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(Pages : 2)

Name.....

Reg. No.....

FOURTH SEMESTER U.G. DEGREE EXAMINATION, JUNE 2012

(CCSS)

BC 4A 13 / BB 4A 13—BASIC NUMERICAL SKILLS

(2009 Admissions)

Time : Three Hours

Maximum : 30 Weightage

I. Answer all *twelve* questions :

A Fill in the blanks.

1. The sets {M, A, R, C, H} and {C, H, A, R, M} are _____ sets.
2. $b^2 - 4ac$ is known as _____ of a quadratic equation.
3. Data regarding income, collected from Village office records is a _____ data.
4. If mean = median = mode, the distribution is _____.

B Choose the right answer from bracket :

5. The n^{th} term of an arithmetic progression is _____.

(a) $\frac{n}{2}[2a+(n-1)d]$. (b) $\frac{n(n+1)}{2}$.

(c) $2a+(n-1)d$. (d) $a+(n-1)d$.

6. If 2, x, 8 are the successive terms of a G.P the value of x is

(a) 5. (b) 4.

(c) -4. (d) ± 4.

7. If more data values are towards the right side of measure of central tendency, the data is

(a) Negative skewed. (b) Positive skewed.

(c) Lepto kurtic. (d) Platy kurtic.

8. Which among the following is the ideal measure of dispersion ?

(a) Range. (b) QD.

(c) MD. (d) SD.

C. Answer in a word :

9. Write the name of any *one* method for solving system of linear equations.
10. Write down the conditions for a matrix A to be symmetric.
11. Write the name of any *one* method of constructing cost of living index number.
12. Which method is the graphical method of studying dispersion.

(12 × ¼ = 3 weightage)

II. Short answer type questions. Answer all *nine* questions.

13. Define power set. If S is a finite set with 'n' elements, how many elements are there in its power set ?
14. Solve $x + y = 10$, $xy = 24$.

Turn over

15 If x^a, x^b, x^c are in G.P, prove that a, b, c are in A.P.

16 Distinguish between Simple and Compound interest.

17 Distinguish between Quantitative and Qualitative data.

18 How will you construct a frequency polygon ?

19 Define Central tendency.

20 Find the median of :

Class :	0 – 5	5 – 10	10 – 15	15 – 20	20 – 25
f :	5	10	15	12	8

21 Why index numbers are known as 'barometers of economic changes' ?

(9 × 1 = 9 weightage)

III. Short essay questions. (Answer any *five* questions from seven) :

22 Find the values of a, b if $2\times\begin{bmatrix} a & 5 \\ 7 & b-3 \end{bmatrix}+\begin{bmatrix} 3 & -4 \\ 1 & 2 \end{bmatrix}=\begin{bmatrix} 7 & 6 \\ 15 & 14 \end{bmatrix}$.

23 If $q_d = 400-\frac{p^2}{4}$ and $q_s = \frac{p^2}{2}-275$ are the demand and supply functions, obtain equilibrium price and quantity.

24 Find the sum of all integers (whole numbers) in between 10 and 200 which are exactly divisible by 7.

25 Explain any *two* methods of collecting primary data.

26 Distinguish between Multiple and Subdivided bar diagrams.

27 Write a short note on trend and seasonal variations in a time series.

28 Find the coefficient of variation (C.V) of the following c.f.d.:

Class :	1–3	3–5	5–7	7–9
f :	40	30	20	10

(5 × 2 = 10 weightage)

IV. Essay questions. Answer *two* questions from three :

29 A^{-1} if $A=\begin{bmatrix} 1 & 2 & 1 \\ 2 & 0 & 1 \\ 3 & 2 & 1 \end{bmatrix}$.

30 Explain any *four* methods of random (probability) sampling.

31 Find Laspeyre's, Paasche's and Fisher's index numbers for the following data :

Commodity :	A	B	C
Price (2000) :	2	5	7
Quantity (2000) :	71	125	40
Price (2001) :	3	4	6
Quantity (2001) :	82	140	33

(2 × 4 = 8 weightage)