X-26/2061 3071/ML

Business Statistics and Research Methodology-201
MBA (Correspondence Course) – Semester-II

Time: 3 Hrs. *Max Marks: 70*

Note: Attempt five questions in all selecting not more than two from each group. Each question is of 14 marks.

Group-I

1. Describe different scales in attitude measurement by emphasizing on the concept of measurement and scaling in marketing research.

2. Describe probability and non-probability sampling procedures. Decide when and how to use probability sampling techniques by discussing their statistical and economical efficiency.

3. What is the relationship among exploratory, descriptive and causal research? Explain the role of history, maturity and testing effects on efficacy of causal research.

Group-II

1. (a) Which of the two, correlation and regression analysis, has more practical significance? *(4)*

   (b) For the following data fit a straight line trend by the method of least squares and estimate the sales in 2011.

Years	Sales	Years	Sales	Years	Sales	Years	Sales
2001	950	2005	1050	2009	1200	2013	1180
2002	920	2006	1010	2010	1250	2014	1330
2003	880	2007	1100	2011	1300	2015	1400
2004	1020	2008	1150	2012	1220	2016	1250

(10)

2. (a) Describe different types of data in measurement and explain various graphical techniques used for each type of data. *(4)*

   Compute the mean, median, mode, range and inter-quartile range for following data: 2, 3, 1, 2, 6, 4, 2, 1, 5, 3, 2, 3, 1, 2, 2, 1, 3, 1, 2, 2, 4, 2, 1, 2, 8, 3, 2, 1, 1, 3. Interpret the findings. *(10)*

3. Which data collection methods can be associated with qualitative and which with quantitative research? Differentiate them by emphasizing on their association with kind of research design selected for a particular research problem. *(14)*

Group -III

1. (a) Explain the difference in testing hypothesis process of two independent and related populations. *(4)*

   (b) A company randomly selected 10 employees to measure the change in their attitude after training. The scores obtained by these employees are shown below. Use alpha as 0.10 to determine whether there is a significant change in the attitude of employees after training program.

Employees	Before training	After training	Employees	Before training	After training
1.	25	32	6.	30	28
2.	26	30	7.	22	25
3.	28	32	8.	20	30
4.	22	34	9.	21	25
5.	20	32	10.	24	28

(10)

2. Suppose that warranty records show the probability that a new car needs a warranty repair in the first 90 days is 0.05. If a sample of three new cars is selected, what is the probability that

- None needs a warranty repair?
- At least on needs a warranty repair?
- More than one needs a warranty repair?
- All three needs a warranty repair?

*(4*3.5=14)*

3. According to a report the average monthly household cellular phone bill is Rs.60. Suppose local monthly household cell phone bills are normally distributed with a deviation of Rs.11.35. What is the probability that a randomly selected monthly phone bill is

   (i) More than Rs.85.

   (ii) Between Rs.45 and Rs.70