S-857

Total Pages : 5 **Roll No. ----------**

MS-104

Quantitative Techniques in Management

Master of Business Administration (MBA)

1st Semester, Examination 2022(Dec.)

Time: 2 Hours Max. Marks: 70

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section – A

(Long Answer – type questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

[2 x 19 = 38]

P.T.O.

Q.1. The following data relate to advertising expenditure and sales.

Advertising expenditure (Rs.Lakhs)	1	2	3	4	5
Sales (Rs.Lakhs)	10	20	30	50	40

Required:

(a) Find out two regression equations.

(b) Estimate the likely sales when advertising expenditure is Rs. 7 lakhs.

(c) What should be the advertising expenditure if the firm wants to attain sales target of Rs. 80 lakhs.

(d) Calculate coefficient of correlation.

Q.2. Explain the various methods of collection of secondary data. Differentiate between primary data and secondary data.

Q.3. What are assignment problems? Describe mathematical formulation of an assignment problem? Enumerate the steps in the "Hungarian method" used for solving assignment problem?

Q.4. What are the measures of central tendency? Why are they called measures of central tendency? How is an average considered as a representative measure or a measure of central tendency?

Q.5. The data for the promotion and academic qualification of a company is given below:

Promotional Status	Academic Qualification		
	MBA	Non-MBA	Total
Promoted	0.14	0.26	0.40
Non-promoted	0.21	0.39	0.60
Total	0.35	0.65	1.00

(a) Calculate the conditional probability of promotion after an MBA has been identified.

(b) Calculate the conditional probability that it is an MBA when a promoted employee has been chosen.

(c) Find the probability that a promoted employee was an MBA.

P.T.O.

Section – B

(Short-answer-type questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.

[4 x 8 = 32]

Q.1. What is Arithmetic Mean. Discuss the merits and demerits of Arithmetic Mean.

Q.2. Explain the meaning and importance of time series.

Q.3. A firm manufactures two types of products X and Y and sells them at a profit of Rs. 2 on type X and Rs. 3 on type Y. Each product is processed on two machines G and H. Type X requires one minute of processing time on G and two minutes on H. Type Y requires one minute on G and one minute on H. The machine G is available for not more than 6 hours 40 minutes while machines H is available for 10 hours during any working day. Solve the problem graphically.

Q.4. Differentiate between PERT and CPM

Q.5. What are the different types of charts known to you? What are their uses?

Q.6. In a town, 10 accident took place in a span of 50 days. Assuming that the number of accidents per day follows Possion distribution, find the probability that there will be three or more accidents in a day.

Q.7. What do you mean by dispersion? What should be the quantities of good measure of dispersion?

Q.8. Discuss the difference between decision-making under certainly, under uncertainty and under risk.

****