## Mark the correct alternative in each of the following:

<ol> <li>Let R be the relation on the set N given by R = {(a, b): a = b - 3, b &gt; 4}. Then,         <ul> <li>(a) (2,4) ∈ R</li> <li>(b) (c) (1,4) ∈ R</li> <li>(d) (2,6) ∈ R</li> </ul> </li> <li>R is a relation on the set Z of integers and it is given by</li> </ol>
$(x,y) \in R \leftrightarrow  x-y  \le 1$ . Then R is  (a) Reflexive and transitive <b>(b) reflexive and symmetric</b>
(c) Symmetric and transitive (d) an equivalence relation
<b>3.</b> If $A = \{1,2,3\}$ . Then, the number of relations containing $(1,2)$ and $(1,3)$ which are reflexive and symmetric but not transitive is
(a) 1 (b) 2 (c) 3 (d) 4
<b>4.</b> The relation $R = \{(1,1), (2,2), (3,3)\}$ on the set $\{1,2,3\}$ is
(a) Symmetric only (b) Reflexive only
(c) an equivalence relation (d) Transitive only.
5. In the Z of all integers, which of the following relation R is not an equivalence relation?
(a) $xRy$ : if $x \le y$ (b) $xRy$ : if $x = y$
(c) $xRy$ : if $x - y$ is an even integer (d) $xRy$ : if $x \equiv y \pmod{3}$
<b>6.</b> Let R be a relation on N defined by $x + 2y = 8$ . the domain of R is
(a) {2,4,8} (b) {2,4,6,8}
(c) {2,4,6} (d) {1,2,3,4}
7. Let $R = \{(a, a), (b, b), (c, c), (a, b)\}$ be a relation on set $A = \{a, b, c\}$ , then, R is
(a) identity function (b) reflexive
(c) symmetric (d) anti-symmetric
8. A relation $\emptyset$ from C to R is defined by $x\emptyset y \leftrightarrow  x  = y$ . which one is correct?  (a) $(2+3i)\emptyset 13$ (b) $3\emptyset (-3)$ (b) $(1+i)\emptyset 2$ (d) $i\emptyset 1$
<ul> <li>9. If R is the largest equivalence relation on a set A and S is any relation on A, then</li> <li>(a) R c S</li> <li>(b) S cR</li> <li>(c) R=s</li> <li>(d) None of these</li> <li>10. If A={1,2,3}, B={1,4,6,9} and R is a relation from A to B defined by 'x is a greater than y'. the</li> </ul>
range of R is (a) {2,4,8} (b) {2,4,6,8} (c) {2,4,6} (d) {1,2,3,4}