Roll No. _____

(Do not write anything on question paper except Roll No.)

[This paper consists of THREE Pages]

Jagan Institute of Management Studies

End-Term Examination, September-October, 2017

Trimester I – PGDM (RM) 2017-19

Quantitative Techniques

ET_RM_QT_0310

Time: 3 Hrs. *M. Marks: 70*

INSTRUCTIONS: There are TWO Sections in this question paper. Attempt any TWO questions from Section A and any FIVE Questions from Section B.

SECTION A

Q 1 Discuss scope of statistics in decision making. Also discuss descriptive and inferential statistics with different levels of data measurement. Support the discussion with suitable examples. **10**

Q 2 State and explain the importance of classification of data. Give a detailed discussion with suitable examples on types of classification. What are different charts and graphs we can be used present the data? **10**

Q 3 Data collection is an important process for any statistical analysis. What are the key derivers in taking a decision about opting particular method of data collection? Differentiate primary and secondary data. Mention different methods of primary data collection with merits and demerits. **10**

SECTION B

Q 4 Following are the income groups in a particular township of 100 residents. Find the average income along with median and modal income. Also determine the value above which top 10% income group lies. Find third quartile as well.

Income Groups	No. of batches
0 – 5	4
5 – 10	12
10 – 15	20
15 – 20	30
20 – 25	22
25 – 30	10
30 – 35	2

10

Q 5 You are given below the daily wages paid to workers in two factories X and Y

Daily Wages in 00' INR	No of Workers	
	Factory A	Factory B
2 – 3	15	25
3 – 4	30	40
4 – 5	44	60
5 – 6	60	35
6 – 7	30	20
7 – 8	14	15
8 – 9	7	5

Answer the following:

a) Which factory pays higher wages and by how much?

b) In which factory wages are more consistent?

c) Compare the skewedness' of the wages? **10**

Q 6 The following data gives subject output of steel and relative unemployment in steel Industry. Find the percentage impact on relative impact of subject output of steel on relative unemployment in steel industry.

Year	Subject output of steel (in 000 tons)	Relative Unemployment in Steel Industry (In 000)
1968	8.5	60
1969	9.2	65
1970	9.3	61
1971	8.5	74
1972	7.2	92
1973	5.9	157
1974	5.1	130
1975	6.6	106
1976	7.9	58
1977	7.6	80
1978	8.2	52
1979	9.2	45

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Q 7 A departmental store gives in-service training to its salesman. This is followed by a test. It is considering whether it should terminate the services of any sales man who does not do well in the test. The following data give the test scores and sales made by nine salesmen during a certain period. If the firm wants a minimum sales volume of Rs. 30,000 what is the minimum test score that will ensure continuation of service?

Test Scores:	14	19	24	21	26	22	15	20	19
Sales (‘000 Rs):	31	36	48	37	50	45	33	41	39

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Q 8 Formulate null and alternate hypothesis and use chi square distribution for testing independence of variables;

		Opted for Science course		
		Yes	No	Total
Gender	Male	35	25	60
	Female	15	25	40
	Total	65	35	

10

Q 9 Following data shows scores of performance of three individuals from a particular group. Use one way single factor analysis of variance to identify whether three groups are different from each other.

Groups	Group 1	Group 2	Group 3
A	3	5	6
B	4	4	7
C	3	2	5

10

Q 10 Hypothesis testing is an important statistical phenomenon in business. State and explain different types of hypotheses along with type 1 and type 2 errors with suitable examples. Give a brief discussion on different tests of hypothesis. Explain the conditional difference in use of z-test and t-test. **10**

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