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12MBA13

First Semester MBA Degree Examination, February 2013
Quantitative Methods - I

Time: 3 hrs. Max. Marks:100

Note: 1. ***Answer any THREE questions, from Q.No.1 to Q.No.6.***
2. Q.No. 7 and Q.No. 8 is compulsory.

PART - A

1 a. What do you mean by literature review? **(03 Marks)**

b. Differentiate Informal causal research with formal causal research design. **(07 Marks)**

c. Ten - Unbiased coins are tossed simultaneously. Find the probability of obtaining.
i) Exactly 6 heads ii) At least 8 heads iii) No heads iv) At least one heads. **(10 Marks)**

2 a. Define Business Research. **(03 Marks)**

b. Pearsons Co-efficient of skewness for a distribution is 0.4 and its co-efficient of variation is 30% ; its mode is 88 find mean and median. **(07 Marks)**

c. From the following series trace out the missing frequencies. If its median is 27.5 and number of items is 50. **(10 Marks)**

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	4	?	20	?	7	3

3 a. What do you mean by $\alpha = 0.05$? **(03 Marks)**

b. Write note on attitude measurement scales. **(07 Marks)**

c. What is sampling? Explain data collection method with examples. **(10 Marks)**

4 a. Quotations of index number of equity shares prices of a certain Joint stock company and priced of preference shares are given below :

Year	1991	1992	1993	1994	1995	1996	1997
Equity	97.5	99.4	98.6	96.2	95.1	98.4	97.1
Preference	75.1	75.9	77.1	78.2	79.0	74.8	76.2

Use the method of rank correlation to determine the relationship between equity share and preference share prices. **(05 Marks)**

b. Explain the difference between management problem V/s Research problems. **(05 Marks)**

c. A Panel of Judges A and B graded seven debaters and independently awarded the following marks.

Debater	1	2	3	4	5	6	7
Marks by A :	40	34	28	30	44	38	31
Marks by B :	32	39	26	30	38	34	28

An eighth debater was awarded 36 marks by Judge A while Judge B was not present. If Judge B was also present, how many marks would you expect him to award to eighth debater assuming same degree of relationship exists in judgment? **(10 Marks)**

5 a. Differentiate Interval scale with Ratio scale. **(05 Marks)**

b. Find out SD and CV given $\Sigma x = 50$, $\Sigma x^2 = 1000$, $n = 5$. **(05 Marks)**

c. A firm believes that the tyres produced by process A on an average last longer than tyres produced by process B to test this belief random sample of tyres produced by the two processes were tested and the results are

Process	Sample size	Average life time (in km)	SD (in km)
A	50	22400	1000
B	50	21800	1000

Is there evidance at a 5% level of significance that, the firm is correct in its belief?

6 a. The following data gives the weekly wages of the worker in a firm. Their total working hours and the average working hours per worker. Calculate the average weekly wage per worker. **(10 Marks)**

Wage Group (Rs)	80-100	100-120	120-140	140-160	160-180	180-200
Total hrs worked	168	170	225	272	126	91
Average no. of hrs worked per worker	12	10	9	8.5	7	6.5

b. In a certain sample of 2000 families, 1400 families are consumers of tea out of 1800 Hindu families 1236 families consume tea, use χ^2 – test and state whether there is any significant difference between consumption of tea among Hindu and non – Hindu families.
[$\chi^2_{0.05}$ for $1a^1.f = 3.841$] **(10 Marks)**

PART - B

7 a. MBA students are given finishing school training against registration. The final placement statistics are available some placements are from finishing training students category and others were from without training. How do you test whether the finishing school is resulting in placements? **(05 Marks)**

b. Diesel price increase resulted in media to collect the opinion of the stake holder. The media reporter need to design the method of collecting opinion. Suggest the correct method. **(05 Marks)**

c. The correlation between eating Ice Cream and getting fever is resulted with r = 0.9, what is your interpretation? **(05 Marks)**

d. The hypothesis is to test whether the mean of two population is same or not. Suggest the test you apply? Why? **(05 Marks)**

PART - C

8 a. Differentiate one tailed and two tailed test. **(05 Marks)**

b. A manufacturing company has purchased three new machines of different makes and wishes to determine whether one of them is faster than the others in producing a certain output. Five hourly production figures are observed at random from each other machine and the results are give below:

Observation	A_1	A_2	A_3
1	25	31	24
2	30	39	30
3	36	38	28
4	38	42	25
5	31	35	28

Use Anova and determine whether the machines are significantly different in their mean speed (Given at 5% level F_2, $i_2 = 3.89$). **(15 Marks)**

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