

त्रैमासिक परीक्षा, 2022-23

MATHA - XI

Note: All - Questions are Compulsory -

Q. 1 (A) write in roster form :-

(i) $P = \{x : x \text{ is an integers and } -3 \leq x < 7\}$

(ii) $Q = \{x : x \text{ is a prime number which is divisor of } 60\}$

(B) use symbol of \in & \notin for $A = \{1, 2, 3, 4, 5, 6\}$

(i) $5 \dots A$

(ii) $Q \dots A$

(C) List in roster form of $M = \{x : x \text{ is an integer, } x^2 \leq 4\}$

(D) Find union of $A = \{1, 2, 3\}$ & $B = \{2, 3, 5\}$

Q. 2 Let $A = \{a, b\}$ $B = \{a, b, c\}$. Is $A \subset B$? what is $A \cup B$?

Q. 3 If $A = \{1,2,3,4\}$ $B = \{3,4,5,6\}$ $C = \{5,6,7,8\}$ and $D = \{7,8,9,10\}$ find $A \cup C = ?$, $C \cap D = ?$, $A \cup D = ?$

Q.4 If $A = \{a,b,c,d\}$, $B = \{f,b,d,g\}$ then find -

(i) $A - B$

(ii) $B - A$

(iii) $A + B$

Q. 5 Find Cartesian product of $A = \{a,b,c\}$, $B = \{1,2\}$

Q. 6 If a set is universal for prime numbers in which x greater 0 and less than 29 then, find its compliment.

Q. 7 If $A = \{1, 2, 3\}$, then prove that, $(A')' = A$

Q. 8 If A and B are two sets such that $A \cup B$ has 50 elements, A has 28 elements and B has 32 elements. How many elements does $A \cap B$ have? <https://www.upboardonline.com>

Q. 9 In a committee 50 people speak French, 20 speak Spanish and 10 speak both Spanish and French how many speak at least one of these two languages ?

Q. 10 Let $A = \{1, 2, 3, \dots, 14\}$. Define a relation R from A to A by $R = \{(x, y) : 3x - y = 0, \text{ where } x, y \in A\}$ write down its domain, co-domain and range.

Q. 11 Write down the domain and co-domain and range of f^x , $f(x) = \sqrt{9 - x^2}$

Q12 (i) Convert 6 radians into degree ?

(ii) convert 45° into radians?

(iii) write relation between degree and radians

(iv) The minute hand of a watch is 1.5 cm long how far does its tip move in 40 minutes ?
[use, $\pi = 3.14$]