Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 10

B.Pharma (2011 to 2016) (Sem.–7)

PHARMACEUTICAL BIOTECHNOLOGY

Subject Code : BPHM-701

Paper ID : [A2908]

Time : 3 Hrs. Max. Marks : 80

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt ANY FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt ANY THREE questions.

SECTION-A

1. **Answer briefly :**

a) Define batch culture for microbial production.

b) Give the importance of surface immobilization by covalent coupling.

c) How does endocytosis differ from phagocytosis?

d) What is acquired immunity?

e) Define restriction endonucleases.

f) What are allotypic determinants?

g) Enlist common techniques used for immobilization of bacteria.

h) What are the uses of streptokinase?

i) What is continuous batch culture? How is it useful?

j) Compare and contrast transformation and transduction processes.

k) Define biotransformation.

l) What are Immunoglobulins? Give examples.

m) What are monoclonal antibodies?

n) Define mutants with examples.

o) Differentiate between haptens and antigens.

SECTION-B

2. Discuss various hypersensitivity reactions.

3. Write a note on kinetics of cell growth.

4. Discuss the nutritional requirements of bacteria.

5. What is gene cloning? Give its significance.

6. Describe the methods of irreversible enzyme immobilization.

SECTION-C

7. Explain various components of innate immune system using a flow chart, giving significance of each component.

8. Enumerate the hybridization process of DNA.

9. Explain in detail the fermentation process employed for the production of vitamin B_{12}.

10. Write notes on :

    a) Fed-batch culture

    b) Humulin

    c) Hyaluronidase

    d) Use of biotransformation in production of steroids