

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION MAY 2023
(Second Semester)

Branch – COMMERCE (PROFESSIONAL ACCOUNTING)

STATISTICS FOR BUSINESS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

1. Histogram can be drawn , when the data be
(i) Continues (ii) discrete
(iii) both continues and discrete (iv) None
2. Which of the following averages preferred to find the average percent increase in sales, production or other business series?
(i) Arithmetic Mean (ii) Geometric Mean
(iii) Harmonic Mean (iv) Combined Mean
3. The range of correlation coefficient is
(i) 0 to 1 (ii) -1 to 0 (iii) -1 to +1 (iv) 0 to ∞
4. Which of the following method is used to determine seasonal variation?
(i) Method of simple average (ii) Semi-average method
(iii) Method of least square (iv) Method of moving averages
5. Number of trials is finite in ----- approach.
(i) Classical (ii) Emprical (iii) Axiomatic (iv) Statistical

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

6. (a) What is secondary data? What are its sources?
OR
(b) Draw a Histogram for the following data:
Wage (in Rs) : 300-320 320-340 340-360 360-380 380-400
No.of workers : 25 50 75 60 15
7. (a) Monthly income of ten families of a particular place are given below:
Find out geometric mean.
85, 70, 15, 75, 500, 8, 45, 250, 40 , 36
OR
(b) Find out the quartile deviation and its coefficient from the following data:
20, 28, 40, 12, 30, 15, 50
8. (a) Define with example :(i) Positive Correlation (ii) Negative Correlation
OR
(b) State the properties of regression coefficients.
9. (a) Define index number. State its applications.
OR
(b) Calculate three yearly moving averages for the following data.
Year : 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992
Sales : 21 22 23 25 24 22 25 26 27 26

Cont...

- 10 (a) If $P(A) = 0.4$, $P(B) = 0.3$ and $P(A \cup B) = 0.6$, then find
 (i) $P(A/B)$ (ii) $P(B/A)$ (iii) Are A and B are independent?

OR

- (b) A coin is tossed six times. What is the probability of obtaining four or more heads?

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11. (a) Discuss in detail : Methods of collecting primary data

OR

- (b) Draw both the Ogives and hence locate the median.

Production (in ton)	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of companies	10	25	36	46	52	31	28	22

- 12 (a) Calculate the mean and median for the following data.

Middle Income (Rs'000):	6	8	10	12	14	16	18
No. of employees	21	55	124	180	136	73	11

OR

- (b) From the following price of gold in a week, find the city in which the price is more stable?

Day	Mon	Tue	Wed	Thu	Fri	Sat
City A:	498	500	505	504	502	509
City B:	500	505	502	498	496	505

- 13 (a) What is scatter diagram? Draw the scatter diagram when

(i) $r > 0$ (ii) $r < 0$ (iii) $r = +1$ (iv) $r = -1$ (v) $r = 0$

OR

- (b) You are given the following data :

	X	Y
Average Production	36	85
Standard deviation	11	8

Correlation coefficient between X and Y is 0.66

- (i) Find the two regression equations

- (ii) Estimate the value of X when $Y = 75$

- 14 (a) Discuss the general problems in the construction of index numbers.

OR

- (b) Draw the trend line by graphic method and estimate the production in 2023.

Year	2016	2017	2018	2019	2020	2021	2022
Production	20	22	25	26	25	27	30

15. (a) A problem in Statistics is given to three students A, B and C whose chances of solving it are $\frac{1}{2}$, $\frac{3}{4}$ and $\frac{1}{4}$ respectively. What is the probability that the problem will be solved if all of them try independently?

OR

- (b) A manufacturer, who produces medicine bottles, finds that 0.1% of the bottles are defective. The bottles are packed in a boxes containing 500 bottles. A drug manufacturer buys 100 boxes from the producer. Using Poisson distribution, find how many boxes will contain

(i) no defective

(ii) at least two defectives.

Z-Z-Z

END