Roll No. ☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

BBA (2013 to 2017)/BRDM/B.SIM (2014 & Onwards) (Sem. 2)

BUSINESS MATHEMATICS
Subject Code : BBA-203
M.Code : 10546

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Students have to attempt any ONE question from each Sub-section.

SECTION–A

1.
   a) Define Equal set.

   b) Write Power set $\{1, 2, 3\}$

   c) Solve :

      $\log (x^2 - 4x + 5) = 0$

   d) Define Depreciation.

   e) Define Lower triangular Matrix

   f) Find the inverse of $\begin{bmatrix} 1 & -2 \\ -3 & -7 \end{bmatrix}$

   g) Find the second derivative of $e^{(1+x^2)}$ w.r.t. x.

   h) Differentiate $tanx.logx$ w.r.t. x

   i) Define Compound interest.

   j) Compute $(99)^4$ by using Binomial.

SECTION–B

UNIT-I

2. Using logarithms, compute the following : $\dfrac{(39.3)^{1/3} \times 29.5 \times 67.8}{57.55}$

3. State and Prove De-Morgan's law.

UNIT-II

4. Find AB if A $= \begin{vmatrix} 4 & -6 & 1 \\ -1 & -1 & 1 \\ -4 & 11 & -1 \end{vmatrix}$ and B $= \begin{vmatrix} 2 & 6 & 1 \\ 0 & -2 & 0 \\ 4 & 1 & -1 \end{vmatrix}$

5. Solve : $2x + 5y - z = 9$; $3x - 3y + 2z = 7$; $2x - 4y + 3z = 1$.

UNIT-III

6. Differentiate when $x^y + y^x = 1$ w.r.t. x.

7. Find the maximum and minimum value of $\sin x + \cos x$ on $\left(0, \dfrac{\pi}{2}\right)$.

UNIT-IV

8. Find the C.I. on Rs. 27000/- @ 4% p.a. for 9 years.

9. Particular three consecutive coefficients in the expansion of $(1 + x)^n$ are in the ratio $1 : 3 : 5$. Find n.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.