2 0 1 8

PG Even Semester (CBCS) Exam., May—2018

MICROBIOLOGY

(2nd Semester)

Course No. : MIBCC–201

(Cellular Microbiology and Immunology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. Discuss the various types of signalling systems in eukaryotic cell. 14

2. Discuss the importance of bacterial quorum sensing and its role in virulence in the bacterial population. 14

UNIT—II

3. *(a)* List the sources of infection and describe the methods of transmission of infection. 4

(b) Explain the differences between active and passive immunity. 5

(c) In brief, discuss the T-cell and B-cell maturation. 5

4. *(a)* Write a short note on Mucosa Associated Lymphoid Tissue (MALT). 4

(b) 'Blood group antigens are inherited according to simple Mendelian Laws." Discuss. 5

(c) Define the following : 1×5=5

(i) Natural antibodies

(ii) Opsonization

(iii) Superantigens

(iv) Atopy

(v) Natural Killer (NK) cells

UNIT—III

5. *(a)* What do you understand by T-dependent (TD) and T-independent (TI) antigens? 5

(b) In detail, discuss the important features of IgG and IgA immunoglobulin classes. 9

6. *(a)* Who coined the term 'vaccine'? Define vaccine and vaccination. 4+1=5

(b) In brief, write about the importance of conjugated polysaccharide vaccines and vector vaccines. 9

UNIT—IV

7. *(a)* With the help of labelled diagram, discuss the hybridoma technology and its uses in medical microbiology. 10

(b) In brief, write the importance of performing radio immunoassay test. 4

8. *(a)* With the help of a labelled diagram, discuss the importance and uses of complement fixation test. 10

(b) In brief, write the importance of performing enzyme-linked immuno-sorbent assay test (ELISA). 4

UNIT—V

9. *(a)* Enumerate the differences between the classical and alternative pathways. 4

(b) Name the primary and secondary mediators of anaphylaxis and differentiate between cutaneous anaphylaxis and passive cutaneous anaphylaxis. 10

10. *(a)* Briefly write about the various laws of acceptance of graft in transplantation immunology. 4

(b) In detail, discuss the graft-versus-host reaction (GVHR) and its prophylactic measures. 10

★★★