

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2023**(Regular/Improvement/Supplementary)****B.Com. PROFESSIONAL****GBCP1B03T: NUMERICAL SKILLS****Time: 3 Hours****Maximum Marks: 80****PART A: Answer all the questions. Each carries one mark.****Choose the correct answer.**

1. Find the Minor of 2

$$A = \begin{bmatrix} 2 & 5 \\ 4 & 3 \end{bmatrix}$$

A) 5

B) 2

C) 4

D) 3

2. Simple interest for a sum of Rs.500 for 2 years at the rate of interest 8 percent p.a is

A) 580

B) 420

C) 80

D) 16

3. Index No. for the base period is always taken as.....

A) 200

B) 50

C) 1

D) 100

4. A series is obtained by adding a constant number to its preceding term is.....

A) G.P

B) A.P

C) R.P

D) None

5. The best average to analyse speed is.....

A) Harmonic Mean

B) Mode

C) Median

D) Geometric Mean

Fill in the Blanks.

6. The sum at the end of 4 years for Rs.10000 at 10 percent annum, compound interest is.....

7. Solve $4x + 8 = 3x + 9$.

8. Length of a class is.....

9. The number of observations falling within a class is called.....

10. Mean and median of a series are 25. Then mode is.....

(10 x 1 = 10 Marks)**PART B: Answer any eight questions. Each carries two marks.**

11. What is Multiple Bar Diagrams?

12. What is Histogram?

13. What is Secular Trend?

14. An investment of Rs.25,000 earns interest at 9 % annually. What will be the value of the investment at the end of 5 years?

15. What is a pictograms?

(PTO)

16. In how many years a sum of Rs.600 would amount to Rs.757.48 at 6 % p.a compounded annually?
17. Solve $2(x+1) + 3(y-1) = 11$,
 $4x - 3y = 18$.
18. Find the sum of the first 10 natural numbers.
19. Find two natural numbers whose sum is 18 and whose product is 72.
20. Solve $3x - 2y = -1$
 $2y = 5x - 1$

(8 x 2 = 16 Marks)

PART C: Answer any six questions. Each carries four marks.

21. Find the value of the determinant of the matrix A.

$$A = \begin{bmatrix} 1 & 3 & 2 \\ -3 & -1 & -3 \\ 2 & 3 & 1 \end{bmatrix}$$

22. Calculate less than and more than cumulative frequency distribution for the following frequency distribution.

Marks	10-20	20-30	30-40	40-50	50-60
No. of Students	2	5	10	8	3

23. Find the Karl Pearson's Co-efficient of Skewness from the following data.

X	3	4	5	6	7	8	9	10
F	7	10	14	35	102	136	43	8

24. Calculate Median and Mean Deviation from the following data.

X	0-10	10-20	20-30	30-40	40-50	50-60	60-70
F	7	12	18	25	16	14	8

25. Solve $8x + 7y = 10$

$$11x = 10(1 - y)$$

26. Find the number of terms in a given A.P

$$7, 13, 19, \dots, 205$$

27. The first term of a series in AP is 4.2 and the sum of the first 5 term is 178.5. Find the 5th term?
28. If the 5th and 10th term of GP are 32 and 1024 respectively, find the 12th term of the GP.

(6 x 4 = 24 Marks)

PART D: Answer any *two* questions. Each carries *fifteen* marks.

29. Find the Inverse of Matrix $D = \begin{bmatrix} 3 & 5 & 7 \\ 2 & -3 & 1 \\ 1 & 1 & 2 \end{bmatrix}$

30. Draw 'less than' and 'more than' ogive curves for the following data.

No. of Childrens	0-20	20-40	40-60	60-80	80-100
No. of Families	10	20	40	20	10

31. Calculate a) Laspeyer's b) Paasche's c) Fisher,s Index Numbers from the following data.

Commodity	Price		Quantity consumed	
	2009	2010	2009	2010
A	0.80	0.70	10	11
B	0.85	0.90	8	9
C	1.30	0.80	5	5.5

(2 x 15 = 30 Marks)