Ref. No.: Ex/PG/PHAR/T/127A/2018

M. PHARMACY FIRST YEAR SECOND SEMESTER EXAM 2018

Subject: PHARMACEUTICS - II

Full marks: 100 Time: 3 hours

Answer at least two questions from each group.

Group A

1. What is gene therapy? Give the idea of vector for human gene therapy. Give how antisense therapy is a better approach over gene therapy. How will you design antisense oligomers? Describe how rDNA technology can be used for synthesis of protein drugs industrially.

2+1+4+5+8 = 20

2. Define biotransformation. Determine designing and development of an entire biotransformation process.Describe biotransformation for synthesis of steroidal drugs of industrial importance with examples.2+12+6 = 20

3. Write short note on: 5 x4 = 20

(a) Transposon

(b) Lac Z gene as recombinant marker

(c) Palindromic sequence and blunt cut

(d) DNA melting

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Subject: PHARMACEUTICS-II **Time: Three Hours** **Full Marks: 100**

GROUP-B

Use separate Answer scripts for each Group.

Q. No		Marks
B1.	(a) Describe the mechanisms of targeted drug delivery systems.	6
	(a) Explain the concept, components and different factors need to be considered for each component for designing polymer drug conjugates. Give example of clinical PDC.	14
B2.	(a) Give structures of a poly (lactic acid), and chitosan polymer used for controlled drug delivery. What polymer is Eudragit and Pluronic.	4
	(b) A polyethylene sample made of the following distribution is given. Calculate M_n.	6

No. of chains	10	20	30	50	30
Chain length	30	50	100	150	200

	(c) Graphically show the relationship between M_w and M_n for a polymer with low polydispersity and polymer with high polydispersity. Explain the principle of at least one method by which molecular weight distribution of a polymer sample can be determined.	6
	(d) Differentiate between step growth and chain growth polymerization.	4
B3.	(a) What is T_g? Explain, possibly with suitable thermograms and equations how T_g changes can be studied and their relevance for drug-polymer interactions in pharmaceutical product development of pharmaceutical amorphous solid dispersions.	8
	(b) Define the terms: viscoelasticity, theta solvent, thermosetting, isotactic, degree of crystallinity, engineering polymers, stimuli responsive polymers and biocompatibility.	12