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(Autonomous)

Programme – BCA I Semester
Paper – Mathematics for Computing
Assignment

Note: Attempt any Four questions.

- 1) If $A = \{1, 2, 3, 4, 5, 6\}$ and $B = \{2, 3, 4, 5\}$ then find $(A \cup B) - (A \cap B)$
- 2) Draw Venn diagrams of the following:
 - (i) The intersection of two sets.
 - (ii) The union of two sets.
 - (iii) Two disjoint sets.
 - (iv) The sets A and B if A subset of B.
- 3) A relation R on the set $A = \{1, 2, 3\}$ is defined as $R = \{(1, 1), (2, 2), (3, 3), (1, 2), (2, 1)\}$. Check whether it is equivalence relation or not.
- 4) If $f(x) = x^2$ and $g(x) = x + 1$, then find $(f \circ g)(x)$, $(g \circ f)(x)$, $(f \circ f)(x)$ and $(g \circ g)(x)$.
- 5) If $z_1 = 2 + i$ and $z_2 = 1 - i$ then find
 - (i) $z_1 + z_2$
 - (ii) $z_1 - z_2$
 - (iii) $z_1 z_2$
 - (iv) z_1 / z_2
- 6) Find the polar form of $z = -1 + \sqrt{3} i$.
- 7) If first term is 2 and common difference is 3 in an A.P. then find
 - (i) The sum of first 20 terms of this A.P
 - (ii) 5th term of this A.P.
- 8) Find:
 - (i) The sum of first 6 terms of G.P. with $a=2$, $r=2$.
 - (ii) The sum to infinity of G.P. 4, 2, 1, $1/2$, ...