

Time Left 21 sec(s)

Quiz Start Time: 08:09 AM, 20 May 2018

MC170201745: Shakeel Ahmad

MTH634:Quiz 1

Question # 1 of 6 ( Start time: 08:09:38 AM, 20 May 2018 )

Total Marks: 1

Let  $X = \{a, b, c, d\}$  and  $\tau = \{\phi, \{c\}, \{a, c\}, \{b, c, d\}, X\}$  be a topology on  $X$ . The closed set in  $X$  is:

Select the correct option

Reload Math Equations

- {b,d}
- {c}
- {d}
- none

Click to Save Answer & Move to Next Question

MC170201745: Shakeel Ahmad

MTH634: Quiz 1

Question # 5 of 6 ( Start time: 08:12:43 AM, 20 May 2018 )

Total Marks: 1

Let  $\{T_i | i \in I\}$  be any collection of topologies on set  $X$ . Then  $\bigcap_{i \in I} T_i$  is:

Select the correct option

Reload Math Equations

 not a topology a topology empty set empty

Click to Save Answer &amp; Move to Next Question

MC170203179: Zeshan Rafiq

MTH634: Quiz 1

Question # 2 of 6 ( Start time: 10:17:00 PM, 22 May 2018 )

Total Marks: 1

Let  $X$  be a nonempty set and  $\tau$  be a topology on  $X$ , then the following statements must be true. (where  $P(X)$  denotes the power set of  $X$ )

Select the correct option

Reload Math Equations

- |                                  |                     |
|----------------------------------|---------------------|
| <input type="radio"/>            | $\tau \subset X$    |
| <input type="radio"/>            | $X \subset \tau$    |
| <input checked="" type="radio"/> | $\tau \subset P(X)$ |
| <input type="radio"/>            | none                |

Click to Save Answer &amp; Move to Next Question

Let  $X = \{a, b, c, d\}$  and  $\tau = \{\emptyset, \{c\}, \{a, c\}, \{b, c, d\}, X\}$  be a topology on  $X$ . The closed set in  $X$  is:

Select the correct option

Reload Math Equations

- (b,d)
- (c)
- (d)
- none

Click to Save Answer & Move to Next Question

Let  $X = \{a, b, c, d\}$ . The following set represents a topology on  $X$ .

Select the correct option

Reload Math Equations

- $\{\varphi, \{a\}, \{a, b\}, X\}$
- $\{\varphi, \{a\}, \{b\}, X\}$
- $\{\varphi, \{a\}, \{b, c\}, X\}$
- $\{\varphi, \{c\}, \{a, b\}, X\}$

Click to Save Answer & Move to Next Question

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

Select the correct option

Reload Math Equations

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

Click to Save Answer & Move to Next Question

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

Select the correct option

[Reload Math Equations](#)

- $\{\varphi, \{b\}, \{c\}, X\}$
- $\{\varphi, \{a\}, \{b\}, X\}$
- $\{\varphi, \{a\}, \{b, c\}, X\}$
- none

[Click to Save Answer & Move to Next Question](#)

604.

→ If  $A$  is a subset of a topological space  $X$ , then explain why  $\text{Ext}(A) \cap \text{Int}(A) = \emptyset$ .

→ Consider the topology

$$\tau = \{ \emptyset, \{a\}, \{c, d\}, \{a, c, d\}, \{b, c, d, e\}, X \}$$

on  $X = \{a, b, c, d, e\}$  Determine the derived set of  $A = \{a, b, c\}$

→ Consider the following topology on  $X = \{a, b, c, d\}$

$$\tau = \{ X, \emptyset, \{a\}, \{c, b\}, \{a, c, d\}, \{a, b, c, d\} \}$$

→ find the interior points of subset  $\{a, b, c\}$

- find the exterior points of  $A = \{a, b, c\}$  of  $X$

→ boundary points of  $A$ .

→ Let  $X = \{x, y, z\}$ ,  $\tau = \{ \emptyset, \{x\} \}$ ,  $\tau_1 = \{ \emptyset, \{x, y\} \}$

$$\tau_2 = \{ \emptyset, \{y\}, \tau \}$$

Give an example to show that the Union of two topologies need to be



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5



MC170200830: Kainat Ashfaq

Time Left 17 sec(s)

MTH634:Quiz No. 2

Quiz Start Time: 02:39 PM, 14 August 2018

Question # 1 of 4 ( Start time: 02:39:20 PM, 14 August 2018 )

Total Marks: 1

If  $(X, \tau)$  be a compact Hausdorff space then  $(X, \tau)$  is not normal.

