. Define hematopoiesis.
2. Differentiate humoral and cell mediated immune responses.
3. Write the name of any 2 monoclonal antibody and its use.
4. What is multiplex ELISA?
5. Give example of any 4 CD markers used to identify B cell and T cell.
6. What is the significance of Chromium 51 release assay?
7. What type of immunity is generated during vaccine administration?
8. Give example of any 2 conjugate vaccines.
9. Why it is necessary to develop engineered antibodies?
10. What is meant by ScFv? What are its variants?

PART B - (5 X16 = 80 Marks)

11. (a) Describe the structure and function of secondary lymphatic organs. **(16)**

(OR)

(b) (i) How does cell mediated immunity offers protection from pathogens. **(6)**

(ii) Explain in detail about different types of complement pathways and its role in diseases. **(10)**

12. (a) (i) Explain about the method of development of monoclonal antibody and screening its efficacy. **(8)**

(ii) Write in detail about any 2 types of ELISA **(8)**

(OR)

(b) (i) Write shortly about latex agglutination test and its application. **(6)**

(ii) How IgM and IgG secreting cells are detected by plaque forming cell assay? **(10)**

13. (a) (i) What is the significance of lympho proliferation assay? How it is done? **(6)**

(ii) How do you separate cells based on FACS? Explain its applications. **(10)**

(OR)

(b) (i) How safety of drug is measured using one way and two way MLR. **(8)**

(ii) Explain the principle of HLA typing and its necessity. **(8)**

14. (a) (i) Explain the following types of vaccines with examples **(6)**

(a) Live, attenuated (b) Killed, inactivated

(ii) What is recombinant vaccine? How it is developed. **(10)**

(OR)

(b) (i) How edible vaccines are produced? Explain with a case study. **(8)**

(ii) Write in detail about the reverse vaccinology approach and its application. **(8)**

15. (a) (i) How catalytic antibodies are engineered? **(8)**

(ii) Explain in detail about the methods used to create idiotypic antibody along with its applications **(8)**

(OR)

(b) (i) Give an overview on different types of combinatorial antibody library. **(8)**

(ii) How phage display is used to isolate antibodies? **(8)**