

Paper ID [BB102]

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BBA (Sem. - Ist)**BUSINESS MATHEMATICS (BB - 102)****Time : 03 Hours****Maximum Marks : 60****(Instruction to Candidates:**

- 1) Section - A is Compulsory.
- 2) Attempt any Four questions from Section - B.

Section - A**21)****(10 × 2 = 20)**

- a) For any two sets A and B show that, $A \cap B \subseteq A \subseteq A \cup B$
- b) Construct the truth table for $\sim p \vee \sim q$
- c) If ${}^8C_r - {}^7C_3 = {}^7C_2$, find r .
- d) Using Binomial theorem, evaluate $(99)^5$.
- e) If a, b, c are in AP show that $b+c, c+a, a+b$ are also in A.P.

f) A function is defined as, $f(x) = \frac{x^2 - 4x + 3}{x^2 - 1}$ for $x \neq 1$
 $= 2$ for $x = 1$

Test its continuity at $x=1$.

- g) Find the maximum value of $1-x^2$.
- h) State Cramer's rule to solve simultaneous equations.
- i) If the sum of the series $2, 5, 8, 11, \dots$ is 60100, then find n .
- j) Which is greater ; $\log_2 3$ or $\log_1 \frac{5}{2}$.