PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION MAY 2025
(Second Semester)

Branch – **COMMERCE (BUSINESS PROCESS SERVICES)**

STATISTICS FOR BUSINESS PROCESS

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is a qualitative variable in a business survey? a) Employee salary b) Number of products sold c) Store location (City A, City B, City C) d) Sales revenue	K1	CO1
	2	A histogram displays the a) relationship between two variables b) frequency distribution of a dataset c) mean and median of a dataset d) trend over time	K2	CO1
2	3	The following are the test scores of 7 students: 12, 15, 10, 18, 14, 17, 16. The median of the scores is a) 15 b) 16 c) 14 d) 17	K1	CO2
	4	The mean of a data set is 46.83, the mode is 51.67, and the standard deviation is 14.8. the coefficient of skewness is a) 4.84 b) -0.327 c) -0.235 d) 3.526	K2	CO2
3	5	The correlation is _____ if the values of variables move in the same direction a) positive b) negative c) perfective negative d) no correlation	K1	CO3
	6	If b_{yx}= 0.4, r = 0.5, and σ_y= 0.2 the value of σ_x is a) 0.1 b) 0.2 c) 0.25 d) 0.16	K2	CO3
4	7	The probability of picking a blue ball from a bag containing 3 red and 2 blue balls, if one ball is chosen at random a) 1/5 b) 3/5 c) 2/5 d) 1/2	K1	CO4
	8	Bayes theorem is based on a) conditional probability b) priori probability c) inverse probability d) all of these	K2	CO4
5	9	In Excel, the function used to calculate correlation between two data sets is a) CORREL b) COVARIANCE.P c) PEARSON d) LINEST	K1	CO5
	10	The output of Regression in Analysis ToolPak, will NOT include a) R-squared b) Standard Error c) Residuals d) Correlation Matrix	K2	CO5

SECTION - B (35 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	What is a questionnaire? Identify and state the points you would consider while drafting a questionnaire.	K3	CO1
		(OR)		
	11.b.	A class of students was surveyed on the number of hours they study each week. The data was grouped into intervals as follows: **Study Hours (per week)** | 0–5 | 5–10 | 10–15 | 15–20 | 20–25 **Frequency** | 4 | 7 | 12 | 9 | 5 Construct a Histogram, Frequency Polygon and Frequency curve.		

Cont...

2	12.a.	Following are the records of two players regarding their performance in cricket matches. Identify which player is more consistent in his performance? A: 48, 52, 55, 60, 65, 45, 63, 70 B: 33, 35, 80, 70, 100, 15, 41, 25	K3	CO2
		(OR)		
	12.b.	Apply Bowleys coefficient of skewness for the following data and give out the results: Profits (Rs. Crores): 10-20, 20-30, 30-40, 40-50, 50-60 No. of Companies: 15, 20, 30, 10, 5		
3	13.a.	What do you understand by correlation? Analyze how the graphical method can be used to study the relationship between two variables.	K4	CO3
		(OR)		
	13.b.	The following data relate to sales and expenses of 10 firms. Analyse the data and obtain the correlation coefficient. Firm: A, B, C, D, E, F, G, H, I, J Sales ('000): 50, 50, 55, 60, 65, 65, 65, 60, 60, 50 Expenses ('000): 11, 13, 14, 16, 16, 15, 15, 14, 13, 13		
4	14.a.	The contents of urns I,II and III are as follows: Urn I : 1 white, 2 black and 3 red balls Urn II : 2 white, 2 black and 1 red balls Urn III : 4 white, 5 black and 3 red balls One urn is chosen at random and 2 balls are drawn. They happened to be white and red. Simplify and find the probability that they come from urns I, II and III?	K4	CO4
		(OR)		
	14.b.	List the properties of Normal distribution		
5	15.a.	Explain the procedure for quartile deviation and standard deviation in MS Excel	K5	CO5
		(OR)		
	15.b.	Explain the procedure for calculation of various measures of central tendency in MS Excel		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	What are the various sources of primary data? Briefly explain the methods pointing out their merits and demerits.	K5	CO1
2	17	Examine the following data to calculate the mean, median, and mode. Marks (more than): 0, 20, 40, 60, 80, 100, 120 No. of students: 80, 76, 50, 28, 18, 9, 3	K4	CO2
3	18	Analyze the following data to obtain the two regression equations: Sales: 91, 97, 108, 121, 97, 124, 51, 73, 57, 64 Purchases: 71, 75, 69, 97, 70, 91, 39, 61, 80, 47 Also find the correlation coefficient between sales and purchases.	K4	CO3
4	19	The average daily sale of 500 branch offices was Rs. 150 thousand and the standard deviation is Rs. 15 thousand. Assuming the distribution to be normal, analyze how many branches have sales between: (a) Rs. 120 thousand and Rs. 145 thousand (b) Rs. 140 thousand and Rs. 165 thousand.	K4	CO4
5	20	Explain the procedure for calculating regression in MS Excel.	K5	CO5

Z-Z-Z END