



उत्तराखण्ड मुक्त विश्वविद्यालय हल्द्वानी (नैनीताल)

Programme Name-BBA-First Semester

Programme Code-BBA-12

Course Name-Business Mathematics

Course Code-BBA102

Maximum Marks-40

Session -2014-15,Summer

Last Date of Submission: 31st January , 2015

Section-A

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Section 'A' contains 08 short answer type questions of 5 marks each. Learners are required to answer 4 questions only. Answers of short answer-type questions must be restricted to 250 words approximately.

Discuss the following (1-8) –

1. Types of Sets
2. In a survey of 400 students in a school, 100 were listed as smokers and 150 as chewers of gum; 75 were listed as both smokers and gum chewers. Find out how many students are neither smokers nor gum chewers.
3. Importance of Venn diagrams
4. Which term of the AP
49, 44, 39,.....is 9?
5. Properties of logarithms.
6. Find the 6th term of the following GP:
3,12,48
7. How many words can be formed from the word 'TOTAL'?
8. Properties of integration.

Section-B

Section 'B' contains 04 long answer-type questions of 10 marks each. Learners are required to answers 02 questions only.

1. a) If $x = 3^{2/3} + 3^{-2/3}$, show that

$$9x^3 - 27x = 82$$

b) Simplify $\frac{x^{m+2n} \cdot x^{3m-8n}}{x^{5m-6n}}$

2. a) If $A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & 1 & 2 \\ 3 & 4 & 5 \end{bmatrix}$

Verify $A+B = B+A$.

b) If $A = \begin{bmatrix} 2 & -1 \\ 0 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 7 & 0 \\ -2 & -3 \end{bmatrix}$

3. Solve the system of equations,

$$x + y + z = 2$$

$$x + 2y + 3z = 5$$

$$x + 3y + 6z = 11$$

$$x + 4y + 10z = 21$$

4. Integrate $\int \frac{dx}{x + \sqrt{x^2 + x + 2}}$