

22U160S

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Name:

Reg No:

FIRST SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2022

(Information Technology)

CC18U GEC1 BM03 - BASIC NUMERICAL SKILLS

(General Course)

(2018 to 2020 Admissions – Supplementary/Improvement)

Time: Three Hours

Maximum: 80 Marks

Part A

Answer *all* questions. Each question carries 1 mark.

1. A well defined collection of objects is called
2. The point whose co-ordinate is (-3, -4) lies in quadrant.
3. If A and B are disjoint sets, then $A \cap B$ is
4. A matrix in which every element is zero, is
5. Coefficient of standard deviation =
6. When a frequency curve is more peaked than the normal curve, it is called
7. The amount of deviation present in the data 5, 5, 5, 5, 5 is
8. is an ideal measure of central tendency.
9. The sum of the first n terms of an AP is
10. The graphical representation of a cumulative frequency distribution is called

(10 × 1 = 10 Marks)

Part B

Answer any *eight* questions. Each question carries 2 marks.

11. What is skewness?
12. If $A = \{4, 6, 8, 10\}$ and $B = \{1, 3, 5, 7\}$. Find i) $A \cup B$ ii) $A \cap B$.
13. Find the mode for the following values: 51, 62, 58, 62, 65, 67, 62, 59, 70.
14. Solve $x^2 + 4x - 3 = 0$.
15. Find the eleventh term of the arithmetic progression 8, 12, 16,
16. What are the different types of averages?
17. What are different types of index numbers?
18. Define mean deviation of set of numbers.
19. Find the amount to be paid at the end of three years if the Principal amount is Rs.1200 and at an interest 12% p.a.
20. Define Lorenz curve.
21. What do you mean by primary data?

22. The largest of 100 measurements is 12 kg. If the range is 2 kg, find the smallest measurement.

(8 × 2 = 16 Marks)

Part C

Answer any *six* questions. Each question carries 4 marks.

23. In a group of 70 people, 37 like coffee, 52 like tea and each person likes at least one of the two drinks. How many people like both coffee and tea?
24. If $A = \begin{bmatrix} 1 & 1 \\ 2 & 8 \end{bmatrix}$ $B = \begin{bmatrix} 1 & 0 \\ 2 & -3 \end{bmatrix}$ $C = \begin{bmatrix} 1 & -1 \\ 0 & 1 \end{bmatrix}$. Check whether $A(B + C) = AB + AC$ or not.
25. Explain the different steps in the construction of a frequency table.
26. Obtain the Quartile Measure of Dispersion and its Coefficient for the data given below:

Age	0-10	10-20	20-30	30-40	40-50
No of Persons	10	15	25	13	9

27. Explain the difference between Diagrams and Graphs.
28. Insert three geometric means in between 1 and 256.
29. Draw the histogram for the following data:

Class Interval	25-35	35-45	45-55	55-65	65-70
Frequency	25	50	40	30	20

30. Explain different sampling techniques.
31. Find the values of x, y, z from the following equation: $\begin{bmatrix} x + y & 2 \\ 5 + z & xy \end{bmatrix} = \begin{bmatrix} 6 & 2 \\ 5 & 8 \end{bmatrix}$.

(6 × 4 = 24 Marks)

Part D

Answer any *two* questions. Each question carries 15 marks.

32. Define any five matrices. Give an example for each.
33. Using the following data calculate Laspayre's, Paasche's and Fisher's Ideal Index Number.

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
X	1.25	8	5	10
Y	2	10	8.5	12
Z	3	6	10	4

34. Solve using Cramer's rule: $3x + y + z = 8$, $x + y + z = 6$, $2x + y - z = 1$.
35. Explain the components of time series.

(2 × 15 = 30 Marks)
