PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION DECEMBER 2025
(First Semester)

Common to Branches – COMMERCE (RM)/ COMMERCE (FS)/ COMMERCE (FT)

STATISTICS

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	Types of frequency distribution are (a) 3 (b) 4 (c) 5 (d) 2	K1	CO1
	2	Histograms are under (a) One dimensional (b) Two dimensional (c) Graphs (d) Pictogram	K2	CO1
2	3	Number of observations are 10 and value of arithmetic mean is 15 then sum of all values is (a) 200 (b) 10 (c) 15 (d) 150	K1	CO2
	4	While calculating the standard deviation, the deviations are only taken from (a) Mode value (b) Median value (c) Quartile value (d) Mean value	K2	CO2
3	5	The range of simple correlation coefficient is (a) 0 to ∞ (b) $-\infty$ to $+\infty$ (c) 0 to 1 (d) -1 to +1	K1	CO3
	6	In the regression line $Y=\alpha+\beta X$, β is called the (a) Slope of the line (b) Intercept of the line (c) Neither (a) nor (b) (d) Functional relation of regression	K2	CO3
4	7	The index number for base year is always (a) 1 (b) 10 (c) 100 (d) 1000	K1	CO4
	8	Cost of living index number is also called as (a) consumer price index (b) fisher ideal index (c) marshall-edgeworth (d) kelly's method	K2	CO4
5	9	If a card is chosen from a standard deck of cards, what is the probability of getting a diamond or a club? (a) 13/52 (b) 1/2 (c) 15/52 (d) 12/52	K1	CO5
	10	The mean of the binomial distribution is (a) Npq (b) np (c) n (d) n (1-p)	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.	Explain the various types of classification of data.	K2	CO1
		(OR)		
	11.b.	Construct less than cumulative frequency curve for the following data. Monthly Wage (000): 10-20 / 20-30 / 30-40 / 40-50 / 50-60 / 60-70 / 70-80 No of Workers: 11 / 15 / 25 / 39 / 26 / 17 / 7		

					K3	CO2
2	12.a.	Apply mean and mode for the following distribution.				

Age	0-10	10-20	20-30	30-40	40-50
No.of Persons	3	5	9	3	2

(OR)

	12.b.	Explain the standard deviation and its merits and demerits.			

	13.a.	Analyze correlation coefficient for the following data		K3	CO3
3					

X	10	12	18	24	23	27
Y	13	18	12	25	30	10

(OR)

	13.b.	Distinguish between correlation and Regression.

	14.a.	Explain the construction index number.		

(OR)

4	14.b.	An index for 2018 taking 2017 as the base year to determine the expenditure using aggregative method from the following data.	K4	CO4

Commodity	Weights	Price (2017)	Price (2018)
A	40	16	20
B	25	40	60
C	5	2	3
D	20	5	7
E	10	2	4

5	15.a.	State (i) Addition theorem (ii) Multiplication theorem (iii) Bayes' Theorem	K4	CO5

(OR)

	15.b.	Explain binomial, poisson and normal distributions.

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	Explain the methods of collecting primary and secondary data.	K4	CO1
2	17	Apply Coefficient of Variation from the following marks.	K4	CO2

Marks	0-20	20-40	40-60	60-80	80-100
No. of Students	2	5	10	8	5

3	18	Analyze the average relationship between price and supply by using equations of two regression lines for the following data.	K4	CO3

Sales (in Rs.)	10	12	13	12	16	15	17	18
Expenditure (in Rs.)	40	38	43	45	37	43	42	39

4	19	Construct index number using (i) Laspeyre's (ii) Paasche's (iii) Fisher's ideal index number for the given data.	K4	CO4

Commodity	Base year		Current year	
	Quantity	Price	Quantity	Price
Food	12	10	15	12
Clothing	15	7	20	5
Rent	24	5	20	9
Others	5	16	5	14

5	20	A bag contains 7 red, 12 white and 4 green balls. 3 balls are drawn one after another. Find the probability that all are white if the draws are (i) with replacement (ii) without replacement	K4	CO5