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(1140) SARDAR PATEL UNIVERSITY

M Sc. GENTEICS SEM III EXAMINATION - NOVEMBER 2012

Paper: PS03CGEN01 – IMMUNOGENTICS

Date: THURSDAY, 29TH NOV 2012

Time: 2:30 PM TO 5:30 PM Max. Marks: 70

Q. 1 Choose the correct answer [8]

1. In humans, location for blood coagulation factor VIII Gene is on chromosome number
   (a) 9 (b) X (c) 22 (d) 16
2. In sickle cell anemia, amino acid change in β chain of haemoglobin at 6 position is
   (a) Valine to Glutamic acid (b) Glutamic acid toThiamine (c) Thiamine to Methionine
   (d) Glutamic acid to Valine
3. The combination of chains in peptide binding cleft In MHC II molecule is
   (a) α1β1 (b) α1 α2 β1 (c) α1 β2 (d) α1 α2
4. Erythroblastosis foetalis is example of
   (a) Rh incompatability (b) MHC incompatability (c) H2 incompatability (d) none
5. Which one of the following is an autoimmune disorder:
   a) Pernicious anemia; b) Sickle cell anaemia; c) both d) none
6. Mysthania Gravis is an example of
   a) Systemic autoimmune disorder b) organ specific autoimmune disorder c) both d) none
7. Antibody type that can cross the placenta is:
   a) Ig G; b) Ig D; c) Ig A; e) Ig M
8. The type of antigen-antibody reaction observed with soluble antigens is
   a) precipitation; b) agglutination; c) flocculation d) fragmentation

Q. 2. Attempt any seven of the following [14]

1. Define Class switching
2. What do you understand by allelic exclusion?
3. Explain the importance of immunosuppressive therapies.
4. Classify different types of ELISA
5. Draw structure of TCR
6. Enlist enzymes and proteins involved in recombination of immunoglobulin genes
7. Give the Structure of one turn and two turn RSS
8. Enlist proposed mechanisms of Autoimmunity
9. Give genetic cause for thalassemia

Q. 3. a. Give an overview of Structure and function of Ig M, Ig G and Ig E [6]

Q. 3. b Write a note on organs of immune system [6]

OR

Write a brief note on humoral and cell mediated immunity [6]

Q. 4. a. Discuss the process of recombination of any one type of immunoglobulin genes. [6]

Q. 4. b. What do you understand by antibody diversity? Discuss any five reasons for generation of antibody diversity [6]

OR

Draw a well labeled diagram of MHC class II molecule. Discuss some of its important functions. [6]

Q. 5. a. Elaborate the term Immunodiagnostics. Classify different immunodiagnostic techniques. [6]

Q. 5. b. Give an account on Attenuated and live vaccine. [6]

OR

What is Xenograft? Discuss role of transgenic animals in transplantation immunology. [6]

Q. 6. a. Explain the primary and secondary immune-deficiencies [6]

Q. 6. b. Discuss the immunological aspects of any one of the following [6]

i) Rheumatoid Arthritis
ii) Hashimoto's Thiroiditis

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