Registration No. : | | | | | | | | | | |

Total number of printed pages – 2

B. Tech

PCBT 4401

Seventh Semester Examination – 2013

MEDICAL AND PHARMACEUTICAL BIOTECHNOLOGY

BRANCH : BIOTECH

QUESTION CODE : C-227

Full Marks – 70

Time : 3 Hours

*Answer Question No. **1** which is compulsory and any **five** from the rest.*
The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10

   (a) What is hybridoma technology ?

   (b) What do you mean by new generation antibiotics ? Give examples.

   (c) What is suicide gene therapy ?

   (d) How somatic gene therapy differs from germinal gene therapy ?

   (e) Write briefly about different phases of clinical trials.

   (f) What do you mean by pharmacokinetic study of any drug ?

   (g) What do you mean by gene augmentation ? Discuss its role.

   (h) Write any two enzymes studied for clinical diagnosis of malignancy.

   (i) What do you mean by biomarker ? Discuss briefly its role in disease diagnosis.

   (j) Write the principle behind 2 D PAGE electrophoresis.

2. (a) What do you mean by microbial transformation ? Explain the role of microbial transformation in the production of steroids. 5

   (b) Explain the production of insulin by the genetically engineered cells. 5

3. (a) Discuss the different domains of toxicogenomics. How toxicogenomic study helps in drug designing ? 5

P.T.O.

(b) Differentiate the targeted drug delivery system from traditional drug delivery system. Write a note on different types of drug delivery system. Discuss drug targeting with any suitable example. 5

4. What do you mean by gene therapy ? Discuss different types of gene therapy. Explain in details the *in vivo* gene therapy with suitable examples. 10

5. (a) Write a note role of enzymes in clinical diagnosis of diseases. 5

(b) Write note on DNA vaccine. 5

6. (a) Discuss the role of proteomics study in diagnosis of diseases. 5

(b) Write the different techniques utilized for the separation and identification of proteins. 5

7. (a) Write the different types of ELISA. Discuss in details about competitive ELISA. 5

(b) Discuss the different steps of drug designing in details. 5

8. Write short notes on any **two** : 5×2

(a) Production of interferon

(b) Role of biosensor in clinical analysis

(c) DNA based diagnosis of diseases

(d) Role of protein engineering in Drug designing.
