SCHOOL OF PLANNING AND ARCHITECTURE, VIJAYAWADA

SEMESTER END EXAMINATIONS (REGULAR) NOVEMBER - 2016

B.PLANNING I YEAR I SEMESTER

QUANTITATIVE METHODS FOR PLANNING (BPLN105)

Maximum Marks – 50 **Time – 2.00 Hours**

a) Answer any Two questions out of 1to 4 questions.
b) Question No.5 is compulsory and answer any four out of six sub-questions.
c) Scientific calculator is allowed.

Q1. Calculate the missing frequency, mean, mode and standard deviation; co-efficient of variation for frequency distribution of 200 families as given below, the number of families corresponding to expenditure groups 20-40 and 120-140 are missing from the table. Median = 91.33. (15M)

Expenditure (in Rupees)	Number of families (f)
0-20	14
20-40	F1
40-60	28
60-80	27
80-100	15
100-120	25
120-140	F2
140-160	45

Q2. In a residential neighbourhood, eight families monthly income and expenditure pattern on housing, education and recreation are given below: (15M)

Monthly Income (in Rs.)	Expenditure on Housing (in Rs.)	Expenditure on Education (in Rs.)	Expenditure on Recreation (in Rs.)
50,000	22,000	5,000	25,000
45,000	20,000	4,500	2,250
40,000	18,000	4,000	2,000
35,000	16,000	3,500	1,750
30,000	12,500	3,000	1,500
25,000	8,000	2,500	1,250
20,000	7,000	2,000	1,000
15,000	5,000	1,500	750

Calculate the regression equations for the following:

i. Monthly Income and Expenditure on housing
ii. Monthly Income and Expenditure on education
iii. Monthly Income and Expenditure on recreation
iv. If monthly income is Rs.8,000, find the expenditure on housing, education and recreation.

P.T.O

Q3. Describe Additional and Multiplicative Theorems of probability with relevant examples. (15M)

Q4. Calculate the Spearman Rank correlation for the fathers and mothers monthly Income in an apartment complex of 10 families as given below: (15M)

Fathers Monthly Income	Mothers Monthly Income
70,000	55,000
55,000	40,000
60,000	45,000
50,000	35,000
50,000	35,000
40,000	30,000
30,000	25,000
25,000	20,000
20,000	15,000
20,000	15,000

Q5. Write short notes on any FOUR of the following: (4X5=20M)

i. Four methods of construction of Index numbers
ii. Methods of Collection of Primary Data
iii. Mutually Exclusive Events
iv. Classification and Tabulation of Data
v. Types of Co-relation
vi. Cumulative Frequency Curve

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