| Reg No $\quad:$ |  |
| :--- | :--- |
| Name |  |

## B.Com. DEGREE (CBCS) EXAMINATION, OCTOBER 2019

Third Semester
CORE COURSE - CO3CRT08 - QUANTITATIVE TECHNIQUES FOR BUSINESS- 1
(Common to all B.Com Degree Programmes)
2017 Admission Onwards
D31C3060
Maximum Marks: 80
Time: 3 Hours

## Part A

Answer any ten questions.
Each question carries 2 marks.

1. All facts numerically expressed are statistics. Indicate with reason whether the statement is correct.
2. Write short note on univariate data.
3. Write a note on stratified sampling.
4. Show how foot note appears in a statistical table.
5. Define mode.
6. Find median from the following;

| Size | 5 | 8 | 10 | 15 |
| :--- | :---: | :---: | :---: | :---: |
| Frequency | 15 | 8 | 14 | 13 |

7. Find the Geometric mean of 3,8 and 9
8. Find the range and co-efficient of range of $2,24,21,45,37,40$ and 38 .
9. Compute Standard Deviation; 15, 18, 22, 26,30
10. What is kurtosis?
11. Define Interpolation
12. What is Extrapolation?

## Part B

Answer any six questions.
Each question carries 5 marks.
13. Statistics is a rainbow of lies- An ounce of truth can produce tons of Statistics"- Comment on these statements?
14. Explain various errors in statistics.
15. Form a frequency distributionfrom the following data by exclusive method taking 5 as the magnitude of class intervals:
$10,17,15,22,11,16,19,24,29,18,25,26,32,14,17,20,23,27,30,12$,
$15,18,24,36,18,15,21,28,33,38,34,13,10,16,20,22,29,19,23,31$
16. From the following data compute arithmetic mean by direct method:

Marks $\quad 0-10$ 10-20 20-30 30-40 40-50 50-60
$\begin{array}{lllllll}\text { No of Students } & 5 & 10 & 25 & 30 & 20 & 10\end{array}$
17. Compute median from the following data.

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

18. Determine mode from the following data

| Weekly salary (Rs.) | 15 | 16 | 17 | 18 | 19 | 20 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| No of workers | 6 | 12 | 23 | 30 | 90 | 1 |

19. Determine quartile deviation and co-efficient of quartile deviation for the following distribution

| Weight $(\mathrm{kg})$ | $30-34$ | $35-39$ | $40-44$ | $45-49$ | $50-54$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| No of Boys | 5 | 11 | 26 | 10 | 8 |

20. Explain relative measures of dispersion along with its formula.
21. Interpolate the missing figures.

| Year | 1931 | 1941 | 1951 | 1961 | 1971 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Production | 360 | $?$ | 425 | 450 | 465 |

## Part C

Answer any two questions.
Each question carries 15 marks.
22. Determine quartiles from the following distribution

| Marks | $5-10$ | $10-15$ | $15-20$ | $20-25$ | $25-30$ | $30-35$ | $35-40$ | $40-45$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of Students | 5 | 6 | 15 | 10 | 5 | 4 | 2 | 2 |

23. The following data gives the weekly wages of workers in a firm, their total working hours and the average working hours per worker.

Calculate the average weekly wage per worker.
Wages group( Rs)
80-100 100-120 120-140 140-160 160-180 180-200

| Total Hours Worked | 168 | 170 | 225 | 272 | 126 | 91 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Average No. of Hours worked per worker | 12 | 10 | 9 | 8.5 | 7 | 6.5 |

24. Calculate Karl Pearson's Co efficient of skewness and explain its significance.

| Wages | $0-$ <br> 10 | $10-$ <br> 20 | $20-$ <br> 30 | $30-$ <br> 40 | $40-$ <br> 50 | $50-$ <br> 60 | $60-$ <br> 70 | $70-$ <br> 80 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No of <br> persons | 12 | 18 | 35 | 42 | 50 | 45 | 20 | 8 |

25. An analysis of monthly wages paid to workers in two firms A and B belonging to the same industry gives the following data:

|  | Firm A | Firm B |
| :--- | :---: | :---: |
| No of workers | 550 | 650 |
| Average Monthly wages | 50 | 45 |
|  |  |  |
| Standard Deviation | $\sqrt{90}$ | $\sqrt{120}$ |
|  |  |  |

1. Which Firm A or B pays larger amount as monthly wages?
2. What are the monthly wages and S.D in the distribution of individuals' wages of workers in the two firms taken together?
3. In which firm there is greater variability in individual wages?
