Sample Question Bank

Numericals given here are just for reference. Numericals based on Modules 3 and 4 can be expected. These are just sample numerical questions given here for your reference.

Chapter 3

1) The weight of the person is related to his height. Find the relationship between height and weight using linear regression and also predict the weight of the person whose height is 170cm

Height	Weight
151	63
174	81
138	56
186	91
128	47
136	57
179	76
163	72
152	62
131	48

2) Following information is obtained from the records of a business organization

Sales (in '000):	91	53	45	76	89	95	80	65
Advertisement Expense (₹ in '000)	15	8	7	12	17	25	20	13

a. Compute regression coefficients
b. Obtain the two regression equations and
c. Estimate the advertisement expenditure for a sale of Rs. 1,20,000

3) Two random variables have the regression equations
$3X + 2Y-26 = 0$
$6X+Y-31 = 0$
Find the mean values and the coefficient of correlation between X and Y. If the variance of X=25, find the standard deviation of Y from the data given above.

Chapter 4

1) Find multiple linear regression equation of Y on X_1 and X_2
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Y	4	6	7	9	13	15
X_1	15	12	8	6	4	3
X_2	30	24	20	14	10	4

2) Given the following, determine the regression equation of X2 on X1 and X3
r12 = 0.8, r13 = 0.6, r23 = 0.5, σ1 = 10, σ = 8, σ3 = 5.

3) Define following terms and give their range.

(a) Partial regression coefficient

(b) Partial correlation coefficient

(c) Multiple correlation coefficient

Chapter 5

1) A random sample of n=6 has the element 6,10,13,14,18,20. Compute the following the following point estimation

1) Population mean
2) Population standard deviation
3) The standard error of mean

2) Explain Characteristics of Estimation.

3) Explain types of estimation with examples

4) Prove that sample mean is unbiased estimator of population mean

5) Discuss in brief about Method of Moments estimators

6) Explain Point Estimation in detail with its properties

7) Explain method of maximum likelihood with its advantageous and disadvantages.

8) Explain in details moments and its type

9) Show that the sample variance (S^2) is an unbiased estimator of σ^2.

Chapter 6

1. Define and explain Hypothesis and tests of Hypothesis
2. What do you mean by Null and alternative Hypothesis Explain
3. Note on Types of Errors
4. Note on MP and UMP tests
5. Note on Neyman-Pearson Lemma

Syllabus for your PT2

1. Module 3 and 4 only Numericals
2. Module 5 and 6 refer to question bank.