E 142 (Pages : 4) Reg. No.....

Name.....

C.B.C.S.S. B.Com. DEGREE EXAMINATION, NOVEMBER 2009

First Semester

Core Course I—BUSINESS STATISTICS

(Common for B.Com. Model-I, B.Com. (Vocational—Model II) and UGC Sponsored B.Com. Programmes)

Time : Three Hours Total weight : 25

Section A

Answer **all** *questions.*
Each bunch of Four questions carries a weight of 1.

I. Choose the correct answer from the choices given :

1 The value of the variable which occurs most frequently in a distribution is called :

(a) Mean. (b) Mode.

(c) Median. (d) Mean deviation.

2 Which of the following cannot be negative ?

(a) Mean deviation. (b) Mode.

(c) Median. (d) Mean.

3 A series is said to have negative skewness when :

(a) Mean = median = mode. (b) Mean < Median < Mode.

(c) Mean > Median > Mode. (d) Mean < Median > Mode.

4 Which one of the following is economic barometer ?

(a) Coefficient of skewness. (b) Index number.

(c) Median. (d) Mean.

II. Fill in the blanks :

5 Interquartile range is the difference between the two extreme ————.

6 Comparison is made between ———— is called index number of prices.

7 S.D. is ———— of variance.

8 ———— moves like a pendulam of a clock and it is a never ending process.

Turn over

III. State whether the following statements are True *or* False.

9 Quartiles are the values which divide the series into four equal parts.

10 Measures of dispersion is the average of second order.

11 Modal item is the item having least frequency.

12 In a skewed distribution mean, median and mode are equal.

IV. Match the following :—

13 Unit test.	(a) Dispersion.
14 Measurement of trend.	(b) Mean.
15 Lack of Symmetry.	(c) Index numbers.
16 Mathematical average.	(d) Harmonic mean.
	(e) Median.
	(f) Time series.
	(g) Skewness.

$(4 \times 1 = 4)$

Section B

V. Answer any *five* questions. Each question carries a weight of 1.

17 What is positive skewness ?

18 What do you understand by irregular variation ?

19 A cyclist pedals from his house to college at a speed of 8 km. per hour and back from the college to house at 12 km. per hour. Find the average speed.

20 How is geometric mean computed ?

21 In a biomodal series, the value of median is 141 and the value of mean is 140. Find the valu of mode.

22. What is interpolation ?

23. In a distribution, the difference of the two quartiles is 15, their sum is 35 and median is 20. Find the coefficient of skewness.

24. What do you mean by time reversal test ?

$(5 \times 1 = 5)$

Section C

VI. Answer any *four* questions. Each question carries a weight of 2.

25 What are the desirable properties of a good measure of dispersion ?

26 Calculate geometric mean :

Class	:	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60
Frequency	:	5	10	15	7	4

27 What are the linear and nonlinear trend ?

28 Calculate the first four moments about the mean for the following distribution :

X :	1	2	3	4	5	6	7
F :	1	6	15	20	15	6	1

29 The sum of 20 observations is 300 and its sum of squares is 5,000 and mean is 15. Find the coefficient of variation.

30 From the following data calculate price index under average of price relative taking 2,000 as base :

Commodities	...	1	2	3	4
Price in 2000	...	20	10	6	40
Prices in 2008	...	25	15	3	50
Weight	...	6	5	2	2

$(4 \times 2 = 8)$

Section D

VII. Answer any *two* questions. Each question carries a weight of 4.

31 From the following data calculate Laspeyre's Paasche's and Fisher's Index numbers.

Items		*Base Year*		*Current year*	
		Price	*Quantity*	*Price*	*Quantity*
A	...	5	10	6	12
B	...	7	12	10	8
C	...	10	7	12	8
D	...	4	5	5	6
E	...	8	7	8	8

32 Calculate the long term and short term oscillations from following data, assume a three yearly moving cycle.

Year ...	1991	1992	1993	1994	1995	1996	1997	1998
Export of rubler (tons) ...	1,600	1,500	1,650	2,100	2,600	3,100	3,200	3,500

33 Calculate coefficient of variation and state which group is more consistent, boys or girls ?

Age in years ...	6	7	8	9	10	11	12	13
Boys ...	3	6	9	14	17	19	7	5
Girls ...	4	4	10	16	14	15	3	4

$(2 \times 4 = 8)$