24PAU206/22PAU208N

PSG COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS)

BCom DEGREE EXAMINATION MAY 2025

(Second Semester)

Branch – **COMMERCE (PROFESSIONAL ACCOUNTING)**

STATISTICS FOR BUSINESS

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	Most quantitative classifications are a) Chronological b) Geographical c) Frequency distribution d) None of these	K1	CO1
	2	The difference between sample estimate and population parameter is termed as a) Human Error b) Sampling error c) Non-sampling error d) None of these	K2	CO1
2	3	If the grouped data has open-end classes, one cannot calculate a) Mean b) median c) Mode d) Quartile	K1	CO2
	4	Which measure of dispersion ensures highest degree of reliability? a) Range b) Quartile Deviation c) Mean Deviation d) Standard Deviation	K2	CO2
3	5	If Cov (X,Y) = 0 then a) X and Y are correlated b) X and Y uncorrelated c) X and Y are positively correlated d) X and Y are linearly related	K1	CO3
	6	Given the two lines of regression as $3X - 4y + 8 = 0$ and $4X - 3Y = 1$, the means of X and Y are a) X = 4, Y = 5 b) X = 3, Y = 4 c) X = 2, Y = 2 d) X = 4/3, Y = 5/3	K2	CO3
4	7	The geometric mean of Laspeyre's and Paasche's price indices is also known as a) Fisher's price Index b) Kelly's Price Index c) Marshall – Edgeworth Price Index d) Bowley's price Index4	K1	CO4
	8	Seasonal variation occur at an interval of a) 1 Year b) 2 Years c) 5 years d) 7 Years	K2	CO4
5	9	Classical probability is also known as a) Statistical probability b) A Priori probability c) Empirical probability d) None of these	K1	CO5
	10	An integer is chosen from 1 to 20. The probability that the number is divisible by 4 is a) 1/2 b) 1/3 c) 1/4 d) 1/10	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 with suitable example.	K3	CO1
		(OR)		
	11.b.	Construct Histogram and frequency polygon for the following data.		

Weight (in Kg)	30-35	35-40	40-45	45-50	50-55	55-60	60-65
No. of students	4	7	10	18	14	8	3

2	12.a.	The following are the annual income of the 186 families. Apply geometric mean to identify the average income of the families.	K3	CO2

Annual Income (in Rs.)	5000	400	200	3750	3000	750	600	300
No. of Families	2	100	50	4	6	8	6	10

Cont...

		(OR)		
	12.b.	Apply Mean deviation from mean and its coefficient for the following data. Height(in cms): 158, 159, 160, 161, 162, 163, 164, 165, 166 No. of Persons: 15, 20, 32, 35, 33, 22, 20, 10, 8		
3	13.a.	Distinguish between correlation and regression coefficients.	K4	CO3
		(OR)		
	13.b.	Following are the marks obtained by 10 students in a class in two tests. Test I: 70, 68, 67, 55, 60, 60, 75, 63, 60, 72 Test II: 65, 65, 80, 60, 68, 58, 75, 63, 60, 70 Analyze the data by using Rank correlation coefficient.		
4	14.a.	Determine the data below by using i) Laspeyre's ii) Paasche's and iii) Fisher's price index number. Commodity / 2018 (Price, Quantity) / 2020 (Price, Quantity): A: 5, 25, 6, 30 B: 10, 5, 15, 4 C: 3, 40, 2, 50 D: 6, 30, 8, 35	K5	CO4
		(OR)		
	14.b.	Explain the components of time series.		
5	15.a.	A number is chosen from the first 100 natural numbers. Find the probability that it is a number of 4 or 6.	K4	CO5
		(OR)		
	15.b.	Classify the properties of 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.	K5	CO1
2	17	The following are the marks of 90 students. Analyze the data by applying Mean, Median and Mode. Marks: 45-49, 50-54, 55-59, 60-64, 65-69, 70-74 No. of Students: 6, 14, 12, 10, 10, 9 Marks: 75-79, 80-84, 85-89, 90-94, 95-99 No. of Students: 9, 10, 5, 4, 1	K4	CO2
3	18	Price indices of cotton (X) and wool (Y) are given below for the 12 months of a year. Analyze the equations of lines of two regressions between the indices. X: 78, 77, 85, 88, 87, 82, 81, 77, 76, 83, 97, 93 Y: 84, 82, 82, 85, 89, 90, 88, 92, 83, 89, 98, 99	K4	CO3
4	19	Fit a straight line trend, find the trend values and estimate the net profit in 2022. Year: 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 Net Profit (Rs. Crores): 65, 68, 59, 55, 50, 52, 54, 50, 42	K4	CO4
5	20	State and prove the addition and multiplication theorem on Probability.	K5	CO5

Z-Z-Z END