

QP CODE: D4BCP2403	(Pages: 2)	Reg. No :
		Name :
FOURTH SEMESTER FYUGP EXAMINATION, APRIL 2026		
Discipline Specific Core (DSC) Courses - Major		
COP4CJ205: BUSINESS STATISTICS		
(Credits: 4)		
Time: 2 Hours	Maximum Marks: 70	
Section A		
Answer the following questions. Each carries 3 marks (Ceiling: 24 marks)		
1.	What is meant by Probability distribution? State any three conditions for a valid probability distribution.	BL1 CO4
2.	Distinguish between positive and negative correlation.	BL2 CO2
3.	Define business statistics. Write any two objectives of business statistics.	BL1 CO1
4.	State features of binomial distribution. Give some real life situations where this distribution is used.	BL2 CO4
5.	What is multivariate data? Give one real-life application.	BL1 CO1
6.	State the merits and demerits of Spearman's Rank correlation method.	BL2 CO2
7.	Write the set 'A = The set of all letters in the word TRIGONOMETRY' in roster form.	BL2 CO3
8.	What are complementary events? State the condition under which two events are complementary.	BL2 CO3
9.	The mean and standard deviation of a normal distribution are 50 and 10 respectively. Find the value of the standard normal variate Z corresponding to X=60	BL3 CO4
10.	Give any three properties of regression lines.	BL2 CO2
Section B		
Answer the following questions. Each carries 6 marks (Ceiling: 36 Marks)		
11.	(a) Explain the difference between discrete and continuous univariate data with examples. (b) Explain the concept of measures of dispersion. (c) Find the range and variance for the data: 10, 12, 15, 18, 20.	BL2 CO1
12.	If $\bar{X} = 66.6$, $\bar{Y} = 66.3$, $b_{yx} = 0.507$, $b_{xy} = 0.655$, write down; (i) Regression line on X on Y (ii) Regression line on Y on X	BL2 CO2
		(PTO)

13.	The probability that a contractor will get a plumbing contract is $\frac{2}{3}$ and the probability that he will not get an electric contract is $\frac{5}{9}$. If the probability of getting at least one contract is $\frac{4}{5}$, what is the probability that he will get both the contracts?	BL3	CO3
14.	Explain the procedure for fitting a binomial distribution to a given data set. Illustrate your answer with a suitable numerical example.	BL1	CO4
15.	A coin is tossed repeatedly under identical conditions. Explain how this experiment satisfies the assumptions of a theoretical distribution.	BL3	CO4
16.	What is statistical hypothesis testing? Explain the steps involved in testing a statistical hypothesis.	BL1	CO1
17.	A company manufactures certain kinds of bolts. It is found that 2% of the bolts produced every year are defective. Find the probability that out of 200 bolts produced in an year none is defective.	BL2	CO4
18.	A box contains 8 red balls and 6 blue balls. In how many ways can 5 balls be selected such that at least 3 balls are red?	BL3	CO3

Section C

Answer any one question. Each carries 10 marks (1 x 10 = 10 Marks)

19.	The following data show the number of defects per item in a factory: <table><tr><td>Number of defects (x)</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>Frequency (f)</td><td>45</td><td>30</td><td>15</td><td>8</td><td>2</td></tr></table> (a) Calculate the mean number of defects. (b) Fit a Poisson distribution to the data. (c) Find the expected frequencies.	Number of defects (x)	0	1	2	3	4	Frequency (f)	45	30	15	8	2	BL3	CO4
Number of defects (x)	0	1	2	3	4										
Frequency (f)	45	30	15	8	2										
20.	What is probability? Explain different approaches to probability.	BL2	CO3												

CO : Course Outcome

BL : Bloom's Taxonomy Levels (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)