

M. Pharmacy 1st Year, 2nd Semester Examination, 2017
Subject: Pharmaceutical Biotechnology-II

Time : Three Hours

Full Marks: 100

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

Group - A

1. Write a note on Ergot alkaloids as Antitumorigenic agents. Differentiate : Ergot and Ergot I.P.
16+4=20
2. Define endophytes. Briefly discuss the antagonistic activities of different endophytes. What is Taxol ?
4+12+4=20
3. Write a note on a) Bioethics and its importance in Medical and Pharmaceutical Biotechnology.
b) IPR in Indian perspectives.
10×2=20

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Master of Pharmacy Examination, 2017
2nd Semester

Pharmaceutical Biotechnology- II

Time: Three Hours

Full Marks: 100

Answer any five questions taking one from each group

Group – B

1. (a) What criteria should be fulfilled by an inherited disease candidate to be treated by gene therapy?
- (b) Write about the problems associated with retroviral gene delivery system.
- (c) What are the advantages and disadvantages of adenoviral gene delivery system over retroviral gene delivery system? Give an application of adenoviral gene therapy.
- (d) How cells can be targeted in gene therapy? Write about approaches for controlling gene expression in gene therapy.

$3 + 5 + (4 + 2) + (2 + 4) = 20$

3. Write a note on any two of the followings:

- (a) Application of transgenic animals and plants in recombinant protein production
- (b) Liposomal gene delivery system.
- (c) Treatment of cancer by gene therapy

$10 \times 2 = 20$

Ref. No. : Ex/PG/PHAR/T/127F/2017

M. PHARMACY, FIRST YEAR, SECOND SEMESTER 2017

Subject : PHARMACEUTICAL BIOTECHNOLOGY-II Time : 3hrs

Full Marks : 100

Group- C

Use separate answer scripts for each Group / answer any five questions

6. Write notes on

4x5= 20

- a) Define pharmacokinetics and pharmacodynamics with illustration
- b) Pharmacokinetics of protein therapeutics
- c) Absorption of protein therapeutics
- d) Factors those affect protein therapeutics

7. Schematically represent direct link PK-PD model

20

8. Schematically represent upstream and downstream processing of biopharmaceuticals

20

GROUP - D

9. (A)(I) What is basopenia in principle ? Why it is difficult to identify basopenia ? 1
- (II) What are the differences between affinity and avidity ? 1
- (III) What is idiotype antibody ? Give an appropriate example. 1
- (B) Draw a figure of IgA and label it. 8
- (C) "*All antigens are immunogens, but all immunogens are not antigens*" Is it true ?
Please justify your answer with examples. 9
10. What are the different stages of lymphocyte development and differentiation ? Please provide the role of primary and secondary lymphoid organs and antigen dependence with reference to lymphocyte differentiation. 10+10
11. What are 3 most important enzymatic analysis is used to confirm that the protein is antibody. Provide the detailed information of these 3 chemical and enzymatic digestion. Provide the details of the fragment produced after digestion along with their significance. 5+10+5

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M. PHARMACY FIRST YEAR SECOND SEMESTER – 2017

Subject: PHARMACEUTICAL BIOTECHNOLOGY- II

Time: 3hrs

Full Marks: 100

Group- E

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

12. a) What is DNA microarray and how it works?
b) What are the outcomes of Human Genome Project?
c) How will Human Genome Project be of benefit to various researches and Human beings?

(2+4)+7+7

13. a) Short answer type questions: (any four)

- i. Ultra structure of Gram-Negative Flagella.
- ii. Single nucleotide polymorphism
- iii. Protein microarray
- iv. Types of sequence alignment
- v. Structure of Prokaryotic Cell Wall
- vi. Affinity chromatography

(4X5)
