PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION MAY 2024
(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	Class interval is measured as: a) The sum of the upper and lower limit b) half of the sum of lower and upper limit c) half of the difference between upper and lower limit d) the difference between upper and lower limit	K1	CO1
	2	Which of the followings is a one-dimensional diagram? a) Pie diagram b) Bar-diagram c) Cylinder d) A graph	K2	CO1
2	3	Harmonic mean is better than other means if the data are for: a) Speed or rates b) Heights or lengths c) Binary values like 0 and 1 d) Ratio of Proportions	K1	CO2
	4	Which mean is most affected by extreme values? a) Geometric mean b) Harmonic mean c) Arithmetic mean d) Trimmed mean	K2	CO2
3	5	Scatter diagram of the variate values (X, Y) gives the idea about: a) Functional relationship b) Regression model c) Distribution of errors d) Line of average relationship	K1	CO2
	6	If $\rho = 1$, the angle between the two lines of regression is: a) Thirty degree b) Ninety degree c) Sixty degree d) Zero degree	K2	CO3
4	7	One of the limitations in the construction of index numbers is: a) Choice of variables to be studied b) The choice of the type of average c) Choice of investigators d) Choice of the base period	K1	CO3
	8	Laspeyre's index number is also known as: a) Fixed base index b) Given year method index c) Base year method index d) Consumer price index	K2	CO2
5	9	Two events are said to be independent if: a) Each outcomes has equal chance of occurrence b) There is no common point in between them c) Both the events have only one point d) One does not affect the occurrence of the other	K1	CO1
	10	A card is drawn from a well shuffled pack of 52 cards. A gambler bets that it is either a heart or an ace. What are odds against his winning this wet? a) 9 : 4 b) 4 : 9 c) 35 : 52 d) 1 : 3	K2	CO2

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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 role of tabulation in presenting business data and different methods of presenting data.	K2	CO1
		(OR)		
	11.b.	Recall the chief requisite of graphs and charts.		
2	12.a.	A toy factory has assigned a group of 4 workers to complete an order of 1400 toys of a certain type. The productive rates of the four workers are given below: Worker A - 4 minutes per toy Worker B - 6 minutes per toy Worker C - 10 minutes per toy Worker D - 15 minutes per toy Find the mean minutes per toy by the group of the workers.	K3	CO2
		(OR)		
	12.b.	Outline the need of census and how it differs from sampling methods.		
3	13.a.	Sketch the need of scatter diagram and its interpretation with a neat diagram.	K4	CO2
		(OR)		
	13.b.	Given the following bivariate data: X -1, 5, 3, 2, 1, 1, 7, 3 Y -6, 1, 0, 0, 1, 2, 1, 5 Fit a regression line X on Y and predict if X=10.		
4	14.a.	Explain the nature and uses of index numbers in business.	K5	CO3
		(OR)		
	14.b.	Discover the various components of time series and its applications in business.		
5	15.a.	State and Prove multiplication theorem.	K3	CO3
		(OR)		
	15.b.	What is normal distribution and give its importance in real life scenario.		

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	Mention the role of classification of data and frequency distribution.	K1	CO1
2	17	Calculate arithmetic mean, median and mode from the following frequency distribution. Variable: 10-13 | 13-16 | 16-19 | 19-22 | 22-25 | 25-28 | 28-31 | 31-34 | 34-37 | 37-40 Frequency: 8 | 15 | 27 | 51 | 75 | 54 | 36 | 18 | 9 | 7	K3	CO1
3	18	The following data relate to age of employees and the number of days they were reported sick in a month. Employees: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 Age (X): 30 | 32 | 35 | 40 | 48 | 50 | 52 | 55 | 57 | 61 Sick days(Y): 1 | 0 | 2 | 5 | 2 | 4 | 6 | 5 | 7 | 8 Calculate Karl Pearson's coefficient of correlation and interpret it.	K2	CO2
4	19	Construct the consumer price index number for 2007 on the basis of 1997 from the following data using family budget method: Items: Price in 1997(Rs.) | Price in 2007(Rs.) | Weights Food: 200 | 280 | 30 Rent: 100 | 200 | 20 Clothing: 150 | 120 | 20 Fuel and Lighting: 50 | 100 | 10 Miscellaneous: 100 | 200 | 20	K5	CO3
5	20	Suppose that a manufactured product has 2 defects per unit of product inspected .using Poisson distribution, calculate the probabilities of finding a product without any defect, 3 defects and 4 defects. (Given e^{-2} =0.135)	K4	CO3

Z-Z-Z END