

Department of Pharmaceutical Technology, Jadavpur University

M. Pharm 1st Year 1st Semester Exam 2018

Pharmaceutical Biotechnology - I

Time: 3 Hours

Full Marks: 100

Answer any five questions taking at least one from each group

Group A

1. Define mutation. How mutation plays an important role in Strain improvement? Write a brief note on: Biosynthesis of Benzyl Penicillin with special emphasis on "Down Stream Processing".

1+4+15=20
2. Briefly discuss on different antimicrobial agents obtained from Endophytes. Define Endosymbionts. What is "Taxol"?

15+3+2=20
3. Answer the following:
 - a) Obligate Parasite and obligate Endophytes - Differentiate.
 - b) Yeast and Mould - Differentiate.
 - c) Dimorphic Fungi & its pathogenecity - Discuss.
 - d) Role of Phenyl Acetic Acid (PAA) in fermentation media for the biosynthesis of Benzyl Penicillin - Discuss.

4x5=20

Ref No.: Ex/PG/PHART/111C/2018

Master of Pharmacy Examination, 2018
1st year, 1st Semester

Pharmaceutical Biotechnology- I

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Group - B

4. (a) Write a note on cutting and joining of DNA in recombinant DNA technology.
(b) What do you mean by gene library? How a gene library is prepared using bacteria? How the desired recombinant bacterial strain is selected from a gene library?
(c) Describe the role of Lac Z gene (present in a cloning vector) in selecting the recombinant host?

(4+4) + (1+2+5) + 4 = 20

5. (a) How plasmid DNA can be purified from a bacterial cell?
(b) Why recombinant protein is generally produced as a fusion product with a bacterial polypeptide in bacterial host?
(c) Write a note on OFAGE (orthogonal field alternation gel electrophoresis).

12 + 4 + 4 = 20

EX/PG/PHAR/T/111C/2018

M.PHARMACY, FIRST YEAR, FIRST SEMESTER 2018

PHARMACEUTICAL BIOTECHNOLOGY – I

TIME: 3 HOURS

FULL MARKS: 100

GROUP - C

6. (a) Schematically represent manufacture of 7-ACA by enzyme process.
- (b) Schematically represent manufacture of Vitamin-C by recombinant biotechnology. 2X10=20
7. (a) Represent gene organization.
- (b) Schematically represent basic DNA cloning process. 2X10=20

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M. PHARMACY FIRST YEAR FIRST SEMESTER

Subject: PHARMACEUTICAL BIOTECHNOLOGY- I

Time: 3hrs

Full Marks: 100

GROUP - D

Answer any five questions taking at least one from each group.

8. Short answer type questions: (any four)

(5×4)

i. Plague

ii. Genetic mapping using conjugation

iii. Transposase enzyme

iv. Insertion sequence

v. Transformation

9. a) What do you mean by complementation? Explain Benzers T4 rII analysis with diagram.
b) Describe the Replica plating method to isolate mutants.

(6+8+6)