

20U157S

(Pages: 2)

Name:

Reg. No.....

FIRST SEMESTER B.Com. PROFESSIONAL DEGREE EXAMINATION, NOV. 2020

(CUCBCSS-UG)

(Regular/Supplementary/Improvement)

CC17U BCP1 B03 – NUMERICAL SKILLS

(Core Course)

(2017 Admission onwards)

Time: Three Hours

Maximum: 80 Marks

PART A

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

Choose correct answer from the following:

1. If $b^2 - 4ac$ is less than zero then the roots are
 - a. Real and equal
 - b. Rational and unequal
 - c. Imaginary and unequal
 - d. Imaginary and equal
2. Find the sum of $1-1+1-1$ to 101 terms
 - a. 2
 - b. 0
 - c. 3
 - d. 1
3. A matrix with equal number rows and columns is called
 - a. Row
 - b. Square
 - c. Unit
 - d. Zero
4. When one end of a class is not specified, the class is called
 - a. Closed end interval
 - b. Open end interval
 - c. Both
 - d. None
5. Graphical representation of A.M is
 - a. Ogive
 - b. Histogram
 - c. Bar diagram
 - d. None

Fill in the blanks:

6. Sum to originals of a G.P is
7. If $ax^2 + b = 0$ is a equation
8. If $y = 3x^4 + 2$ then dy/dx is
9. If X, 7, 28 form a G.P then X is
10. A time series consist of components

(10 x 1 = 10 Marks)

PART B

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

11. What do you mean by seasonal variation?
12. What are the uses of Lorenz curve?
13. When we say that Skewness is negative?

14. Verify D-Morgan's law with example.
15. Find Q.D for the following values 23, 25, 8, 10, 9, 29, 45, 85, 10, 16, 4, 27
16. Find the value of the determinant $\begin{vmatrix} 1 & 7 \\ 4 & 8 \end{vmatrix}$
17. Verify distributive law for set operations with examples.
18. When we say that a matrix is Idempotent and skew symmetric?
19. A market demand curve is given by $D = 50 - 50p$. Find the amount demanded when commodity is a free good.
20. Which term of the sequence 12, 9, 6, is -100?

(8 x 2 = 16 Marks)

PART C

Answer any *six* question each question carries 4 marks.

21. Define time series and its importance.
22. Find the effective rate of interest corresponding to the nominal rate of 9 % P.a. if compounding is done quarterly.
23. Find mean median and mode from the following data

Marks	:	0	10	20	30	40	50
Frequency	:	94	89	74	74	34	2
24. Find the sum of the series $8 + 88 + 888 + \dots$
25. If $A = \{1, 2, 3\}$ $B = \{a, b\}$ Verify $A \times B = B \times A$. Find domain and range.
26. Find the inverse of $A = \begin{bmatrix} 4 & 2 \\ -3 & 1 \end{bmatrix}$
27. Solve the equation $x + y = 1, 2x + y = \frac{3}{2}$
28. Compare mean median and mode.

(6 x 4 = 24 Marks)

PART D

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

29. Solve the equation by Cramer's rule.

$$x + y + z = 7 \quad x + 2y + 3z = 16 \quad x + 3y + 4z = 22$$
30. Compute Coefficient of dispersion and coefficient of variation from the following data

Size	:	0-2	2-4	4-6	6-8	8-10	10-12
Frequency	:	2	4	6	4	2	6
31. Define statistics and its scope.

(2 x 15 = 30 Marks)
