Bachelor of Pharmacy (B.Pharm) Fifth Semester

BP505 - Biotechnology

P. Pages : 1 **GUG/W/18/1174**

Time : Three Hours * 0 8 8 7 * Max. Marks : 80

Notes : 1. Q. No. **1** is Compulsory and solve **any four** from remaining.
2. All questions carry equal marks.
3. Illustrate your answers wherever necessary with the help of neat sketches.
4. Diagrams and Chemical equation should be drawn wherever necessary.
5. Discuss the reaction mechanism wherever necessary.

1. Solve **any four** of the following. **16**

a) Give pharmaceutical applications of biotechnology.

b) What is organogenesis and somatic embryo genesis.

c) Define BOD and COD.

d) What is Polymerase Chain Reaction (PCR)

e) What are monoclonal antibodies along with examples.

f) Give examples of biotechnology derived therapeutics product.

2. a) Explain genetic recombination DNA technology in animal cell. **8**

b) Explain in brief human gene therapy. **8**

3. Explain in detail fermentative production of penicillin. **16**

4. Explain hybridoma technology for production of monoclonal antibodies along with their applications. **16**

5. a) Describe various methods of in-vitro germ plasm conservation. **8**

b) Describe production of human insulin. **8**

6. Explain in details various techniques of plant tissue culture. **16**

7. Write note on **any four.** **16**

a) Standardization of vaccines.

b) Somatostatin and somatotropin.

c) Cellular totipotency.

d) DNA hybridisation.

e) Microbial limit tests of antibiotics.

f) Veterinary vaccines.

****