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Oct.-Nov. 2024 Examination

B. Com.-II (Sem.-IV) CBCS Course code: 778

Business Statistics Paper-II

Subject Code: 73524

Day and Date : Tuesday, 10-12-2024

Total Marks : 50

Time : 02:30 pm to 04:00 pm

Instruction

- 1) Attempt any Five questions out of Seven.
- 2) Figures to the right indicate full marks.

Q.1) Attempt any TWO**(10)**

A) State mean and variance of Binomial Distribution. If X is Binomial variate such that Mean is 5 and Variance is 2.5 Find $P(X=2)$

B) Explain the method of moving average.

C) State the relation between Laspeyre's Paasche's and Fisher's Price indices. Use it to find Laspeyer's price index number if Paasche's and Fishers Price indices are 144.3 and 145.6 respectively.

Q.2) Explain Assignable causes in S.Q.C. Draw suitable control chart and state your conclusion. **(10)**

Sample No.	1	2	3	4	5	6	7	8	9	10
No. of defects	20	22	24	19	19	15	18	20	25	27

Q.3) Define Equally Likely events and Mutually Exclusive events. **(10)**

If 3 unbiased coins are tossed simultaneously, find the probability of getting

- a) All heads
- b) No head
- c) At least one head

Q.4) What are the components of Time Series? Explain any one of them. (10)

Calculate 5 monthly moving averages for the following data also plot the graph.

Month	Jan.	Feb.	Mar	Apr.	May	Jun.	Jul.	Aug	Sep.	Oct.
Sales	24	28	29	32	35	30	32	38	40	42

Q.5) Define Index number. Calculate Fishers Price Index number for the following data . (10)

Commodity	Base year		Current Year	
	Price	Quantity	Price	Quantity
A	18	8	40	5
B	60	10	60	7
C	45	15	50	12
D	20	20	20	18

Q.6) State the Properties of Normal distribution. (10)

If X is normal variate with mean 30 and S D. 3

Find a) $P(X < 33)$ b) $P(27 < X < 36)$

(Given area under normal curve Z is From $Z=0$ to $Z=1$ is 0.3413 and From $Z=0$ to $Z=2$ is 0.4773)

Q.7) Attempt any TWO (10)

A) Define Time Series. For the following data calculate 3 yearly moving averages. (without graph)

Year	1	2	3	4	5	6	7	8	9	10
Sales	25	27	22	29	28	30	24	26	40	42

B) Write a note on Mean chart.

C) Define Index Number. For the following data calculate Price Index Number by using Simple agregative method

Commodity	A	B	C	D
Price in 2010	144	60	2.5	230
Price in 2015	154	64	5	410

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