



INDIAN SCHOOL SOHAR
UNIT TEST 2017 - 2018
MATHEMATICS

Class: XI
Date: 22/05/17

Time: 2 Hrs
Marks: 50

General Instructions

- ❖ All questions are compulsory.
 - ❖ Please check that this Question Paper contains 16 Questions.
 - ❖ Questions 1 to 4 in Section-A are Very Short Answer Type Questions carrying one mark each.
 - ❖ Questions 5 to 8 in Section-B are Short Answer I Type Questions carrying 2 marks each.
 - ❖ Questions 9 to 13 in Section-C are Long Answer I Type Questions carrying 4 marks each
 - ❖ Questions 14 to 16 in Section-C are Long Answer II Type Questions carrying 6 marks each
 - ❖ Please write down the serial number of the Question before attempting it.
 - ❖ 10 minute time has been allotted to read this question paper. The students will read the question paper only and will not write any answer on the answer-book during this period.
-

SECTION A

1. Represent the following set in roster form $A = \{x : x^4 - 5x^2 + 6 = 0, x \in R\}$
2. Let $A = \{x : x \text{ is a positive prime number less than } 10\}$ and $B = \{x : x \in N, 0 < x \leq 6\}$
Find $A - B$
3. Let $P(n) : "2n < (1 \times 2 \times 3 \times \dots \times n)"$. Find the smallest positive integer for which $P(n)$ is true.
4. Find the linear relation between the components of the ordered pairs
 $R = \{(2, 1) (4, 7) (1, -2) \dots\}$

SECTION B

5. Let $U = \{x : x \text{ is a letter in the word " AN EXCELLENT BOOK " }\}$, $P = \{x : x \text{ is a letter in the word " TALENT" }\}$, $Q = \{x : x \text{ is a letter in the word "BANANA" }\}$. Find $(PUQ)'$
6. If $A \subset B$, then show that $C - B \subset C - A$
7. If $P(n) : "2 \cdot 4^{2n+1} + 3^{3n+1}$ is divisible by λ for all $n \in N"$ is true, then find the value of λ
8. Find the domain of the function $f(x) = \frac{x+7}{x^2-8x+4}$

