

QP CODE: D2BST2506	(Pages: 2)	Reg. No	:	
		Name	:	

SECOND SEMESTER FYUGP EXAMINATION, APRIL 2026
(Regular/Improvement/Supplementary)
Discipline Specific Core (DSC) Courses - Minor
STA2MN151 : BUSINESS STATISTICS
(Credits: 4)

Time: 2 Hours	Maximum Marks: 70
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Section A. Answer the following questions. Each carries 3 marks (Ceiling: 24 marks)				
1.	Define Range. Write its formula.	BL1	CO1	
2.	What is meant by positive skewness?	BL1	CO2	
3.	Distinguish between Fixed Base Index Numbers and Chain Base Index Numbers.	BL2	CO2	
4.	Define Time Series. Explain any two points showing the significance (utility) of Time Series analysis.	BL2	CO2	
5.	What is a Logarithmic Trend in a time series? State the equation of a log trend.	BL1	CO2	
6.	State the relationship between Karl Pearson's correlation coefficient and the regression coefficients of Y on X and X on Y.	BL1	CO3	
7.	What is the range of Karl Pearson's correlation coefficient? Explain the meaning of the extreme values.	BL2	CO3	
8.	Explain the use of regression analysis in business decision-making.	BL2	CO3	
9.	A card is drawn from a standard deck of 52 cards. Find the probability that the card is: (a) A king or a heart (b) Not a face card	BL2	CO4	
10.	In a class of 40 students, 25 study Mathematics, 20 study Statistics and 10 study both. Find the probability that a student selected at random studies: (a) Mathematics only (b) Statistics only	BL2	CO4	

Section B. Answer the following questions. Each carries 6 marks (Ceiling: 36 Marks)																
11.	From the following data, calculate the coefficient of kurtosis: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 15%;">Class Interval</td> <td style="width: 15%;">0–10</td> <td style="width: 15%;">10–20</td> <td style="width: 15%;">20–30</td> <td style="width: 15%;">30–40</td> </tr> <tr> <td>Frequency</td> <td>5</td> <td>8</td> <td>12</td> <td>5</td> </tr> </table>	Class Interval	0–10	10–20	20–30	30–40	Frequency	5	8	12	5	BL3	CO1			
Class Interval	0–10	10–20	20–30	30–40												
Frequency	5	8	12	5												
12.	The following data shows the number of units sold by a company. Find the Arithmetic Mean using the direct method. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 10%;">Units Sold</td> <td style="width: 10%;">10</td> <td style="width: 10%;">20</td> <td style="width: 10%;">30</td> <td style="width: 10%;">40</td> <td style="width: 10%;">50</td> </tr> <tr> <td>No. of days</td> <td>30</td> <td>18</td> <td>12</td> <td>20</td> <td>25</td> </tr> </table>	Units Sold	10	20	30	40	50	No. of days	30	18	12	20	25	BL3	CO1	
Units Sold	10	20	30	40	50											
No. of days	30	18	12	20	25											
13.	Distinguish between Weighted and Unweighted Index Numbers.	BL2	CO3, CO4													
14.	Explain the problems in construction of Index Numbers.	BL1	CO3													

(PTO)

The following data represent the price of a commodity and its quantity demanded in a market.															
15.	<table><tr><td>Price (X)</td><td>5</td><td>10</td><td>15</td><td>20</td><td>25</td></tr><tr><td>Quantity Demanded (Y)</td><td>90</td><td>75</td><td>60</td><td>45</td><td>30</td></tr></table>	Price (X)	5	10	15	20	25	Quantity Demanded (Y)	90	75	60	45	30	BL3	CO3
	Price (X)	5	10	15	20	25									
Quantity Demanded (Y)	90	75	60	45	30										
a) Draw a scatter diagram using the given data. b) Identify the type of correlation shown by the scatter diagram. c) Interpret the relationship between price and quantity demanded.															
16.	a) Write the formula for Spearman's rank correlation coefficient and explain the symbols used. b) Find Spearman's rank correlation coefficient:	BL2	CO3												
	<table><tr><td>Rank in X</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>Rank in Y</td><td>4</td><td>3</td><td>2</td><td>1</td></tr></table>	Rank in X	1	2	3	4	Rank in Y	4	3	2	1				
Rank in X	1	2	3	4											
Rank in Y	4	3	2	1											
17.	A card is drawn from an ordinary pack and a gambler bets that it is a spade or an ace. What are the odds against his winning this bet?	BL2	CO4												
18.	Three bags contain balls as follows: Bag 1: 4 white, 6 black Bag 2: 5 white, 5 black Bag 3: 7 white, 3 black One bag is chosen at random and one ball is drawn. If the ball drawn is white, find the probability that it was drawn from Bag 3.	BL3	CO4												
Section C. Answer any one question. Each carries 10 marks (1 x 10 = 10 Marks)															
19.	The following table shows the runs scored per innings by two batsmen, A and B, in a cricket season:														
	<table><tr><td>Runs(A)</td><td>20</td><td>40</td><td>240</td><td>160</td><td>100</td></tr><tr><td>Runs (B)</td><td>10</td><td>60</td><td>180</td><td>240</td><td>200</td></tr></table>	Runs(A)	20	40	240	160	100	Runs (B)	10	60	180	240	200	BL3	CO1
Runs(A)	20	40	240	160	100										
Runs (B)	10	60	180	240	200										
Calculate for each batsman:Mean runs,Standard Deviation and Coefficient of Variation .Hence, determine which batsman is more consistent and efficient, giving reasons.															
20.	(a) State and explain the Addition and Multiplication Theorems of Probability. (b) In a survey of 200 students, 120 study Marketing, 100 study Finance and 60 study both subjects. Find:														
	(i) Probability that a student studies at least one of the two subjects. (ii) Probability that a student studies neither subject. (iii) Whether the events are mutually exclusive. Give reason.	BL3	CO4												
CO : Course Outcome BL : Bloom's Taxonomy Levels (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)															