Exam.Code:0036
Sub. Code: 0977

2072

B.Sc. (Hons.) Biotechnology

Fourth Semester

BIOT- 401-T: Immunology – II

Time allowed: 3 Hours Max. Marks: 67

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

x-x-x

I. Explain the following:-

a) Antigens and allergens

b) Structure of C1 molecule of complement system

c) Monoclonal and polyclonal antibodies

d) Antibody cross reactivity

e) Hashimoto's thyroiditis

f) Classification of hypersensitive reactions

g) Immune complex-mediated hypersensitivity

h) Tumor vaccines

i) Hyperacute rejection of transplant

j) Disadvantage of attenuated vaccines. (10x1½)

UNIT - I

II. a) Explain different cell adhesion molecules expressed by endothelial cells.

b) Explain components and activation of alternative pathway of complement system. (7,6)

III. a) Discuss mechanism of complement system regulation.

b) Explain biological consequences of complement system activation. (7,6)

UNIT - II

IV. a) What is hybridoma technology? Explain production of monoclonal antibodies through hybridoma technology.

b) Discuss various applications of monoclonal antibodies. (7,6)

V. a) What is agglutination reaction? Explain agglutination inhibition reactions used to determine antigen.

b) What is western blotting? Explain methodology of western blotting process. (7,6)

P.T.O.

UNIT - III

VI. a) Describe antibody, different cells and receptors of IgE involved in type-I hypersensitivity.

b) Explain transfusion reactions are type II hypersensitivity reaction. (7,6)

VII. a) Explain Insulin dependent diabetes mellitus and Grave's disease.

b) Discuss systemic lupus erythematosus as systemic autoimmune disease. (7,6)

UNIT - IV

VIII. a) Explain mechanism of allograft rejection during transplantation.

b) Discuss specific immunosuppressive therapy during transplantation of organs. (7,6)

IX. a) What is active and passive immunization? Discuss whole organism as vaccines.

b) Explain recombinant- vector vaccines. (7,6)

x-x-x