JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- Oct 2017

B.Tech VII Semester

COURSE CODE: 14B1WBT736 MAX. MARKS: 25

COURSE NAME: ANTIBODY ENGINEERING TECHNOLOGIES

COURSE CREDITS: 3 MAX. TIME: 1Hr 30Min

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q1. Give reasons for the following statements: **[1.5 X 4 = 6]**

a. Media cost for culture of *E. coli* is very less in comparison to mammalian cells; still mammalian cells are preferred for production of Abs.

b. IgG is NOT preferred for production of chimeric antibodies to be used for diagnostics.

c. Therapeutic antibodies are subject to intracellular catabolism rather than renal elimination.

d. Intramuscular or subcutaneous administration of antibodies is considered better than their oral administration.

Q2. Answer the following in not more than 50-100 words: **[1.5 X 4 = 6]**

a. If 3-D structure of an antigenic protein is lost after its treatment with a detergent, which cells of the immune system would still recognize it as an antigen?

b. What would be the fate an antibody if 5' Leader sequence is not transcribed with the variable gene transcript?

c. What is the significance of constant region heavy chain gene sequence/arrangement in the germ-line DNA?

d. A chimeric antibody has 50% less half life than their humanized counterpart.

Q3. Describe with diagrams the maturation and development of a progenitor B cell, showing sequence of Ig-gene rearrangements that contributes to the expression of antibody isotypes. **[5]**

Q4. Write Short Notes on: **[2 X 4 = 8]**

a. One-turn/two-turn joining rule

b. Allelic exclusion theory and its significance

c. Expression systems (Hosts) used for production of Chimeric antibodies

d. Expression vectors for production of Chimeric antibodies