2019

B.Sc. (Hons.)

4th Semester Examination

BIOTECHNOLOGY

Paper - C9T

Immunology

Full Marks : 40 Time : 2 Hours

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

1. Answer any *five* questions from the following : 5×2=10

(a) What are meant by Antigen presenting cells (APCs)? 2

(b) Write down the properties of helper T cells. 2

(c) How does the immunonlobulin react to antigen? 2

[Turn Over]

(d) Which immunoglobulin is capable of crossing placental barrier? 2

(e) What is adjuvant? Give example. 1+1

(f) What is MHC restriction? Give example. 1+1

(g) What are cytokines? Give example. 1+1

(h) Define vaccine. Name one viral vaccine. 1+1

2. Answer any *four* questions from the following : 4×5=20

(a) Diffrentiate between innate and adaptive immunity. Mention the components of innate immunity in physiological system. 3+2

(b) What in clonal selection theory? Write down its role in immunological control through gene expression. 2+3

(c) What is MHC polymorphism? Describe the role of MHCs in antigen presentation. 2+3

(d) Differentiate between active and passive immunization. Give examples of each in modern immunization programme. 3+2

(e) What is recombinant vaccine? Elucidate its role in disease prevention. 2+3

(f) What is monoclonal antibody? Mention its importance in diagnostic processes. 3+2

3. Answer any *one* questions from the following : 1×10=10

(a) What are autoimmune diseases? Give example. Discuss the pathogenesis developed due to immunodeficience in AIDS. 5+1+4

(b) Describe the principle & applications of ELISA. (Enzyme linked Immunosorbent Assay). 10
