

ONE MARK TEST

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ENGLISH MEDIUM

LESSON - 1

TEST - 3

- 1 $A = \{a, b, p\}$, $B = \{2, 3\}$, $C = \{p, q, r, s\}$ then $n[(A \cup C) \times B]$ is
(A) 8 (B) 20 (C) 12 (D) 16
- 2 Let $n(A) = m$ and $n(B) = n$ then the total number of non-empty relations that can be defined from A to B is
(A) m^n (B) n^m (C) $2^{mn} - 1$ (D) 2^{nm}
- 3 If there are 1024 relations from a set $A = \{1, 2, 3, 4, 5\}$ to a set B , then the number of elements in B is
(A) 3 (B) 2 (C) 4 (D) 8
- 4 If $\{(a, 8), (6, b)\}$ represents an identity function, then the value of a and b are respectively
(A) (8,6) (B) (8,8) (C) (6,8) (D) (6,6)
- 5 If $f : A \rightarrow B$ is a bijective function and if $n(B) = 7$, then $n(A)$ is equal to
(A) 7 (B) 49 (C) 1 (D) 14
- 6 If $g = \{(1,1), (2,3), (3,5), (4,7)\}$ is a function given by $g(x) = \alpha x + \beta$ then the values of α and β are
(A) $(-1, 2)$ (B) $(2, -1)$ (C) $(-1, -2)$ (D) $(1, 2)$
- 7 If $f(x) = 2x^2$ and $g(x) = \frac{1}{3x}$, then $f \circ g$ is
(A) $\frac{3}{2x^2}$ (B) $\frac{2}{3x^2}$ (C) $\frac{2}{9x^2}$ (D) $\frac{1}{6x^2}$

- 8 The range of the relation $R = \{(x, x^2) \mid x \text{ is a prime number less than } 13\}$ is
(A) $\{2, 3, 5, 7\}$ (B) $\{2, 3, 5, 7, 11\}$
(C) $\{4, 9, 25, 49, 121\}$ (D) $\{1, 4, 9, 25, 49, 121\}$
- 9 $f(x) = (x + 1)^3 - (x - 1)^3$ represents a function which is
(A) linear (B) cubic (C) reciprocal (D) quadratic
- 10 If $A = \{1, 2\}$, $B = \{1, 2, 3, 4\}$, $C = \{5, 6\}$ and $D = \{5, 6, 7, 8\}$ then state which of the following statement is true.
(A) $(A \times C) \subset (B \times D)$ (B) $(B \times D) \subset (A \times C)$
(C) $(A \times B) \subset (A \times D)$ (D) $(D \times A) \subset (B \times A)$