LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

M.Com. DEGREE EXAMINATION – **COMMERCE**

THIRD SEMESTER – **APRIL 2025**

PCO3MC02 – BUSINESS RESEARCH METHODS

Date: 26-04-2025 Dept. No. Max. : 100 Marks

Time: 09:00 AM - 12:00 PM

	SECTION A – K1 (CO1)	
	Answer ALL the questions	(5 x 1 = 5)
1	Match the following	
a)	Type I Error - 1968	
b)	Degrees of Freedom - Turnitin	
c)	Friedman Test – (r-1)(c-1)	
d)	SPSS – Non-Parametric	
e)	Plagiarism – Rejecting Null hypothesis	
	SECTION A – K2 (CO1)	
	Answer ALL the questions	(5 x 1 = 5)
2	Answer the following	
a)	Define Research.	
b)	Draw a normal distribution curve with 2 tails @1% rejection region	
c)	What is a non-parametric test?	
d)	What is data importing?	
e)	Distinguish between footnote and end note.	
	SECTION B – K3 (CO2)	
	Answer any THREE of the following in 100 words each.	(3 x 10 = 30)
3	A manufacturing concern has bought three new machines of different makes and wishes to determine whether one of them is faster than others in producing output. Five hourly observations are made at random from each machines and the results are given below:	

Observations	Machine A	Machine B	Machine C
1	25	31	24
2	30	39	30
3	36	38	28
4	38	42	25
5	31	35	28

Ascertain is there any significant difference in the mean speed of these machines?

(The value of $F_{0.05}$ for v_1=2 and v_3=12 is 3.89)

4	An investor has earned ROI (in %)in three different sectors of equity investments during the last Q4 ended March 31, 2024, Use H-test to determine at 5% level of significance, whether the three sectors gave equal ROIs. (v=2, $X^2_{0.05}$=5.991)

FMCG	130	133	129	135	140	118	
Infra	132	134	110	122	136	117	141
Banking	143	115	127	128	138		

5	a. 500 pumpkins are taken at random from a Vegetable Market and 50 of them are found to be bad. Estimate the proportion of bad ones in the market and assign the limits within which the percentage lies. (5 Marks) b. A random sample of size 16 has 53 as mean. The sum of squares of the deviations taken from mean is 135. Can this sample be regarded as taken from the population having 56 as mean? Obtain 95 percent confidence limits of the mean of the population. (for v=15, $t_{0.05}$=2.13) (5 Marks)
6	Why is SPSS vital for conducting effective data analysis in research?
7	Develop a questionnaire featuring at least 10 questions to gather demographic and socio-economic data from respondents, and include appropriate coding.
	SECTION C – K4 (CO3)
	Answer any TWO of the following in 200 words each. (2 x 12.5 = 25)
8	Explain the qualities of an effective researcher.
9	The sales of Trucks in select 15 towns in the pre-budget and post-budget period are stated below. Use sign test to ascertain whether there is a difference in sales volume of trucks before and after the budget period at 0.05 significance level.

Budget	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15
Pre	57	77	45	91	51	91	89	65	90	51	58	62	56	29	55
Post	36	61	52	80	45	92	61	52	70	45	60	52	56	33	60

10	Two chefs were asked to rank 10 different types of savouries prepared by a Restaurant. The ranks given by them as follows:

Chef1	1	2	3	4	5	6	7	8	9	10
Chef2	3	1	4	2	6	9	8	10	5	7

	Calculate Spearman's Rank Correlation Coefficient and also enlist the steps involved in computing that using SPSS.
11	What are the key components involved in writing a thesis?
	SECTION D – K5 (CO4)
	Answer any ONE of the following in 500 words (1 x 15 = 15)
12	An MNC manufacturing four brands of toothpaste is interested to find out whether the sales are distributed similarly among four generations of customers. A random sample of 400 sales record

provide the following information:

Particulars	Brand A	Brand B	Brand C	Brand D	Total
Gen-X	25	10	30	15	80
Gen-Y	32	20	10	28	90
Gen-Z	35	48	25	40	148
Gen- α	28	22	15	17	82
Total	120	100	80	100	400

Formulate a suitable hypothesis applying X^2 test. What conclusion you can draw from the test results? (for v=9, $X^2_{0.05}$=16.919)

13 An FMCG company appoints four Sales Executives viz. A, B, C, and D in five South Indian states. The figure (in crores) are given below in the following table:

Particulars	A	B	C	D
Andhra	2544	2538	2547	2536
Karnataka	2546	2540	2552	2543
Kerala	2534	2536	2544	2532
Tamilnadu	2543	2538	2546	2533
Telangana	2538	2542	2549	2539

Using two-way Anova, ascertain:

(i) Do the Sales Executives significantly differ in performance?

(i) Is there any significant difference among the South Indian States?

(F-table Values; for v_3=12, $F_{0.05}$=3.49 and for v_4=12, $F_{0.05}$=3.26)

SECTION E – K6 (CO5)

Answer any ONE of the following in 1000 words (1 x 20 = 20)

14 Describe the different research methods widely used in business.

15 Explain the types of research report. Outline the essential precautions to ensure accuracy and clarity in research report writing

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