

B.Com. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2012**First Semester****Core I—BUSINESS STATISTICS**

(Common for Model I, Model II and UGC sponsored B.Com degree programmes)

[For Students of 2012 Admission onwards]

Time : Three Hours

Maximum Weight : 25

Answer may be written in English or in Malayalam.

Section A

*This Section consists of four bunches of four questions each.
Each bunch carries a weight of 1.*

I. Choose the correct answer from the choices given :

1 For calculating the value of mode diagrammatically, which of the following is drawn :—

- (a) An Ogive. (b) A frequency polygon.
(c) A histogram. (d) A frequency curve.

2 Which of the following is known as a business average :—

- (a) Mean. (b) Median.
(c) Mode. (d) Moving average.

3 Which of the following is used to estimate the most probable value for intermediate :—

- (a) Interpolation. (b) Extrapolation.
(c) Skewness. (d) Index number.

4 When a frequency curve is more flat topped than the normal curve, it is called :

- (a) Leptokurtic. (b) Mesokurtic.
(c) Platykurtic. (d) Normal curve.

II. Fill in the blanks :—

5 Square root of the Product of Arithmetic mean and Harmonic mean is ———.

6 When Geometric mean is 25, Harmonic mean is 20, Arithmetic mean is ———.

7 Seasonal variations occur during a period of ——— year/years.

8 Method of Least squares is a method of measuring ———.

Turn over

III. State whether the following statements are True or False :—

- 9 Mode is the most repeated item in the series.
- 10 Laspeyre's index is based on current year quantities.
- 11 Reciprocal of the arithmetic average of the values of its various items is called Harmonic mean.
- 12 Secular trend is the basic tendency of a series to grow or decline over a period of time.

IV. Match the following :—

- | | |
|---------------------------|--|
| 13 Distrust of statistics | (a) Not in relation to each other. |
| 14 Variance | (b) Aggregates of facts. |
| 15 Kurtosis | (c) Lack of confidence in statistical methods. |
| 16 Statistics | (d) Square root of SD. |
| | (e) $SD \times SD$. |
| | (f) Peakness of frequency distribution. |

(4 × 1 = 4)

Section B

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

- 17 "Statistics are numerical statement of facts". Explain.
- 18 What do you mean by combined arithmetic mean ?
- 19 Distinguish between absolute measure of dispersion and relative measure of dispersion.
- 20 Mr. X spends Rs. 60 for grapes costing Rs. 15 per kilogram another Rs. 60 for mango costing Rs. 10 per kilogram. Find the average price of the fruits by applying the most appropriate method.
- 21 Calculate 7th Decile, 40th Percentile and 75th Percentile from the following :—
Age in years : 27, 39, 49, 36, 25, 48, 56, 67, 68
- 22 Define consumer price index.
- 23 Arithmetic mean of 50 items is 60, at the time of calculation two items 19 and 60 are misread as 90 and 15, calculate correct mean.
- 24 How is the value of mode calculated in continuous series.

(5 × 1 = 5)

Section C

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

- 25 Define median. Discuss the method of locating median graphically.
- 26 40 per cent of students have a mean grade of 5.25, 35 per cent students have a grade of 4.21, and the remaining 25 per cent students have a mean grade of 3.10. What is the mean grade for the entire class ?
- 27 The marks obtained by seven students are 5, 10, 15, 20, 25, 30, 45. Find the Harmonic Mean.
- 28 The measure of skewness of a distribution is 0.32. Its standard deviation is 6.5 and mean equal to 29.6. Estimate the mode and median of the distribution.
- 29 How is mode calculated in continuous series ?
- 30 Calculate mean deviation from the following data :—

X :	7	13	19	25	31	37
F :	3	6	10	21	8	2

(4 × 2 = 8)

Section D

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

- 31 Calculate Mode from the following data :—
- | | | | | | | | |
|-----------------|---------|---------|---------|---------|---------|---------|---------|
| Size of items : | 10 – 19 | 20 – 29 | 30 – 39 | 40 – 49 | 50 – 59 | 60 – 69 | 70 – 79 |
| Frequency : | 10 | 12 | 18 | 30 | 16 | 6 | 8 |
- 32 Following table shows the marks distribution of 50 students in their modal examination. Calculate Bowley's Coefficient of skewness :—
- | | | | | | | | | | |
|-------------------|----|----|----|----|----|----|----|----|----|
| Marks : | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| No. of students : | 7 | 9 | 12 | 8 | 5 | 3 | 3 | 2 | 1 |
- 33 From the following data calculate Fisher's ideal Index Number and test whether it is satisfied with factor reversal test :—

Commodities		Base year		Current Year	
		Price	Value	Price	Value
A	...	7	56	12	72
B	...	3	150	2	120
C	...	4	60	6	60
D	...	10	30	12	24
E	...	8	40	12	36

(2 × 4 = 8)