

**B.A. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2015****Fifth Semester****B.A.—Economics****Core Course—QUANTITATIVE TECHNIQUES FOR ECONOMIC ANALYSIS****(For Private Registration Candidates)**

Time : Three Hours

Maximum Weight : 25

**Instructions :** *This question paper contains two sections. Answer Section I questions in the answer-book provided. Section II Internal Examination questions must be answered in the question paper itself. Follow the detailed instructions given under Section II.*

**Section I**

*Answers may be written either in English or in Malayalam.*

**Part A**

*Answer all questions.*

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

Choose the correct answer for the following questions :—

I. 1 The algebraic sum of the deviations from mean is :

- (a) Maximum. (b) Least.  
(c) Zero. (d) None of these.

2 For a symmetrical distribution,  $Q_1$  and  $Q_3$  are 20 and 40 respectively. The value of 50<sup>th</sup> percentile will be :

- (a) 40. (b) 20.  
(c) 30. (d) None of these.

3 For a symmetrical distribution,  $P_{25}$  and  $P_{75}$  are 40 and 60 respectively. The value of median will be :

- (a) 50. (b) 40.  
(c) 60. (d) None of these.

4 Most appropriate measure for qualitative measurement is :

- (a) A.M. (b) Median.  
(c) Mode. (d) None of these.

II. 5 The average, most affected by the extreme observation is :

- (a) Mode. (b) A.M.  
(c) G.M. (d) Median.

**Turn over**

6 Standard deviation is always computed from :

- (a) Mean. (b) Mode.  
(c) Median. (d) Geometric mean.

7 The mean of squared deviations about the mean is called :

- (a) S.D. (b) Variance.  
(c) M.D. (d) None of these.

8 A measurement of dispersion is an Indicator of the reliability of :

- (a) An average. (b) Variability.  
(c) Median class. (d) None of these.

III. 9 If M.D. is 12, the value of S.D. will be :

- (a) 15. (b) 12.  
(c) 24. (d) None of these.

10 The median is :

- (a) 4<sup>th</sup> decile. (b) 50<sup>th</sup> percentile.  
(c) 8<sup>th</sup> decile. (d) None of these.

11 Moving average method is used in :

- (a) Time series analysis. (b) Index numbers.  
(c) Correlation. (d) None of these.

12 Index numbers are also known as :

- (a) Economic barometers. (b) ISO quants.  
(c) ISO-costs. (d) None of these.

IV. 13 Fisher's formula for the calculation of Index numbers is :

- (a)  $\frac{\epsilon p_1 q_0}{\epsilon p_0 q_0} \times 100.$  (b)  $\frac{\epsilon p_1 q_1}{\epsilon p_0 q_0} \times 100.$   
(c)  $\frac{\epsilon p_1 q}{\epsilon p_0 q} \times 100.$  (d)  $\sqrt{\frac{\epsilon p_1 q_0}{\epsilon p_0 q_0} \times \frac{\epsilon p_1 q_1}{\epsilon p_0 q_1}} \times 100.$

14 The graphical method of finding out variability :

- (a) OGive. (b) Lorenz curve.  
(c) Pie diagram. (d) Bar diagram.

15 For a symmetrical distribution Q1 and Q3 are 20 and 40 respectively. The value of 50<sup>th</sup> percentile will be :

- (a) 40. (b) 20.  
(c) 30. (d) None of these.

16 Co-efficient of variation is given by :

(a)  $\frac{\sigma}{x}$ .

(b)  $\frac{\bar{x}}{\sigma}$ .

(c)  $\frac{\bar{x}}{\sigma} \times 100$ .

(d)  $\frac{\sigma}{x} \times 100$ .

(4 × 1 = 4)

**Part B (Short Answer Questions)**

*Answer any five questions not exceeding 50 words each.  
Each question carries a weight of 1.*

- 17 Harmonic mean.
- 18 Sample design.
- 19 Census.
- 20 Geometric mean.
- 21 Venn diagram.
- 22 Index numbers.
- 23 Time series.
- 24 Pie diagram.

(5 × 1 = 5)

**Part C (Short Essays)**

*Answer any four questions in not exceeding 150 words each.  
Each question carries a weight of 2.*

- 25 What are the properties of arithmetic mean ?
- 26 Explain the role of statistics in economics.
- 27 State the principles underlying the classification of data.
- 28 Explain the merits of diagrams and graphs.
- 29 What are the methods of sampling ?
- 30 Represent the following frequency table by histogram :—

|                 |   |         |         |         |         |         |
|-----------------|---|---------|---------|---------|---------|---------|
| Marks           | : | 10 – 15 | 15 – 20 | 20 – 25 | 25 – 30 | 30 – 35 |
| No. of students | : | 5       | 20      | 47      | 38      | 10      |

(4 × 2 = 8)

**Part D (Long Essays)**

*Answer any two questions not exceeding 450 words each.  
Each question carries a weight of 4.*

- 31 Draw the more than and less than ogives for the following data on the same graph paper :—

|                 |   |         |         |         |         |         |
|-----------------|---|---------|---------|---------|---------|---------|
| Marks           | : | 10 – 19 | 20 – 29 | 30 – 39 | 40 – 49 | 50 – 59 |
| No. of students | : | 5       | 10      | 18      | 12      | 5       |

**Turn over**

32 Apply the method of semi averages for determining the trend :

|        |   |      |      |      |      |      |      |      |      |
|--------|---|------|------|------|------|------|------|------|------|
| Year   | : | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| Values | : | 45   | 58   | 62   | 50   | 70   | 72   | 68   | 70   |

