

Code No: R9-13/MBA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

MBA-I Semester Regular Examinations February -2010

RESEARCH METHODOLOGY AND STATISTICAL ANALYSIS

Time:3hours

Max.Marks:60

Answer any Five questions

All questions carry equal marks

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- 1.a) Distinguish between diagrammatic and graphic representation of a data. Give the important rules to be followed in constructing a suitable graph.
- b) Define the following terms
- (i) Inclusive and exclusive series
  - (ii) Frequency and Tally marks
  - (iii) Raw-data and grouped data
  - (iv) Class limits and class boundaries.
- 2.a) Statistics is essentially an applied science. Its own justification lies in the help it can give in solving a problem. In the light of the above statement, explain with illustrations, how statistics can be helpful in solving business problems.
- b) Outline the main differences between quantitative and qualitative research in terms of the relationship between theory and data, epistemological considerations and ontological considerations.
- 3.a) What are the criteria for good scale? Explain nominal scale, ordinal scale, interval scale and ratio scale.
- b) Explain the following
- (i) Indgement sampling
  - (ii) Schedule of question
  - (iii) Bibliography
- 4.a) Define simple and weighted geometric mean of a given distribution. The weighted geometric mean of three numbers 229, 275 and 125 is 203. The weights for first and second number are 2 and 4 respectively. Find the weight of the third.
- b) The numbers examined, the mean weight and the standard deviation in each group of examination and two medical examiners are given below. Find the mean weight and standard deviation of both groups taken together.

Medical Examiner	Number Examiner	Mean weight in Lbs	Standard deviation in Lbs
A	50	113	6.5
B	60	120	8.2

- 5a) What do you understand by skewness? What are the various methods of skewness.
- b) Compare and contrast the roles of correlation and regression in studying the interdependence of two varieties.

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- 6.a) Ten students were given intensive coaching for a month in statistic. The scores obtained in tests 1 and 5 are given below:

S.No of students	1	2	3	4	5	6	7	8	9	10
Marks in 1 <sup>st</sup> test	50	52	53	60	65	67	48	69	72	80
Marks in 5 <sup>th</sup> test:	65	55	65	65	60	67	49	82	74	86

- b) From the following calculate the spearman's rank correlation

Marks of X college	48	33	40	09	16	16	65	24	16	57
Marks of Y college	13	13	24	06	15	04	20	09	06	19

- 7.a) Fit a straight line trend by the method of Least squares to the following data, assuming that the same ratio of change continuous, what would be the predicted earnings for the year 2010?

Year	2002	2003	2004	2005	2006	2007	2008	2009
Earning's (in lakhs)	38	40	65	72	69	60	87	95

- b) Calculate Laspeyren's and Paasches aggregate price indices for the year 2006 from the following data:

Commodities	Quantities		Price per unit	
	2005	2006	2005	2006
A	3	5	2.0	2.50
B	4	6	2.5	3.00
C	2	3	3.0	2.50
D	1	2	1.0	0.75

8. Five types of fertilizers were applied to 4 varieties of potatoes, each planted on five plots of land of the same size and fertility. The yields ( in quintals) are shown in the following table:

Fertilizer Potatoes	(1)	(2)	(3)	(4)	(5)
(A)	34	38	44	40	42
(B)	50	38	46	52	44
(C)	42	36	50	46	48
(D)	38	44	52	36	42

- Test whether (i) The effects of fertilizers and  
(ii) The effects of potato varieties are significant on the yield of potatoes?