FIRST SEMESTER B.Com. Professional DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS-UG)

CC17U BCP1 B03 – NUMERICAL SKILLS

(Core Course)

Time: Three Hours   Maximum: 80 Marks

PART A

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

I. Choose the correct answer:

1. The equation $3x + 5 = 0$ has :

    (a) No solution   (b) Three solution   (c) One solution   (d) None of these

2. 3, x,12 are in G.P then x is

    (a) 36   (b) 7.5   (c) 9   (d) 6

3. Lorenz curve is used to study

    (a) Skewness   (b) Kurtosis   (c) Dispersion   (d) Correlation

4. Cyclic variations are ………………. Movements.

    (a) Regular   (b) Long term   (c) Periodic   (d) None

5. ………………. is filled by enumerator.

    (a) Questionnaire   (b) Schedule   (c) a or b   (d) All

II. Fill in the blanks

6. If the discriminant of quadratic equation is zero then the roots are ………………

7. The sum of first n terms of a G.P., $a. ar, ar^2, \ ar^3, ….$ is ………………

8. Cardinal number of power set containing "n" elements is ………………

9. ……………… is the reciprocal of A.M. of the reciprocal of a set of observations.

10. Mean and Median of a series are 25 then mode is ………………

(10 x 1 = 10 Marks)

PART B

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

11. What do you mean by Geometric mean?

12. Define trace of a matrix with example.

13. The third term of a G.P is 4 and 1st term is 1. Then find the product of first five terms.

14. Solve the system of equation x+y = 6 3x + y = 8

15. Find the amount after 2 Years for Rs 10,000 at 6% p.a. if compounding is done half yearly?

16. Find the inverse of the matrix $\begin{bmatrix} 1 & -2 \\ 2 & 3 \end{bmatrix}$

17. Find A.M of 70, 50, 49, 13, 25, 45, 17, 23, 56, 15, 12 ?

18. State Demorgans Law?

19. Define Equal sets and Equivalent Sets?

20. What is editing?

(8 x 2 = 16 Marks)

PART C

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

21. Solve $x^4 - 31 x^2 + 150 = 0$

22. Which term of the series 17, 23, 29, ……………… is 551?

23. If A= $\begin{bmatrix} 1 & 2 & 3 \\ 2 & 0 & 1 \\ 1 & -1 & 2 \end{bmatrix}$ B= $\begin{bmatrix} 1 & 0 & 5 \\ 2 & 2 & -4 \\ 1 & 2 & 3 \end{bmatrix}$ Find AB?

24. What do you mean by Time series Analysis?

25. In a class of 40 students 16 studied Malayalam, 22 French, 26 Hindi, and 5 studied Malayalam and French, 14 Hindi and French , 2 Malayalam Hindi and French, Find How Many studied Malayalam and Hindi, but not French?

26. What sum of Money put out at 4% per annum compound interest for 18 years will amount to Rs 10,000?

27. Find the first four central moments for the values 8, 10, 12, 7, 18 and coefficient of Skewness?

28. Draw a Frequency curve from the following data?

Class limits : 0-5   5-10   10-15   15-20   20-25   25-30   30-35   35-40   40-45   45-50

Frequency : 32   38   48   90   120   112   80   62   47   21

(6 x 4 = 24 Marks)

(2)

PART D

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

29. Calculate Laspeyer's Paasche's and Fisher's Index Numbers from the following data?

Commodity	Price 2009	Price 2010	Quantity 2009	Quantity 2010
A	0.80	0,70	10	11
B	0.85	0,90	8	9
C	1.30	0.80	5	5.5

30. Find S.D and coefficient of variance from the following Data?

Class :   10-20   20-30   30-40   40-50   50-60   60-70   70-80

Fre   :   12   10   13   15   20   18   12

31. Solve the Equation by Matrix method.

5x -6y +4z =15

7x +4y -3z =19

2x +y +6z =46

(2 x 15 = 30 Marks)

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(3)