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Reg. No. : .....

Name : .....

**Second Year B.Com. Degree Examination, April 2021**

**Part – III**

**Paper VI : BUSINESS STATISTICS**

**(2006 Admission onwards)**

Time : 3 Hours

Max. Marks : 100

**SECTION – A**

Answer **any ten** questions. **Each** question carries **2** marks.

1. Explain the term statistics.
2. What is meant by secondary data?
3. Define qualitative data.
4. Define mean.
5. Define Range.
6. What do you mean by variability of data?
7. What is a symmetrical distribution?
8. Define correlation analysis.
9. What is meant by time series analysis?
10. What is meant by cyclical variation?
11. Define Index Number.
12. What is Probability?

**(10 × 2 = 20 Marks)**

P.T.O.

## SECTION – B

Answer **any eight** questions. **Each** question carries **5** marks.

13. Define sampling. What are the various sampling methods?
14. What do you mean by central tendency? What are the various measures of central tendency?
15. What are the various types of correlation?
16. Explain the difference between correlation and regression.
17. What are the important components of time series?
18. Calculate the value of mode from the following data.

Marks	10	15	20	25	30	35	40
No. of students	7	10	35	30	25	15	8

19. Find the standard deviation from the following data :

Age	10	20	30	40	50	60	70	80
No. of Persons dying	15	30	53	75	100	110	115	125

20. Find Bowley's co-efficient of skewness using the following data.

Marks	20	30	40	50	60	70	80	90
No. of Students	8	20	35	40	32	35	18	22

21. Calculate Spearman's coefficient of correlation between marks assigned to 10 students by judges in a competitive test as given below:

Sl.No.	1	2	3	4	5	6	7	8	9	10
Marks by Judge X	52	53	42	60	45	41	37	38	25	27
Marks by Judge Y	65	68	43	38	77	48	35	30	25	50

22. Calculate the three yearly moving averages from the production data given below and draw the trend.

Year	2002	2003	2004	2005	2006	2007	2008
Production (in million tonnes)	15	21	30	36	42	46	50

Year	2009	2010	2011	2012	2013	2014	2015	2016
Production (in million tonnes)	56	63	70	74	82	90	95	102

23. From the chain base index numbers given below, prepare fixed base index number.

Year	2012	2013	2014	2015	2016
CBI	80	110	120	90	140

24. Two cards are drawn from a pack of cards at random. What is the probability that it will be
- A diamond and a heart
  - A king and a queen
  - Two kings.

(8 × 5 = 40 Marks)

### SECTION – C

Answer **any two** questions. **Each** question carries **20** marks.

25. The following table gives the marks obtained by a student in ten tests during the year. Calculate the correlation coefficient.

Test No.	1	2	3	4	5	6	7	8	9	10
Marks in Accounts	77	54	27	52	14	35	90	25	56	60
Marks in English	35	58	60	40	50	40	35	56	34	42

26. Fit a straight line trend by the method of least square to the following data, relating to the net profit of a public concern.

Year	2010	2011	2012	2013	2014	2015	2016
Profit (Rs.'000)	300	700	600	800	900	700	1000

Also estimate the profit for the year 2020.

27. Construct index numbers of price from the following data by applying :

- (a) Laspeyre's Method
- (b) Paasche's Method
- (c) Fisher's Method
- (d) Bowley's Method.

Commodity	Base Year		Current Year	
	Price	Total Value	Price	Total Value
A	6	300	10	560
B	2	200	2	240
C	4	240	6	360
D	10	300	12	288

28. Eight unbiased coins are tossed simultaneously. Find out the probability of getting :

- (a) Exactly 3 heads
- (b) All heads
- (c) Utmost two heads
- (d) At least one head.

(2 × 20 = 40 Marks)