E 2514 (Pages : 3) Reg. No.....

Name.....

B.Com. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2011

First Semester

Core Course I—BUSINESS STATISTICS

(Common for Model–I, Model–II and UGC sponsored B.Com Programmes)

Time : Three Hours Maximum Weight : 25

Section A

Answer **all** *questions.*

Each bunch of **four** *questions carries a weight of* 1.

Bunch I

Choose the correct answer from the choices given :

1. Which of the following is known as business average ?
   (a) Mean. (b) Median.
   (c) Moving average. (d) Mode.
2. Which of the following is an example of the relative measures of dispersion ?
   (a) Standard deviation. (b) Co-efficient of variation.
   (c) Variance. (d) None of these.
3. For calculating the value of median diagrammatically we are required to draw :
   (a) An Ogive. (b) A histogram.
   (c) A frequency curve. (d) A frequency polygon.
4. Select the correct relationship between Mean, Median and Mode in a symmetrical distribution.
   (a) Mean > Median > Mode. (b) Mean < Median < Mode.
   (c) Mean = Median = Mode. (d) Mean > Median < Mode.

Bunch-II

Fill in the blanks :

5. Harmonic mean is the reciprocal of the ———— of the reciprocals of the values.
6. ———— is the positional average.
7. Fisher's index number is called ideal index number because it satisfies Time Reversal Test and ————.
8. Seasonal variations occur during a period of ———— year/years.

Bunch-III

State whether the following statements are True or False :

9. The value of the Co-efficient of correlation shall always lie between + 1 and – 1.
10. Paasche Index is based on Base Year Quantities.
11. Mean is based on the value of every item in the series.
12. Standard deviation is the most important and widely used measure of Central Tendency.

Turn over

Bunch-IV

Match the following :

13. Mathematical average	(a) Median.
14. An Ogive	(b) Secular trend.
15. Ratio to moving average	(c) Geometric mean.
16. Factor reversibility test	(d) Seasonal variation.
	(e) Laspeyer's Quantity Index.
	(f) Skewness.
	(g) Fisher's Quantity Index.

(4 × 1 = 4)

Section B

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

17. State any *four* limitations of statistics.
18. Define Weighted Arithmetic mean.
19. How is median calculated in continuous series ?
20. If the mean and median of a moderately asymmetrical series are 26.8 and 27.9 respectively, what would be its most probable mode ?
21. Define Skewness.
22. Define Consumer Price Index.
23. Distinguish between Interpolation and Extrapolation.
24. What is secular trend ?

(5 × 1 = 5)

Section C

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

25. What is a time series ? Describe its utilities.
26. The mean wages of 100 workers in a factory running two shifts of 60 and 40 workers respectively is Rs. 38. The mean wage of 60 workers working in the morning shift is Rs. 40. Find the mean wage of 40 workers working in the evening shift.
27. What are the assumptions of Pearson's Co-efficient of correlation.
28. Calculate Co-efficient of mean deviation from mean :

    100, 150, 200, 250, 360, 490, 500, 600, 671.

29. Given the following information, find standard deviation :

    $n = 10,\ \Sigma X = 60,\ \Sigma X^2 = 1000.$

30. If the Co-variance between X and Y is 488 and variance of X and Y are 824 and 325 respectively, find out Co-efficient of correlation.

(4 × 2 = 8)

Section D

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

31. Following is the distribution of marks obtained by 50 students in statistics :

Marks more than	: 0	10	20	30	40	50
No.of. Students	: 50	46	40	20	10	3

Calculate the median marks. If 60 % of the students pass the test, find the minimum marks obtained by a pass candidate.

32. Calculate Co-efficient of variation from the following data :

Marks	*No.of. Students*
Below 20	8
Below 40	20
Below 60	50
Below 80	70
Below 100	80

33. From the following data calculate price index numbers for 2010 with 2009 as base by (a) Laspeyre's method. (b) Paasche's method and (c) Fisher's Ideal Method.

Commodity	2009		2010	
	Price	*Quantity*	*Price*	*Quantity*
A ..	20	8	40	6
B ..	50	10	60	5
C ..	40	15	50	15
D ..	20	20	20	25

(2 × 4 = 8)