5. Attempt any two parts of the following: 10×2=20

(a) Explain the concept of graft rejection and the importance of immunosuppressive therapy in organ transplantation in humans.

(b) What are the functions of complement system? Explain briefly the pathways for activation of complement system.

(c) Write the immunological functions of :

i) B lymphocytes

ii) T lymphocytes

iii) Neutrophils

iv) Bone marrow

v) Interferon (IFN)

—x—

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NBT-404

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 154414

Roll No.

B. Tech. (IV Sem.) Even Semester

SPL. THEORY EXAMINATION, 2014-15

IMMUNOLOGY

Time : 3 Hours] *[Total Marks : 100*

Note: Attempt all questions. All questions carry equal marks.

1. Attempt any four parts of the following: 5×4=20

(a) Differentiate between humoral and cell mediated immune response.

(b) What are epitopes? Describe the characteristics of B and T cell epitopes.

(c) Write a short note on the regulation of immune response.

(d) Differentiate between passive and active immunization.

(e) Explain delayed hypersensitivity reaction.

(f) Explain terms autograft, allograft and xenograft with examples.

2. Attempt any <u>four</u> parts of the following: 5×4=20

(a) What are the major factors that can affect immunogenicity of an antigen?

(b) Explain the concept of positive & negative selection during T-cell maturation.

(c) What are haptens? How can they be used in the study of antigenicity?

(d) On what factors does the formation of an Ag-Ab lattice depend? Also explain the precipitation curve formed in antigen antibody interaction.

(e) What is the principle of Radioimmuunoassay? Explain.

(f) What is immune tolerance? Explain.

3. Attempt any <u>two</u> parts of the following: 10×2=20

(a) What are T-cells? Where do they form and mature? Explain in brief, their maturation, activation and differentiation.

(b) Describe the structure and function of immunoglobulins.

(c) What is the difference between Monoclonal antibodies and polyclonal antibodies? Explain the hydridoma technology used for the production of monoclonal antibodies.

4. Attempt any <u>two</u> parts of the following : 10×2=20

(a) What do you mean by antigen processing and presentation? Explain the Cytosolic pathway of the presentation.

(b) Differentiate between a benign and malignant tumor. Briefly describe tumor antigens. What are the possible approaches for treatement of cancer?

(c) What are the four cardinal signs of inflammation? Explain the mechanism of inflammation in detail.