Exam.Code:0436
Sub. Code: 3473

1059

M.Sc. (Biotechnology) Second Semester
MBIO-202: Biology of Immune System

Time allowed: 3 Hours Max. Marks: 80

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.*

x-x-x

I. Writes short notes on the following:-

a) What is the difference between primary and secondary pharmacological mediators in the type I hypersensitivity response? Name two of each.

b) What is difference between agglutination and precipitation?

c) What is lymphocyte trafficking.

d) What are sequestered antigens?

e) Role of TdT in receptor diversity on lymphocytes.

f) Pleiotropy and redundancy of cytokines. Describe these terms briefly.

g) Hapten

h) Explain TATAs and TSTA (8x2)

UNIT – I

II. a) What is MALT? Summarize its organization and functions in detail in the immune Response.
b) What are pattern recognition receptors? Describe its role in immune response.
c) Passive agglutination (6,6,4)

III. Write a note on:-

a) Direct and Indirect ELISA

b) Factors which influence immunogenicity of any immunogen.

c) Discuss the structure of an Immunoglobulin giving a well labelled diagram. Give function of each component. (5,4,7)

UNIT – II

IV. a) Explain the endocytic pathway for antigen presentation.

b) Explain Activation of T- lymphocytes in detail. What is clonal anergy.

c) Explain peptide binding by MHC I and MHC II molecules. (5,6,5)

P.T.O.

V. a) Explain the process of antibody diversity. Describe the mechanism underlying V (D) J-rearrangement of immunoglobulin gene.

b) Draw complement cascade depicting all the three pathways. (10,6)

UNIT – III

VI. a) Explain underlying proposed mechanism for development of autoimmune disorders?

b) Explain type II hypersensitivity, initiating cells and molecules, the cells and molecules that bring about the pathological effects and indicating triggers for this type of response. (8,8)

VII. Write a note on:

a) Antibody mediated cell cytotoxicity

b) Type I hypersensitivity

c) Systemic Autoimmune disorders. (5,5,6)

UNIT – IV

VIII. a) Briefly describe how tumor cells evade the immune system. What are three likely sources of tumor antigens?

b) Briefly outline the mechanisms involved in Graft versus host Disease. (8,8)

IX. Write a note on:-

a) Difference between primary and secondary Immunodeficiency disorders. Give two examples of each, also specify defects and impaired function.

b) Hybridoma technology for production of monoclonal antibodies.

c) Explain general immunosuppressive therapy for transplantation. (4,4,8)

x-x-x