PG Even Semester (CBCS) Exam., May—2017

BIOTECHNOLOGY

(2nd Semester)

Course No. : BTYCC–201

(Immunology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* Differentiate between active and passive immunities.

(b) What are the barriers of non-specific host defenses?

(c) Give the main features of acquired immunity. 4+6+4=14

OR

2. *(a)* Write brief notes on the following :

(i) Adoptive transfer

(ii) Immunogens

(b) State the different functions of macrophages.

(c) Briefly discuss the role of thymus as a primary lymphoid organ. (2+2)+6+4=14

3. *(a)* What are complements? Name the different components of MAC.

(b) Differentiate between classical and alternate complement pathways.

(c) Write a brief note on B cells and their markers. (1+2)+6+5=14

OR

4. *(a)* Give an account of T cell activation.

(b) Briefly discuss the role of APCs in cell-mediated immunity.

(c) Write a brief note on the sources, targets and functions of the cytokines of adaptive immunity. 4+4+6=14

5. *(a)* Write short notes on the following :

(i) Phagocytosis

(ii) Opsonization

(b) What are the cardinal features of inflammation?

(c) Discuss the role of immunoglobulin gene reorganization in generation of antibody diversity. (2+2)+2+8=14

OR

6. *(a)* Write brief notes on the following :

(i) Recombination signal sequences

(ii) RAG–I and II proteins

(b) Differentiate between processing and presentation of exogenous and endogenous antigens.

(c) Differentiate between the functions of T-helper and T-cytotoxic cells.

(2+2)+6+4=14

7. *(a)* Discuss the main events in Type–II hypersensitivity.

(b) State the role of IgE in eliciting Type–I hypersensitivity.

(c) Write short notes on the following :

(i) Graves' disease

(ii) SLE 5+5+(2+2)=14

OR

8. *(a)* What is erythroblastosis fetalis and how can it be prevented?

(b) What is plasmapheresis?

(c) Citing examples, differentiate between systemic and organ-specific autoimmunity. 6+1+7=14

9. *(a)* Write short notes on the following :

(i) SCID mice

(ii) HIV

(iii) Lymphocyte trafficking

(b) Give a brief account on different immunodiagnostic techniques.

(2+2+2)+8=14

OR

10. *(a)* Write brief notes on the following :

(i) ELISA

(ii) RIA

(b) Briefly discuss the principle and applications of flow cytometry as an immunodiagnostic tool. (3+3)+8=14

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