Select the correct option

Reload Math Equations

<input checked="" type="radio"/>	True
<input type="radio"/>	False

Click to Save Answer & Move to Next Question



A topological space  $X$  is called a connected space iff there exists a pair of subsets of  $X$  both nonempty and both open and closed.

Select the correct option

Reload Math Equations

- True
- False

Click to Save Answer & Move to Next Question



Which of the following statement is false?

Select the correct option

- A set  $X$  with indiscrete topology is compact.
- A set  $X$  with any topology containing finite number subsets of  $X$  is compact.
- A finite set  $X$  with any topology is compact.
- An infinite set  $X$  with discrete topology is compact.

Click to Save Answer & Move to Next Question



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5



MC170200830: Kainat Ashfaq

Time Left 83 sec(s)

MTH634:Quiz No. 2

Quiz Start Time: 02:39 PM, 14 August 2018

Question # 2 of 4 ( Start time: 02:41:37 PM, 14 August 2018 )

Total Marks: 1

Every discrete space is not a regular space.

Select the correct option

- True
- False

Click to Save Answer & Move to Next Question



# TOPOLOGY MY PAPER

int (A) Ext(A) and boundary of A.

mcqs are mostly from chapter #  
5

ext(A complmnt ) =int (A) prove

basis

closure of a set

Lightening

why (intA b(A))  
complemnt=ext(A)

Lightening

discrete topology

# TOPOLOGY MY PAPER

$\text{int}(A)$   $\text{Ext}(A)$  and boundary of  $A$ .

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basis

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why  $(\text{int}A \text{ b}(A))$   
complemnt =  $\text{ext}(A)$

Lightening

discrete topology

MTH 634

Topology

1. Prove that  $\bar{\emptyset} = \emptyset$

2. A function  $f: (X, \mathcal{T}_X) \rightarrow (Y, \mathcal{T}_Y)$  is continuous iff the inverse image of every member of basis is an open subset of  $X$ .

3. Construct a topological space in which open sets are identical to closed set.

4. Let  $(X, \mathcal{T})$  be an indiscrete topological space. Find the closure of the set  $A$ . Also find the dense set.



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

Select the correct option

[Reload Math Equations](#)

- $\{\varnothing, \{a\}, \{b\}, \{c\}, X\}$
- $\{\varnothing, \{c, d\}, \{b, c, d\}, X\}$
- $\{\varnothing, \{a\}, \{b\}, X\}$
- none

[Click to Save Answer & Move to Next Question](#)

If in a topology  $\tau$  on  $X$ , all subsets of  $X$  are called open and closed, then  $\tau$  is called :

Select the correct option

Reload Math Equations

- discrete space
- indiscrete space
- metric space
- none

Click to Save Answer & Move to Next Question

Let  $X = \{a, b, c, d\}$  and  $\tau = \{\emptyset, \{c\}, \{a, c\}, \{b, c, d\}, X\}$  be a topology on  $X$ . The closed set in  $X$  is:

Select the correct option

Reload Math Equations

- (b,d)
- (c)
- (d)
- none

Click to Save Answer & Move to Next Question

Let  $\tau$  be a topology on  $X$ . The elements of  $\tau$  are called:

Select the correct option

[Reload Math Equations](#)

- closed set
- open sets
- derived set
- dense set

[Click to Save Answer & Move to Next Question](#)

Let  $X = \{a, b, c, d\}$ . The following set is not a topology on  $X$ .

Select the correct option

Reload Math Equations

- $\{\varnothing, \{a\}, \{a, b\}, X\}$
- $\{\varnothing, \{a\}, \{b\}, X\}$
- $\{\varnothing, \{a\}, \{a, c\}, X\}$
- $\{\varnothing, \{a\}, \{a, d\}, X\}$

Click to Save Answer & Move to Next Question

Let  $X = \{2, 4, 5, 7\}$ . The following set represents a topology on  $X$ .

Select the correct option

Reload Math Equations

- $\{\emptyset, \{2\}, \{4, 5\}, X\}$
- $\{\emptyset, \{2\}, \{4, 5, 7\}, X\}$
- $\{\emptyset, \{2\}, \{5, 7\}, X\}$
- $\{\emptyset, \{2\}, \{4\}, \{5\}, X\}$

Click to Save Answer & Move to Next Question

Time Left 73 sec(s)

Quiz Start Time: 10:16 PM, 22 May 2018

MC170203179: Zeshan Rafiq

MTH634:Quiz 1

Question # 4 of 6 ( Start time: 10:18:12 PM, 22 May 2018 )

Total Marks: 1

Let  $X = \{a, b, c, d\}$ . The following set represents a topology on  $X$ .

