BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI
II SEMESTER: 2010-11
COMPREHENSIVE EXAMINATION
IMMUNOLOGY BIO F342

Max marks: 20CB+20OB
Time: 90+90min **Date: 01/05/2018**

PART A

CLOSED BOOK

Note: Be precise in your answer. Collect part B after submission of part A.

Q1. Are B cells able to generate more diversity than T cells. Justify your answer suitably. (3)

Q2. Enumerate 4 important functions of complement system. (2)

Q3. Suggest 2 mechanism by which the immune system can target intracellular pathogens by giving suitable examples. (2)

Q4. Enlist 4 mechanisms by which viruses evade the immune system Give examples of any 2. (3)

Q5. Can a DNA vaccine be produced against all antigens? Justify your answer. (2)

Q6. What vital tests should be performed before organ transplantation? Describe any 2 briefly. (2)

Q7. Suggest 4 ways by which cancer immunotherapy can be conducted. (2)

Q8. Why are nude mice used to study Cancer? (2)

Q9. What is the immunological basis of Pernicous anemia? Briefly highlight. (2)

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PART B

OPEN BOOK

Q1. Do you think that TcR would have been more powerful had it been bivalent like an antibody? Justify your Answer. (2)

Q2. Can human RBCs used instead of sheep RBCs in the complent fixation test? If so what modification would be required? (2)

Q3. Explain why NK cells from a given host will kill virus infected cells but not normal cells from that host. (2)

Q4. What factors can play an important role in emergence of new pathogens or re-emergence of pathogens thought to be earlier controlled by human populations. (2)

Q5. Is it theoretically possible to produce vaccines against all diseases? Justify your answer. (2)

Q6. Bone marrow transplantation is often associated with GVHD. How can this pathological condition be prevented? Why can't we take immunocompetent recipients to prevent GVHD? (2)

Q7. In cancer, the cells of a patient get immortalized, yet the patient dies. Why? (2)

Q8. Why do you think the body needs 5 different classes of antibodies, when an enormous repertoire could be generated even in a single class? (2)

Q9. How can you differentiate between a T cell and a B cell, phenotypically and functionally? (2)

Q10. What do you think will happen if some exogenous antigen shares antigenic determinant with eye lens protein? (2)