

Question 1: The set of all open intervals of \mathbb{R} is a topology on \mathbb{R} , called

- discrete topology
- cofinite topology
- real topology
- usual topology

Question 2: Let $X = \{a, b, c\}$. The following set is a topology on X .

- $\{\emptyset, \{b\}, \{c\}, X\}$
- $\{\emptyset, \{a\}, \{b\}, X\}$
- $\{\emptyset, \{a\}, \{b, c\}, X\}$
- None of the given

Question 3: If X is a finite set then co-finite topology on X is _____.

- indiscrete topology
- discrete topology
- lower limit topology
- None of the given

Question 4: Let $X = \{a, b, c, d\}$. The following set is a topology on X .

- $\{\emptyset, \{a\}, \{b\}, \{c\}, X\}$
- $\{\emptyset, \{c, d\}, \{b, c, d\}, X\}$
- $\{\emptyset, \{a\}, \{b\}, X\}$
- None of the given

Question 5: The collection τ of subsets of X consisting of the empty set \emptyset and all subsets of X whose complements are finite is called:

- discrete topology
- cofinite topology
- indiscrete topology
- None of the given

Question 6: Let $X = \{1, 2, 3\}$, then $P(X) =$ _____

- $\{\emptyset, \{1\}, \{2\}, \{3\}, \{1, 2\}, \{1, 3\}, \{2, 3\}\}$
- $\{\emptyset, \{1\}, \{3\}, \{1, 2\}, \{1, 3\}, \{1, 2, 3\}\}$
- $\{\emptyset, \{1\}, \{2\}, \{3\}, \{1, 2\}, \{1, 3\}, \{2, 3\}, X\}$
- $\{\emptyset, X\}$

Question 7: If in a topology τ on X , all subsets of X are called open and closed, then τ is called:

- discrete space