2021

TWO YEAR M. COM. SEMESTER 4 EXAMINATION

(New Syllabus under CBCS)

Instructions for Examinees

The students are required to strictly adhere to the following instructions:

1. Use A4 size paper for giving the examination.

2. Write the following on the top of the first page of answer sheet:

    i) Roll Number: (as per the Admit Card)

    ii) Registration Number: (as per the Admit Card)

    iii) Paper Code and Name of the Paper

    iv) Date of the examination

    v) Duration of examination (12 noon to 2pm)

3. Put page number on the top right of each page (including the first page).

4. Only one side of the paper should be used for examination.

5. Put your signature with date, at the bottom right of every page used.

6. Before sending your answer scripts, arrange the pages sequentially. Scan them in the order of page number and convert them into a single pdf. file.

7. Pdf. file name should be your **Full Roll Number <underscore> paper code**. While submitting the answer scripts, the subject of the mail will be exactly the same with the file name. [e.g., if the roll no of a student is C95/MCM/123456, for fourth paper (Paper Code GE404) the file name will be: 123456_GE404

8. Submit your answer scripts in pdf. format within the stipulated time through designated email id given to you.

9. Preserve your answer scripts in soft as well as hard-copy form of all the papers of your examination.

2021

COMMERCE

Paper – GE 404

(Business Research Methods)

Full Marks -40

The figures in the margin indicate full marks

Candidates are required to give their answers in their own words as far as practicable

Time: 2 Hours   **Duration of Examination: 12noon to 2pm**

Module –I

Answer *any two* questions

1. (a) What is a Research Problem? What is the difference between a research problem and a research question?

   (b) Explain in brief the major components in drafting a research proposal.

   [(2+3)+5]

2. (a) "Editing and coding are two important operations in data processing" – Explain the significance of each in the context of research study.

   (b) Discuss the research design used in exploratory research studies.

   [5+5]

3. (a) Explain the different measures used to assess the 'Internal consistency reliability' of the scale.

   (b) Discuss the various methods applied to check the validity of the scale of measurement.

   [6+4]

4. (a) Discussed the different methods of collecting primary data.

   (b) Write a note on 'Sampling Error'

   [7+3]

Answer *any two* questions.

5. (a) Distinguish between descriptive statistics and inferential statistics.

    (b) Mention when a variable is positively skewed.

    [6+4]

6. (a) A cement manufacturing company has discovered that sales (measured in Rs. '000) of cement is largely dependent on advertisements on hoardings and wall paintings (measured in Rs. '000) and not on advertisement in the print media. The company has invested heavily on the first two modes of advertisements. The company's research team wants to study the impact of these two modes of advertisement on sales. The research team has collected a random sample of the sales for 22 days and developed a multiple linear regression model. The regression output is as follows:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.950[a]	.903	.892	121.80487
a. Predictors: (Constant), Wall Paintings, Hoardings				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2610835.172	2	1305417.586	87.987	.000[b]
	Residual	281892.101	19	14836.426		
	Total	2892727.273	21			
a. Dependent Variable: Sales						
b. Predictors: (Constant), Wall Paintings, Hoardings						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	223.439	95.312		2.344	.030
	Hoardings	9.441	.821	.823	11.496	.000
	Wall Paintings	13.602	2.055	.474	6.619	.000
a. Dependent Variable: Sales						

You are required to interpret the above regression results with respect to model summary, ANOVA table and Coefficients table. Also estimate the value of sales (Rs. '000) if advertisement expenditure on hoardings and wall paintings are 130 thousand and 70 thousand rupees respectively.

(b) State the null and alternative hypothesis of F test used in regression analysis.

[(7+ 2) + 1]

7. (a) What is unit root test in time series analysis?

(b) In order to analyze the short-run causality of stock market returns to Covid-19 during 1st February,2020 to 30th April 2020, stock markets representing three developed and developing economies of the world– the United States of America (USA), People's Republic of China (China), and India are considered. Accordingly, New York Stock Exchange (NYSE) in the US, Shanghai Stock Exchange (SSE) in China, and Bombay Stock Exchange (BSE) in India are selected. Thus, Standard & Poor's (S&P) 500 (NYSE, USA), SSE Composite Index (SSE, China), and BSE SENSEX 30 (BSE, India) are the stock indices selected for calculation of stock returns. The data related to stock market returns, growth in number of Covid cases and Covid deaths in select three countries are stationary at level. Hence, in order to estimate the short run causality between them, unrestricted VAR model is applied. VAR granger causality is conducted in order to estimate the short run causality of each model. Results of VAR Granger Causality Test are as follows:

Results of VAR Granger Causality Test

Model 1: USA			
Dependent Variables	Independent Variables	Chi-square	P-Value
SP_R	USCC_G	5.529845	0.2371
	USCD_G	18.36394	0.0010
	All	22.76641	0.0037
Model 2: CHINA			
SSE_R	CHINACC_G	0.025357	0.8735
	CHINACD_G	0.065978	0.7973
	All	0.107524	0.9477
Model 3: India			
SENSEX_R	INDIACC_G	6.761656	0.0093
	INDIACD_G	4.701919	0.0301
	All	8.543130	0.0140

Where,
- *SP_R: Return on S&P 500; SSE_R: Return on SSE Composite Index; SENSEX_R: Return on SENSEX.*

- *USCC_G: Growth in new Covid cases in the USA; CHINACC_G: Growth in new Covid cases in China; INDIACC_G: Growth in new Covid cases in India*
- *USCD_G: Growth in new Covid deaths in the USA; CHINACD_G: Growth in new Covid deaths in China; INDIACD_G: Growth in new Covid deaths in India.*

You are asked to elaborate the inferences based on the results of VAR granger causality test.

[3+7]

8. (a) Mention the differences between dependence technique and interdependence technique of multivariate data analysis.

   (b) Discuss the steps involved in conducting factor analysis.

[3+7]