Reg. No.

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.

(For those admitted in June 2023 and later)

PROGRAMME AND BRANCH: B.COM.,

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
III	PART - III	CORE-6	U23CO306	BUSINESS MATHEMATICS AND STATISTICS
Date &	Session:12.11.2	2024 / AN '	Fime : 3 hours	Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	<u>SECTION – A (</u> 10 X 1 = 10 Marks) Answer <u>ALL Q</u> uestions.								
CO1	K1	1.	A ratio equivalent of 2 : 3 is. a) 4 : 3 b) 2 : 6 c) 6 :	9 d)10:9							
CO1	K2	2.	km in 5 hours, then the ratio of their spee	If a bus travels 126 km in 3 hours and a train travels 315 km in 5 hours, then the ratio of their speeds is. a) 2 : 5 b) 2 : 3 c) 5 : 2 d) 25 : 6							
CO2	K1	3.	If A is a square matrix such that A2 = A, t equal to. a) 1 b) 0 c) I -								
CO2	K2	4.	Total number of possible matrices of orderentry 2 or 0 is.a) 9b) 27c) 81								
CO3	K1	5.	Mode refers to the value within a series th number of times. a) minimum b) maximum c) zer								
CO3	K2	б.		Square deviation of the above							
CO4	K1	7.	The independent variable is used to explain the dependent variable in a) Linear regression analysis b)Multiple regression analysis c) Non-linear regression analysis d) none of the above								
CO4	K2	8.	Which of the following are types of correlaa) Positive and Negativeb) Simple, Pac) Linear and Nonlineard) All of the a	rtial and Multiple							

CO5	K1	9.	Time series consists of.								
			a) Short-term variations b) Long-term variations								
			c) Irregular variations d) All of the above								
CO5	K2	10.	The index number for base year is always								
			a) 1000 b) 100 c) 200 d) 400								
Course Outcome	Bloom's K-level	Q. No.	<u>SECTION – B (</u> 5 X 5 = 25 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)								
CO1	КЗ	11a.	Explain the difference Between Ratio and Proportion (OR)								
CO1	КЗ	11b.	A sum of Rs. 25000 will become Rs. 31000 in 48 months at some rate of simple interest. Find the rate of interest per annum.								
CO2	K3	12a.	How can matrices be used in business? (OR)								
CO2	КЗ	12b.	Find the determinant of the matrix. Given, $A = \begin{bmatrix} 2 & 0 \end{bmatrix}$ $\begin{bmatrix} 0 & 8 \end{bmatrix}$								
CO3	K4	13a.	Explain the characteristics of measure of central tendency (OR)								
CO3	K4	13b.									
			X 15 21 27 30 35								
			F 3 5 6 7 8								
CO4	K4	14a.	Explain the difference between correlation and regression. (OR)								
CO4	K4	14b.	Determine the correlation coefficient value for the								
			given set of X and Y values:								
			X values 21 23 37 19 24 33								
			Y values 2.5 3.1 4.2 5.6 6.4 8.4								
CO5	K5	15a.	What are the problems with time series analysis? (OR)								
CO5	К5	15b.	In the analysis of time series the fitted linear trend equation is Y=75.3-2.75X estimate trend value when								

Course	Bloom's	Q.	<u>SECTION – C (</u> 5 X 8 = 40 Marks)
Outcome	K-level	No.	Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	16a.	Twenty tons of iron is Rs. 6,00,000 (six lakhs). What is the cost of 560 kilograms of iron? (OR)

CO1	КЗ	16b.	A sum of Rs. 800 amounts to Rs. 920 in 3 years at simple interest. If the interest rate increases by 3%, what will be the amount?											
CO2	K4	17a.	How to find the determinant of a 3×3 square matrix?											
		1.4	(OR)											
CO2	K4	17b.								, z wh	ich l	ne		
			Annual sales are indicated below:											
				Ma	rkets]	Produ	cts				
					Ι		10),000	2,00	0	18,00	0		
					II		6	,000	20,00	00	,			
) If unit sa	le price	es of x	к, у	and z	are ₹	2.50,	₹1.	50 ar	ld ₹		
			1.00, res	pective	ly, fin	ld t	he tot	al reve	enue i	n ea	ch m	arke	t	
			with the	help of	matr	ix a	algebra	a.						
			(b) If the	unit co	osts o	f th	le abov	ve thre	e con	nmo	dities	are	₹	
			2.00, ₹	1.00 a	and 5	0 p	aise re	espect	ively.	Find	d the	gros	S	
			profit											
CO3	K4	18a.	For a mo		•				-					
			median a	-		ely	26.8 a	and 27	.9. W	hat	is the	moo	de of	
0.00	77.4	1.01	the distri	bution	.)									
CO3	K4	18b.	(OR)											
				mean (leviat	ation from the mean of the following								
			data :											
			X 0-10 10-20 20-30 30-40 40-50							0				
			F	1	5		8	15		16		6		
CO4	K5	19a.	From the Taking de											
			Taking u		.15 110	111 (uai m	cans	01 74	anu	1 501	105.	
			X 3 2 7 4 8 Y 6 1 8 5 9											
				1			(0	R)	<u> </u>					
The following are the ranks obtained by 10 studer Statistics & Mathematics subject. To what extent							udent	s in						
							o wha	t ext	tent is	s the				
CO4 K5 19b. Knowledge of the students in the							the two	o sub	jects	s is re	lated	1?		
			Statistic	s 1	2	3		5	6	7	8	9	10	
			Maths	1	4	2		3	9	7	10	6	8	
CO5	K5	20a.	calculate	chain	indic	es a	and fix	ted bas	se ind	lices	with	200	0 as	
			base fron	n the fo	ollowi	ng	data							
				Year			2000	2001	200	02 2	2003	200	4	
		0.01	Price of item(per kg) 20 25 30 45 63											
CO5	K5	20b.			<u>\1</u>	37	(0			1	-]	
			Calculate	Price	Index	Nι	•	•	022 v	vith	2014	as t	ase	
			with the											
			Methods	_	-	-								

Commodity		e year 014	Current year 2022		
	Price (Rs.)	Quantity	Price (Rs.)	Quantity	
	Po	Q0	P1	Q1	
А	40	16	80	12	
В	100	20	120	10	
С	80	30	100	30	
D	40	40	40	50	