Subject Code: IP31B/[R13]

M. Pharmacy I Semester Regular/ Supply Examinations, April, 2015

RESEARCH METHODOLOGIES

(Common to All Specialization)

Time: 3 Hours **Max Marks: 60**

Answer any FIVE questions

All questions carry EQUAL marks

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1. a) The change that doctor A will diagnose a disease X correctly is 60%. The chance that patient will die by his treatment after correct diagnosis is 40% and the change of death by wrong diagnosis is 70%. A patient of doctor A, who had disease X, died. What is the chance that his disease was diagnosed correctly? 6M

   b) 60 Boys and 20 girls are there in a class. Half of the boys and half the girls of a class play cricket find the probability of the selected person to be a boy or a girl who plays cricket. 6M

2. a) Define regression, write the uses of regression and explain about the method of regression. 6M

   b) Write about scatter diagram and its advantages. 6M

3. In one sample of 8 observations from a normal population, the sum of the squares of deviations of the sample values from the sample mean is 84.4 and in another sample of 10 observations it was 102.6.Test at 5% level whether the populations have the same variance 12M

4. Given the following contingency table for hair colour and eye colour. Find the value of Chi- Square Is there good association between the two? 12 M

		Hair Colour			
		Fair	*Brown*	*Black*	*Total*
Eye Colour	*Blue*	15	5	20	40
	Grey	20	10	20	50
	Brown	25	15	20	60
	Total	60	30	60	150

5. Write notes on randomized complete block design (RBD) 12M

6. Discuss about composite designs to estimate curvature 12M

7. Write the general procedure of analysis of variance of one -way classification direct method. 12M

8. The following table given the number of units of productions per day turned out by four different types of machines. 12M

Employee	Type of Machines			
	M1	M2	M3	M4
E1	43	39	49	35
E2	41	44	53	45
E3	39	34	52	38
E4	49	51	56	48

Using ANOVA

i) Test the hypothesis that the mean production is the same for the four machines

ii) Test the hypothesis that the employees do not differ with respect to mean productivity

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Subject Code: CEU12/[R05]

M. Pharmacy I Semester Supply Examinations, April, 2015

PHYSICAL PHARMACEUTICS

(Pharmaceutics)

Time: 3 Hours **Max Marks: 60**

Answer any FIVE questions

All questions carry EQUAL marks

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1. Describe in detail about various methods and equipment used in solid dispersion techniques 12M

2. a) Discuss the significance of Haeckel plots in the characterization of compression process 6M
   b) Write a detailed note on physics of tablet compression 6M

3. Explain about various solubility enhancement techniques in improving solubility of poorly soluble drugs 12M

4. a) Write about the mechanisms of crystal growth 6M
   b) Explain in detail about stability problems of emulsions and suspensions 6M

5. Describe the theory and instrumentation involved in Rheology 12M

6. a) Explain in detail about properties and applications of polymers in pharmaceutical formulations 6M
   b) Write short notes on thermodynamics of polymers 6M

7. a) Write in detail about accelerated stability testing of dosage forms 6M
   b) Explain about complex order kinetics and freeze thaw methods with examples 6M

8. Explain the importance of XRD and DSC in characterization of drug molecules with suitable examples 12M

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