**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI**

**SECOND SEMESTER 2016-17**

**BIO F342 IMMUNOLOGY**

**MID TERM EXAMINATION**

**Max. Marks: 45 (CB 30marks & OB 15marks)**

**Time: 90 min Date: 7 /03/17**

**NOTE: Answer Closed Book & Open Book in separate answer sheets. Collect OB after completing CB.**

**CLOSED BOOK**

Q1. How does the immune system deal with parasites that are too long to be phagocytosed. (3)

Q2. Differentiate beween an epitope and a hapten. (2)

Q3. Which cell links to innate immunity with the acquired immunity. Briefly describe how? (2.5)

Q4. Give 2 important components and functions of Cutaneous Associated Lymphoid Tissue (CALT)

(2)

Q5.Why are linear and conformational determinants differentially affected by temperature? (2)

Q6. What are superantigens? How are they different from normal antigens? (2)

Q7. Differentiate between Isotope antibodies, Allotypic antibodies & Idiotypic antibodies by using suitable diagram. (4.5)

Q8. Name 4 members of the Immunoglobulin super family (other than Imunoglobulins!!!) (2)

Q9.Mention any 3 pair of molecules that may interact with each other for NK cells to mediate target cell killing.

(3)

Q10. What is the main role of Delayed type hypersensitivity? Under what conditions can it become pathological? (4)

Q11.Draw a flow diagram depiction target cell killing mediated by Fas-Fas Ligand interaction. (3)

**GOOD LUCK**

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**OPEN BOOK**

Q1.Tissue transplantation required HLA typing but blood transfusion does not. Suggest why? (2)

Q2. Which will confer a better immunological response to the progeny - multiple generations of inbreeding or multiple generations of out breeding? Justify your answer. (3)

Q3. Do T cells use the same set of V, D, and J segments as B cells? Justify your opinion. (2)

Q4. Indicate whether each of the following properties listed below apply to T cell receptor (TcR), B cell Receptor (BcR) or both. (3)

1. \_\_\_\_\_\_\_\_\_\_ is MHC restricted.
2. \_\_\_\_\_\_\_\_\_\_is monovalent.
3. \_\_\_\_\_\_\_\_\_\_exists as membrane bound and secreted form.
4. \_\_\_\_\_\_\_\_\_\_Is associated with CD3.
5. \_\_\_\_\_\_\_\_\_\_exhibits diversity generated by somatic mutation.
6. \_\_\_\_\_\_\_\_\_\_contains domains with the Immunoglobulin- fold structure.

Q5. Can VH segment directly join with the JH segment in heavy chain gene rearrangement. Justify your answer. (2)

Q6. Does Combinatorial diversity among immunoglobulins involves the following (Mention each option as either True or False) Also justify each in not more than one line. (2)

(i)mRNA splicing

(ii)DNA rearrangement

Q7. The mechanism that permits Ig to be synthesed in either a membrane bound form or a secreted form is \_\_\_\_\_\_\_\_\_\_\_\_. Justify very briefly. (1)

1. Allelic Exclusion
2. Co dominant ecpression
3. Class switching
4. One turn/ two turn joining rule
5. Differential RNA processing

**GOOD LUCK**