Ref. No.: Ex/PG/PHAR/T/128A/2018

Name of the Examination: M. PHARM. FIRST YEAR 2nd SEMESTER, 2018

Subject: PHARMACEUTICS –III **Time: three hours** **Full Marks: 100**

Group – A

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

Use separate answer script for each group

1. How triphasic emulsions may be prepared & physically stabilized? What may be the major applications of such formulation? (20)

2. Define Liposomes. How this type of formulations may be prepared? Briefly explain the physicochemical nature of the liposomal vesicle forming materials & their fate in our body. (20)

3. What are microspheres, microcapsules & nanoparticles? Briefly explain their applications as parenteral controlled release drug delivery systems. (20)

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M. PHARMACY FIRST YEAR SECOND SEMESTER EXAM 2018

Subject: PHARMACEUTICS - III

Full marks: 100 Time: 3 hours

Answer at least two questions from each group.

GROUP - B

4. Develop a two-compartmental model for drug undergone hepatic metabolism and show that $F = k_{21}/k_{21}+k_{20}$ (figure symbolizes usual meanings as per compartmental model). 20

5. Define absolute bioavailability.Deduce theequation to determine the absolute bioavailability of a drug which excretes unchanged through urine. What do you mean by clearance? Give its equation for a drug which excretes unchanged through urine. Using urinary excretion data, develop Wagner-Nelson equation to determine Ka. What is Krügner-Thieimerpharmaceutical factor? What is its importance. Write Dominiguez equation and original Nelson's equation.

2+5+1+1+5+2+2+2 = 20

6. a) A drug gets metabolized in blood. Develop equation for determination of plasma concentration of drug metabolite. What do you mean by Flip-flop model? Explain. 5+5

b) A drug is eliminated following non-linear kinetics and has km, 120 mg and Vmax 55 mg/h. If 170 mg and 380 mg drug are administered on different occasions, calculate t1/2 at different dose levels. 5

c) A drug has k = 0.05/h, Vd, 35 L, is infused to patient at a rate 2.8 mg/L. Determine concentration of the drug in the body, 2h after the infusion is stopped. 5