# B.COM DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, JANUARY 2023 

Third Semester
Core Course - CO3CRT08 - QUANTITATIVE TECHNIQUES FOR BUSINESS- 1
(Common to all B.Com Degree Programmes)

## For Regular Candidates : 2017 Admission Onwards <br> For Private Candidates : 2021 Admission Only <br> 1252ED7B

Time: 3 Hours
Max. Marks : 80
Instructions to Private candidates only: 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
Part A
Answer any ten questions.
Each question carries 2 marks.

1. Write a note on inferential statistics.
2. Define Sampling.
3. Write a short note on body of the table.
4. Write a note on Geometric mean.
5. Calculate artihmetic average of the heights of five students: $155,148,167,172,125$
6. Calculate median: $27,18,25,32,40$
7. Calculate Mode

15,10,12,10,15,12,10,15,12,10,15,13
8. Write a short note on variance.
9. Calculate mean deviation.

3,8,9,12
10. Compute Standard Deviation; 15, 18,22,26,30
11. Give the formula for Newton's method of advancing differences.
12. Write a short note on Extrapolation.
$(10 \times 2=20)$

## Part B

Answer any six questions.
Each question carries 5 marks.
13. List out the applications of statistics.
14. Secondary data can be used only after certain precautionary measures. Comment.
15. Describe simple random sampling technique.
16. The following table gives weekly wages in rupees of workers in certain commercial organization. The frequency of the class interval 49-52 is missing. It is known that the mean of the above frequency distribution is 47.2

Weekly wages 40-43 43-46 46-49 49-52 52-55
No of workers $\begin{array}{lllll}31 & 58 & 60 & ? & 27\end{array}$
17. Locate median graphically

| Marks | $0-10$ | $10-20$ | $20-30$ | $30-40$ | $40-50$ | $50-60$ | $60-70$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of Students | 4 | 8 | 11 | 15 | 12 | 6 | 3 |

18. Describe the requisites of a good Measure of Central Tendency.
19. Distinguish between Mean Deviation and Standard Deviation.
20. Calculate Karl Pearson's Coefficient of Skewness from the following:

| Class | $130-$ <br> 134 | $135-$ <br> 139 | $140-$ <br> 144 | $145-$ <br> 149 | $150-$ <br> 154 | $155-$ <br> 159 | $160-$ <br> 164 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency | 3 | 12 | 21 | 28 | 19 | 12 | 5 |

21. How many students have obtained marks in between 40 and 45 . Apply interpolation.

| Marks | $30-40$ | $40-50$ | $50-60$ | $60-70$ | $70-80$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No of students | 31 | 42 | 51 | 35 | 31 |

## Part C

Answer any two questions.
22. Calculate mode from the following.

| Marks (Above) | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| No of students | 122 | 118 | 112 | 92 | 60 | 27 | 10 | 2 | 0 |

23. Calculate co-efficient of variation from the following data.

| Class | $90-99$ | $80-89$ | $70-79$ | $60-69$ | $50-59$ | $40-49$ | $30-39$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency | 2 | 12 | 22 | 20 | 14 | 4 | 1 |

24. Calculate standard deviation of the distribution of wages mentioned below:

| Monthly wages | $130-150$ | $150-170$ | $170-190$ | $190-210$ | $210-230$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No of Persons | 8 | 26 | 59 | 43 | 14 |

25. The observed values of a function are respectively $168,120,72$ and 63 at the four positions $3,7,9$ and 10 of the independent variable. What is the best estimate you can give for the value of the function at the position 6 of the independent variable?
$(2 \times 15=30)$
