

Master of Pharmacy 1st Sem. Exam 2017

Ref. No.: Ex/PG/Pharm/T/112B/29/2017

Pharmaceutical Biotechnology-I

Time: 3h

Full marks: 100

Group A

(Use separate answer script for each group)

Answer at least two from each group. Answer five questions.

1. Write short note on the following 4X5= 20
 - (a) Genetic mapping using transformation
 - (b) Benzer's cis-trans test
 - (c) Deletion Mapping
 - (d) Simple transposition

2. a) What is mutant? Explain type of mutants with appropriate examples. b) Describe the different methods to isolate mutants. c) Briefly describe about insertion sequence, inverted repeats. (1+7+6+6=20)

3. Write short notes on the following. 4X5= 20
 - (a) Central dogma of molecular biology
 - (b) Transcription
 - (c) Basic overview of DNA cloning process
 - (d) Industrially important enzymes in pharmaceutical industries

4. Write an account on (a) penicillin amidase manufacture, (b) 7- aminocephalosporanic acid manufacture. 10+10=20

Master of Pharmacy Examination, 2017
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Answer any five questions taking at least two from each group

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Group – B

5. Write the importance of strain improvement for the production of Benzyl Penicillin with mechanism. How the excess foam is controlled during the production of Benzyl Penicillin? What is 6 A.P.A? Write the importance of 6 A.P.A in antibiotic therapy.
10+6+2+2 = 20
6. Write short notes on any two of the followings:
(a) Xenotransplantation and its importance in Biotechnology.
(b) Autologous Blood Transfusion and its importance in Hematology.
(c) Down stream processing and isolation of Benzyl Penicillin from fermentation medium.
10x2 = 20
7. (a) Define expression vector. How expression of a recombinant mammalian protein is optimized in bacterial host using an expression vector?
(b) Why recombinant mammalian proteins are generally produced by fusing to a bacterial protein in a bacterial host?
(c) What are the problems of the production of recombinant mammalian protein in *E. coli* host?
(d) Write a note on the medical applications of genetic engineering.
(1+4)+4+6+5=20
8. (a) Write about the different methods of purification of plasmid DNA from bacteria?
(b) Define genomic library? How genomic library of an organism can be constructed using plasmid as a vector? How the clone of bacteria containing the desired gene is selected from a genomic library?
(c) How the gene of interest can be isolated from a mixture of DNA fragments using an electrophoresis method?
9+ (1+3+3) +4 =20
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