

Question Bank for PG Course

অঙ্ক (Mathematics)

ষষ্ঠ (ক) পত্র (Paper - VIA)

General Topology : VIA

- Which of the following is/are a topology on $X = \{1,2,3,4\}$?
 - $\{\phi, X, \{1\}, \{2\}\}$
 - $\{\phi, X, \{4\}\}$
 - $\{\phi, X, \{2,3\}\}$
- Which of the following is the discrete topology on the set of integers Z ?
 - $\{\phi, Z, \{1\}\}$
 - $\{\phi, Z\}$
 - Power set of Z
- What is the standard base for the Euclidean topology on the set of reals R ?
- What is the derived set of the set $\{2\}$ in the discrete topology on the set of integers Z ?
- What is the derived set of the set $\{1,2\}$ in the indiscrete topology on the set of reals R ?
- Is the set $\{1\}$ open or closed in the cofinite topology on the set of integers Z ?
- What is the closure of the set $(0,1] \cup \{2\}$ in the Euclidean topology on the set of reals R ?
- Does the indiscrete topology on any set containing at least two points form a T_2 space?
- Is the Euclidean topology on the set of reals R a compact topology on R ?
- What are the nonempty compact sets of the Euclidean topology on the set of reals R ?
- Is the subset Q of rationals in real number space with Euclidean/ standard topology connected?
- Is the union of two disconnected sets always disconnected?

13. Which of the followings is/are true for the set $(0,1) \cup (2,3)$ with the usual topology of reals?
1. *connected*
 2. *locally connected*
 3. *disconnected*
14. Is it true that every metric space is a Uniform space?
15. Is T_2 -topological space also a T_1 -topological space?