Select the correct option

Reload Math Equations

- $\{\emptyset, \{a\}, \{a, b\}, X\}$
- $\{\emptyset, \{a\}, \{b\}, X\}$
- $\{\emptyset, \{a\}, \{b, c\}, X\}$
- $\{\emptyset, \{c\}, \{a, b\}, X\}$

Click to Save Answer & Move to Next Question

Time Left 69 sec(s)

Quiz Start Time: 10:16 PM, 22 May 2018

MC170203179: Zeshan Rafiq

MTH634:Quiz 1

Question # 3 of 6 ( Start time: 10:17:42 PM, 22 May 2018 )

Total Marks: 1

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

Select the correct option

Reload Math Equations

- $\{\emptyset, \{a\}, \{b\}, \{c\}, X\}$
- $\{\emptyset, \{c, d\}, \{b, c, d\}, X\}$
- $\{\emptyset, \{a\}, \{b\}, X\}$
- none

Click to Save Answer & Move to Next Question

MC170203179: Zeshan Rafiq

Time Left 57 sec(s)

MTH634:Quiz 1

Quiz Start Time: 10:16 PM, 22 May 2018

Question # 1 of 6 ( Start time: 10:16:23 PM, 22 May 2018 )

Total Marks: 1

The trivial topology is also called:

Select the correct option

- Discrete topology
- Complete topology
- Indiscrete topology
- none

Click to Save Answer & Move to Next Question

MC170201745: Shakeel Ahmad

Time Left 81 sec(s)

MTH634:Quiz 1

Quiz Start Time: 08:09 AM, 20 May 2018

Question # 6 of 6 ( Start time: 08:13:25 AM, 20 May 2018 )

Total Marks: 1

The smallest topology one can define on some set is called:

Select the correct option

Reload Math Equations

- indiscrete topology
- discrete topology
- comparable topology
- usual topology

Click to Save Answer & Move to Next Question

Time Left 73 sec(s)

Quiz Start Time: 08:09 AM, 20 May 2018

MC170201745: Shakeel Ahmad

MTH634:Quiz 1

Question # 4 of 6 ( Start time: 08:12:04 AM, 20 May 2018 )

Total Marks: 1

Let  $\tau$  be a topology on  $X$ . The elements of  $\tau$  are called:

Select the correct option

Reload Math Equations

- closed set
- open sets
- derived set
- dense set

Click to Save Answer & Move to Next Question

MC170201745: Shakeel Ahmad

Time Left 68 sec(s)

MTH634:Quiz 1

Quiz Start Time: 08:09 AM, 20 May 2018

Question # 3 of 6 ( Start time: 08:11:37 AM, 20 May 2018 )

Total Marks: 1

The trivial topology is also called:

Select the correct option

- Discrete topology
- Complete topology
- Indiscrete topology
- none

Click to Save Answer & Move to Next Question

Time Left 61 sec(s)

Quiz Start Time: 08:09 AM, 20 May 2018

MC170201745: Shakeel Ahmad

MTH634: Quiz 1

Question # 2 of 6 ( Start time: 08:10:51 AM, 20 May 2018 )

Total Marks: 1

Let  $X = \{a, b, c, d\}$ . The following set is not a topology on  $X$ .

Select the correct option

Reload Math Equations

- $\{\emptyset, \{a\}, \{a, b\}, X\}$
- $\{\emptyset, \{a\}, \{b\}, X\}$
- $\{\emptyset, \{a\}, \{a, c\}, X\}$
- $\{\emptyset, \{a\}, \{a, d\}, X\}$

Click to Save Answer & Move to Next Question

Time Left 36 sec(s)

Quiz Start Time: 08:09 AM, 20 May 2018

MC170201745: Shakeel Ahmad

MTH634:Quiz 1

Question # 1 of 6 ( Start time: 08:09:38 AM, 20 May 2018 )

Total Marks: 1

Let  $X = \{a, b, c, d\}$  and  $\tau = \{\phi, \{c\}, \{a, c\}, \{b, c, d\}, X\}$  be a topology on  $X$ . The closed set in  $X$  is:

Select the correct option

Reload Math Equations

- {b,d}
- {c}
- {d}
- none

Click to Save Answer & Move to Next Question