

M.Com. DEGREE EXAMINATION NOVEMBER 2019
COMMERCE
THIRD SEMESTER

COURSE : CORE
PAPER : BUSINESS RESEARCH
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

ANSWER ANY SIX QUESTIONS: (6x10=60)

1. How do you define a research problem? Give two examples to illustrate your answer.
2. Explain the various scaling and measurement techniques used in research work. Give an example for each.
3. Why probability sampling is generally preferred in comparison to non-probability sampling? Explain the procedure of selecting a simple random sample.
4. Explain the meaning and significance of a Research Design.

5. Calculate Karl Pearson's Coefficient of Correlation between age and playing habits from the data given below: Also calculate probable error and comment on the value:

Age	20	21	22	23	24	25
Number of Students	500	400	300	240	200	160
Regular Players	400	300	180	96	60	24

6. Eleven sales executive trainees are assigned selling jobs right after their recruitment. After a fortnight they are withdrawn from their field duties and given a month's training for executive sales. Sales executed by them in thousands of rupees before and after the training, in the same period are listed below:

Sales in Thousands, Before training	23	20	19	21	18	20	18	17	23	16	19
Sales in Thousands, After training	24	19	21	18	20	22	20	20	23	20	27

Use t test to comment on: Does these data indicate that the training has contributed to their performance?

7. a) What are the conditions for the application of Chi-square test?
b) From the adult male population of seven large cities random samples of married and unmarried men as given below were taken. Test with Chi-square: Can it be said that there is a significant variation among the people of different cities in the tendency to marry?

City	A	B	C	D	E	F	G	TOTAL
Married	170	285	65	106	153	125	146	1150
Unmarried	40	125	35	37	55	35	33	360

8. A) The mean life time of a sample of 400 fluorescent light bulbs produced by a company is found to be 1570 hours with a standard deviation of 150 hours. To the hypothesis that the mean life of the bulbs produced by the company is 600 hours against the alternative hypothesis that it is greater than 1600 hours at 1 % level of significance. Test the hypothesis

B) Intelligence test on two groups of boys and girls gave the following results:

Particulars	Mean	S.D	N
Girls	75	15	150
Boys	70	20	250

Is there a significant difference in the mean scores obtained by boys and girls?

SECTION – B

ANSWER ANY TWO QUESTIONS:

(2x20=40)

9. What do you mean by 'Sample Design'? What points should be taken into consideration by a researcher in developing a sample design for the research project?
10. Explain the criteria of goodness of a measurement scale. Point out also the possible sources of measurement error.
11. A company wants to ascertain the month wise productivity of its salesmen. the sales volume generated by four randomly selected salesmen in the first four months is given in the following table:

Month / Sales	S1	S2	S3	S4
Jan	24	27	26	28
Feb	25	28	28	32
Mar	28	32	30	34
Apr	32	34	32	40

Use two way ANOVA to determine whether the salesmen are significantly different in terms of performance? and Whether there is a significant difference between five months in terms of production? at 5 % level of significance.

12. The contingency table below summarises the results obtained in a study conducted by a research organisation, with respect to the performance of four competing brands of toothpaste among the users:

Particulars	Brand A	Brand B	Brand C	Brand D	Total
No Cavities	9	13	17	11	50
One to five Cavities	63	70	85	82	300
More than five Cavities	28	37	48	37	150
Total	100	120	150	130	500

Test by using chi-square the hypothesis that incidence of cavities is independent of the brand of the toothpaste used.
