Ref. No. EX/PG/PHAR/T/127F/2018

M. Pharmacy 1st Year, 2nd Semester Examination, 2018
Subject: Pharmaceutical Biotechnology-II

Time : Three Hours **Full Marks: 100**

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

Group - A

1. Define Bioethics. Why Bioethics are so important for drug evaluation ? What is euthanasia ? Differentiate IEC and IAEC. Write the composition of IEC as per CDSCO / ICMR guidelines. 4+5+2+5+4=20

2. Briefly discuss about the cord blood preservation with its importance. What is stem cell ? Define autologus blood transfusion. 10+6+4=20

3. Write short notes on any two of the followings:
   a) Bio Safety Level –II for handling of different biotechnological issues.
   b) Write about the legal measures for protection of Innovative ideas(IPR).
   c) Bio Hazards and its safe handling.
   d) Gut-Brain Microbiota signaling for controlling chronic Irritable Bowel Syndrome(IBS)

   10+6+4=20

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Master of Pharmacy Examination, 2018
2nd Semester

Pharmaceutical Biotechnology- II

Time: Three Hours **Full Marks: 100**

Answer any five questions taking at least one from each group

Group – B

4. (a) What do you mean by *in vivo* and *ex-vivo* gene therapy?

(b) How gene expression can be controlled in gene therapy?

(c) What are the advantages of liposomal gene delivery system over viral gene delivery systems?

(d)Write a note on ethical issues related to gene therapy.

4+6+5+5= 20

5. Write a note on any ***two*** of the followings:

(a) Retroviral gene delivery system

(b) Genetic vaccination

(c) Cancer treatment by gene therapy.

10x2 = 20

Subject: Pharmaceutical Biotechnology-II

Class: M.Pharm -1st Year-2nd Semester-2018

Questions:

GROUP - C

6. A) **2 marks each**

1) Follicular Dendritic Cells are antigen presenting cells? True or False?
2) Which antibodies are characteristic of secondary immune response in case of T-independent antigens?
3) What is allotypic antibody? What is its significance?
4) What is opsonization in case of immune system? How it is helpful to any immune response?
5) What is the full form of M-cells? Where they are found in the body?

B) **5 marks each**

1) Draw a figure of IgA and label it.

2) ***"All immunogens are antigens, but all antigens are not immunogens"*** Is it true? Please justify your answer with examples.

7. What are the different stages of any immune response against any antigen or pathogen? Define each od the stages. What are the differences in these stages in case of primary and secondary immune response? **(10+10)**

8. What are 3 most important enzymatic analysis is used to confirm that the protein is antibody. Please explain. 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 2018

SUBJECT: PHARMACEUTICAL BIOTECHNOLOGY – II *TIME: 3hrs* *FULL MARKS: 100*

GROUP - D

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

9. 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
10. Schematically represent direct linked PK-PD model. 20
11. Schematically represent cell life span PK-PD model. 20