33 What are the importance of Index numbers and explain the various steps in the construction of Index numbers ?

(2 × 4 = 8)

## Section II

[TO BE ATTACHED TO THE MAIN ANSWER-BOOK]

UG CBCSS INTERNAL EXAMINATION, MARCH 2015

DO NOT WRITE YOUR REGISTER NUMBER OR NAME ANYWHERE IN SECTION II OF THE QUESTION PAPER

*Answer all questions.**All questions carry equal weight.**Put a tick mark [✓] in the column against the correct answer.*

1. A good index number is one which satisfies :

(1) Unit test ; (2) Time reversal test ; (3) Factor reversal test

Which of the following is correct :—

- |              |                          |                 |                          |
|--------------|--------------------------|-----------------|--------------------------|
| (A) 1 only.  | <input type="checkbox"/> | (B) 2 only.     | <input type="checkbox"/> |
| (C) 2 and 3. | <input type="checkbox"/> | (D) 1, 2 and 3. | <input type="checkbox"/> |

2. Which one of the following statement is correct ?

- 1 Laspeyres' index shows an upward bias ;
- 2 Paastes' index shows an upward bias.
- 3 Laspeyres' index shows an downward bias.
- 4 Paasches' index shows an downward bias.

- |              |                          |              |                          |
|--------------|--------------------------|--------------|--------------------------|
| (A) 1 and 4. | <input type="checkbox"/> | (B) 1 only.  | <input type="checkbox"/> |
| (C) 2 and 3. | <input type="checkbox"/> | (D) 3 and 4. | <input type="checkbox"/> |

3. The procedure of combining two or more overlapping series index numbers :

- |                |                          |                    |                          |
|----------------|--------------------------|--------------------|--------------------------|
| (A) Splicing.  | <input type="checkbox"/> | (B) Base shifting. | <input type="checkbox"/> |
| (C) Deflating. | <input type="checkbox"/> | (D) None of these. | <input type="checkbox"/> |

4. A lock-out in a factory for a month is associated with: the component of time series :

- |                       |                          |                          |                          |
|-----------------------|--------------------------|--------------------------|--------------------------|
| (A) Trend.            | <input type="checkbox"/> | (B) Seasonal variation.  | <input type="checkbox"/> |
| (C) Cyclic variation. | <input type="checkbox"/> | (D) Irregular variation. | <input type="checkbox"/> |

5. Which of the following is described as 'barometers of economic activity ?

- |                   |                          |                  |                          |
|-------------------|--------------------------|------------------|--------------------------|
| (A) Index number. | <input type="checkbox"/> | (B) Correlation. | <input type="checkbox"/> |
| (C) Regression.   | <input type="checkbox"/> | (D) Time series. | <input type="checkbox"/> |

6. With the help of histogram we can prepare :

- |                        |                          |                     |                          |
|------------------------|--------------------------|---------------------|--------------------------|
| (A) Frequency polygon. | <input type="checkbox"/> | (B) Frequency cure. | <input type="checkbox"/> |
| (C) Both.              | <input type="checkbox"/> | (D) None.           | <input type="checkbox"/> |

7. Median is the average suited for \_\_\_\_\_ classes.
- (A) Open-end.  (B) Closed-end.   
 (C) Both of these.  (D) None of these.
8. The sum of squares of deviations from arithmetic mean is :
- (A) Maximum.  (B) Minimum.   
 (C) Zero.  (D) One.
9. The point of intersection of 'less than' and 'more than' ogives corresponds to :
- (A) Mean.  (B) Median.   
 (C) Mode.
10. Harmonic mean is the \_\_\_\_\_ of arithmetic mean.
- (A) Reciprocal.  (B) Substitute.   
 (C) Both of these.  (D) None of these.
11. When 5 is added to all the values of a series then standard deviation :
- (A) Does not change.  (B) Becomes 5 times.   
 (C) Increased by 5.  (D) Decreased by 5.
12. For the open-end class frequency distribution the appropriate measure of dispersion :
- (A) Range.  (B) Quartile deviation.   
 (C) Mean deviation.  (D) Standard deviation.
13. If  $B_2$  is greater than three, the curve is — called :
- (A) Mesokurtic.  (B) Leptokurtic.   
 (C) Platykurtic.
14. For a symmetrical distribution the coefficient of skewness is :
- (A) + 1.  (B) - 1.   
 (C) + 3.  (D) - 3.
15. Given that correlation coefficient  $r = 0.8$ , covariance of X and Y is 6 and variance of Y is 9, then the standard deviation of X is :
- (A) 2.  (B) 1.   
 (C) 2.5.  (D) 3.
16. Coefficient of correlation measure :
- (A) Direction of the relation.  (B) Degree of the relation.   
 (C) Both (A) and (B).  (D) None of the above.

17. Vertical curve represent the value of the correlation coefficient to be :

- (A) Positive.  (B) Negative.   
 (C) Zero.  (D) All of the above.

18. Karl Pearson's coefficient of correlation method of measuring correlation is :

- (A) Graphic.  (B) Mathematical.   
 (C) Positional.  (D) None of the above.

19. Coefficient of correlation is independent of :

- (A) Change of scale.   
 (B) Change of origin.   
 (C) Both change of scale and change of origin.   
 (D) None of the above.

20. Correlation between price and supply is normally :

- (A) Negative.  (B) Positive.   
 (C) Zero.  (D) None of the above.

No. of MCQs attempted

Weight Scored

(To be entered by the examiner)

No. of MCQs not attempted

ATTACH SECTION II INTERNAL EXAMINATION MCQ PAPER WITH  
THE MAIN ANSWER-BOOK