

**FACULTY OF MANAGEMENT**  
**M.B.A. II – Semester Examination, July / August 2013**  
**Subject: Research for Marketing Decisions**  
**Course No. 2.4**

Time: 3 Hours

Max. Marks: 80

Note : Answer all the questions.

**PART – A (10x2 = 20 Marks)**

1. Write short notes on:
  - a) Marketing research
  - b) Experimental design
  - c) Semantic differential
  - d) Interval and Ratio scales
  - e) Distinguish between certainty and uncertainty
  - f) EMV
  - g) Kruskal – Wallis Test
  - h) Cost and value of information
  - i) Conjoint analysis
  - j) Oral presentation

**PART – B (5X12 = 60 Marks)**

Answer all the questions.

- 2.(a) What is Research Methodology? Give a brief account of mathematical tools for the analysis in research methodology.  
 OR  
 (b) What are the types of the research? Explain them in brief.
- 3.(a) Define data. What are different types of data and distinguish between them.  
 OR  
 (b) What are the types of scales? Explain them and give examples under each type.
- 4.(a) Suppose that a decision maker is faced with three decisions alternatives and four states of nature. Given the following profit payoff table.

Acts \ States of nature	States of nature			
	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>
A <sub>1</sub>	16	10	12	7
A <sub>2</sub>	13	12	9	9
A <sub>3</sub>	11	14	15	14

Assuming that he has no knowledge of the probability of occurrence of the states of nature, find the decisions to be recommended under each of the following criteria (i) Maximin (ii) Minimax regret (iii) Minimax.

OR

- (b) The Manager of a firm has two alternatives to choose from the next quarter.
  - i) To take a contract to supply an item to a company which would result in a profit of Rs. 20000?

- ii) To take and introduce a new product in the market the likely profit / loss possibilities along with the expected probabilities also given. Also shown are the utility values associated with the various profit levels.

Profit/loss	-20000	0	20000	40000	80000
Probability	0.1	0.2	0.3	0.3	0.1
Utility	-0.50	0	0.45	0.7	1.20

Determine which course of action the manager would prefer when he wanted to maximize (i) EMV (ii) expected utility.

- 5.(a) An agricultural officer wants to study the effect of four different fertilizers on the yield (in tons) of a specific crop. The corresponding data are as shown below:

Plot	Fertilizers			
	A	B	C	D
1	100	150	120	170
2	80	70	110	100
3	68	90	85	78
4	125	138	60	124

Check whether there is a significant difference between the yields of different fertilizers using the Kruskal-Wallis test at a significance level of 0.01.

**OR**

- (b) In a survey the number of respondents covered by two enumerators during randomly selected days is summarized as follows:

Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Enumerator-1	24	17	34	28	15	35	25	13	22	28	27	15	13	17
Enumerator-2	30	20	15	22	31	24	12	16	21	8	22	14	16	--

Check whether the two samples are drawn from identical populations against the alternate hypothesis that the populations are not identical using the Mann-Whitney U test at a significance level of 0.01.

- 6.(a) Assume a research topic of your choice and give the complete format of its research report.

**OR**

- (b) The rate of return (in percentage) of a product as a function of R&D expenditure (in lakhs of Rs.) and annual advertising expenditure (in lakhs of Rs.) for the past 7 years are summarized below:

Rate of return (y)	R&D expenditure (x <sub>1</sub> )	Annual advertising expenditure (x <sub>2</sub> )
12	12	30
15	16	50
14	18	65
18	20	75
17	18	80
15	25	95
20	30	105

Design a regression model to forecast the rate of return of the product.

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