$\qquad$ Name $\qquad$

# B Com DEGREE END SEMESTER EXAMINATION - OCTOBER 2019 <br> SEMESTER 1 : B Com <br> COURSE : 19U1CRCOM1 : BUSINESS STATISTICS <br> (For Regular - 2019 Admission) 

Time : Three Hours
Max. Marks: 75

## Section A <br> Answer any 10 (2 marks each)

1. What is "Foot Note"?
2. What do you understand by Biased Sampling Errors?
3. Explain the two stages where editing can be done.
4. State the relationship between arithmetic mean, harmonic mean and geometric mean
5. Calculate harmonic mean from the following data.

| X | 2 | 4 | 7 | 12 | 19 |
| :--- | :--- | :--- | :--- | :--- | :--- |

6. State the absolute and relative measure of Mean Deviation
7. " Index numbers are barometers of economic activity" Explain.
8. What do you mean by Fixed base and Chain base index number?
9. What do you mean by the time value of money?
10. What is opportunity cost?
11. Kapil deposited some amount in bank for 7and half years at $6 \%$ p.a. simple interest. Kapil received Rs. 101500 at the end of the term. Calculate the amount deposited by Kapil initially.
12. Find the wrong terms of the series $9,29,65,126,217,344$

$$
(2 \times 10=20)
$$

## Section B <br> Answer any 5 (5 marks each)

13. What are statistical series? Explain its classification?
14. Calculate Median from the following central values

| Mid values : 115 | 125 | 135 | 145 | 155 | 165 | 175 | 185 | 195 |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency : | 6 | 25 | 48 | 72 | 116 | 60 | 38 | 22 | 3 |

15. Ten coins are tossed 1024 times.The theoretical frequencies of heads are given below.

| No. of <br> heads | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency | 1 | 10 | 45 | 120 | 210 | 252 | 210 | 120 | 45 | 10 | 1 |

Calculate arithemetic mean.Also evaluate the merits and demerits of this method.
16. Find the mean deviation from mean and its coefficient for the following values

| No of <br> Children | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| No of <br> Families | 171 | 82 | 50 | 25 | 13 | 7 | 2 |

17. Find Standard Deviation of the following data:

| Size | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Frequency | 1 | 2 | 3 | 5 | 3 | 2 | 1 |

18. draw a trend line using semi- average method from the following data.

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| production | 20 | 25 | 24 | 30 | 36 | 32 | 38 | 54 | 60 | 58 | 65 |

19. The monthly incomes of two persons are in the ratio $4: 5$ and their monthly expenditures are in the ratio 7 : 9. If each saves Rs. 50 per month, find their monthly incomes.
20. Four ladies \& A, B, C and D and Four Gentlemen E, F, G and H are sitting in a circle around a table facing each other .
I. No two ladies or gentlemen are sitting side by side.
II. $C$, who I sitting between $G$ and $E$, is facing $D$.
III. $F$ is between $D$ and $A$ and facing $G$.
IV. H is to the right of $B$.
21. Who is sitting left of $A$ ?
a. E
(b) F
(c) G
(d) H
22. E is facing whom?
a. F
(b) B
(c) G
(d) H
23. Who is immediate neighbour of $B$ ?
a. G and H
(b) E and F
(c) E and H
(d) F and H

Give reason for your answers.

## Section C

## Answer any 3 ( 10 marks each)

21. What is tabulation? What are its parts? Also, state the general rules for the construction of a good statistical table.
22. Calculate Mode from the following data. Also state the utilities of Mode.

| Profit in <br> Lakhs(Below) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of firms | 4 | 6 | 24 | 46 | 67 | 86 | 96 | 99 | 100 |

23. Find standard deviation from the following data using (1) Direct method (2) Short cut method (3) Step deviation Method

| Size | $0-2$ | $2-4$ | $4-6$ | $6-8$ | $8-10$ | $10-12$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Frequency | 2 | 4 | 6 | 4 | 2 | 6 |

24. From the following data compute the quantity index number for 2016 using
i) Laspeyre's ii) Paasche's. iii) Dorbish and Bowley iv) Fishers v) Marshall Edgeworth formula.
commodity
A
B
C
D
B

| C | 75 | 80 |
| :--- | :--- | :--- |

D $50 \quad 60$
Quantity in units
$\underline{2010 \quad \underline{2016}}$
120
90
60


Value in Rupees
$\underline{2010} \underline{2016}$
$450 \quad 600$
$480 \quad 630$
$300 \quad 240$
$350 \quad 300$
25. Identify the relationships. Give reasons for your answers.

1. A is D's brother. D is B's father. B and C are sisters. How is A related to C?
a. )Son
(b) Grandson
(c) Father
(d) Uncle
2. A is B's sister. C is B's mother. D is C's father. E is D's mother, then how A is related to D?
a. Grandfather
(b) Daughter
(c) Grandmother
(d) Granddaughter
3. $A$ is father of $C$ and $D$ is son of $B$. $E$ is brother of $A$. If $C$ is sister of $D$ how is $B$ related to $E$ ?
a. ) Sister-in-law
(b) Sister (c) Brother (d) Brother-in-law
4. $C$ is wife of $B$. $E$ is the son of $C A$ is the brother of $B$ and father of $D$. What is the relationship of $E$ to $D$ ?
(a)Mother
(b) Sister
(c) Brother
(d) Cousin
5. X and Y are brothers. R is the father of Y . S is the brother of T and maternal uncle of $X$. What is $T$ to $R$ ?
(a) Mother
(b) Wife (c) Sister
(d) Brother
