

# Learning4help by Waqas Qureshi

Asslam-o-Alaikum! In this file we'll provide you **MTH202 Important Midterm MCQs. Must Prepare before Midterm Exams.**  
Verify Answers yourself too. I am not responsible for any answer. If you found mistake then inform me.

If you found mistake then let us know.

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Question # 1 of 10 ( Start time: 05:39:37 PM, 18 November 2024 ) Total Marks: |

Let  $A = \{1,2,3\}$  and  $R$  be the relation defined on  $A$  such that  $R = \{(1,1), (1,2), (2,3), (3,1)\}$ , then  $R$  is -----

Select the correct option

Antisymmetric

Symmetric

MTH202 - Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:39 PM, 18 November 2024

Question # 2 of 10 ( Start time: 05:41:18 PM, 18 November 2024 ) Total Marks: |

Suppose  $A$  has 3 elements and  $B$  has 4 elements, then the number of the binary relations from  $A$  to  $B$  that are functions is -----

Select the correct option

$2^1/2^6$

$2^6/2^{12}$

$2^6/2^4$

$2^6/2^8$

Reload Math Equations

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MTH202 - Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:39 PM, 18 November 2024

Question # 2 of 10 ( Start time: 05:41:18 PM, 18 November 2024 ) Total Marks: 1

Suppose A has 3 elements and B has 4 elements, then the number of the binary relations from A to B that are functions is .....

Select the correct option Reload Math Equations

- $2^1/2^6$
- $2^6/2^{12}$
- $2^6/2^4$
- $2^6/2^8$

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MTH202 - Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:39 PM, 18 November 2024

Question # 3 of 10 ( Start time: 05:42:54 PM, 18 November 2024 ) Total Marks: 1

If the partition set of A is  $\{A_1, A_2\}$  then

Select the correct option Reload Math Equations

- $A_1 \cap A_2 = \phi$
- $A_1 \cap A_2 = A$
- $A_1^c \cup A_2^c = A$
- $A_1 \cup A_2 = \phi$

Quiz

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If A contains 3 elements and B contains 2 elements, then number of subsets of  $A \times B$  are .....

Select the correct option

- 30
- 12
- 64
- 6

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Question # 5 of 10 ( Start time: 05:45:15 PM, 18 November 2024 ) Total Marks: 1

Let A be a set with m elements and B be a set with n elements then the number of elements in  $A \times B$  are .....

Select the correct option

- $m \cdot n$
- $m^n$
- $n^m$
- $2^{mn}$

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Question # 6 of 10 ( Start time: 05:46:01 PM, 18 November 2024 ) Total Marks: 1

The logic gates OR and AND are uninary operation on  $\{0,1\}$ .

Select the correct option

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

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Let R be a relation on a set A. If R is symmetric then its complilment is \_\_\_\_\_

Select the correct option

<input type="radio"/>	Reflexive
<input checked="" type="radio"/>	Symmetric
<input type="radio"/>	Irreflexive
<input type="radio"/>	Antisymmetric

Quiz

Domain of a relation symbolically written as \_\_\_\_\_

Select the correct option

- $\text{Dom}(R) = \{a \in A \mid (a, b) \in R\}$
- None of these
- $\text{Dom}(R) = \{b \in B \mid (a, b) \in R\}$
- $\text{Dom}(R) = \{a \in A \mid (a, b) \in R\}$

Question # 9 of 10 (Start time: 05:47:39 PM, 18 November 2024) Total Marks: 1

Let  $A = \{a, b, c\}$  then the partition of A is

Select the correct option

- $A_1 = \{a\}, A_2 = \{b\}, A_3 = \{a, b, c\}$
- $A_1 = \{a, b\}, A_2 = \{b, c\}$
- $A_1 = \{a, b\}, A_2 = \{c\}$
- $A_1 = \{a\}, A_2 = \{b\}, A_3 = \{b, c\}$

Click to Save Answer & Move to Next Question

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MTH202 - Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:39 PM, 18 November 2024

Question # 10 of 10 ( Start time: 05:48:19 PM, 18 November 2024 ) Total Marks: 1

If  $A = \{1, 2, 3\}$  is a set and  $R = \{(1, 2), (2, 2), (2, 1)\}$  is a relation on A, R is

Select the correct option

Transitive

Reflexive

Symmetric

None of these

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MTH202 - Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:50 PM, 18 November 2024

Question # 1 of 10 ( Start time: 05:50:10 PM, 18 November 2024 ) Total Marks: 1

The number of elements in the power set of  $\phi$  denoted by  $P(\phi)$  is

Select the correct option

2

0

1

n

Reload Math Equations

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Question # 2 of 10 ( Start time: 05:50:34 PM, 18 November 2024 ) Total Marks: 1

Define a relation  $R = \{(1,1), (2,2), (3,3), (1,3), (3,2)\}$  then relation is\_\_\_\_\_.

Select the correct option

- R is reflexive and not transitive
- R is not reflexive and not transitive
- R is not reflexive and transitive
- R is reflexive and transitive

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Question # 4 of 10 ( Start time: 05:53:04 PM, 18 November 2024 ) Total Marks: 1

Let R be a relation on a set A. If R is reflexive then its compliment is \_\_\_\_\_.

Select the correct option

- Symmetric
- Irreflexive
- Reflexive
- Antisymmetric

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MTH202 - Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:50 PM, 18 November 2024

Question # 5 of 10 ( Start time: 05:53:54 PM, 18 November 2024 ) Total Marks: 1

Given a Set  $A = \{a, b\}$  and  $B = \{1, 2, 3\}$ , then number of functions from A to B is .....

Select the correct option

5

8

9

6

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MTH202 - Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:50 PM, 18 November 2024

Question # 6 of 10 ( Start time: 05:54:31 PM, 18 November 2024 ) Total Marks: 1

The relation R on set A is not symmetric iff there are elements a and b in A such that .....

Select the correct option

Both (a, b) and (b, a) belong to R

(a, b) belongs to R but (b, a) does not belong to R

None of these

Both (a, b) and (b, a) does not belong to R

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MTH202 - Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:50 PM, 18 November 2024

Question # 7 of 10 ( Start time: 05:55:09 PM, 18 November 2024 ) Total Marks: 1

The relation  $R = \{(2, 4), (x, 1), (4, 2), (5, 6)\}$  is a function if  $x$  is not equal to

Select the correct option Reload Math Equations

- 1, 2 or 6
- 4, 1 or 6
- 2, 4 or 6
- 2, 4 or 5

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Question # 8 of 10 ( Start time: 05:56:00 PM, 18 November 2024 ) Total Marks: 1

The properties of being symmetric and being anti-symmetric are -----

Select the correct option

- Not negative of each other
- Negative of each other

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Let  $R = \{(1, 2), (3, 4), (5, 6), (7, 8)\}$ . Range of the inverse of the relation is \_\_\_\_\_

Select the correct option

- {5, 6, 7, 8}
- {1, 3, 5, 7}
- {1, 2, 3, 4}
- {2, 4, 6, 8}

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MTH202 – Discrete Mathematics (Quiz No.1) Quiz Start Time: 05:50 PM, 18 November 2024

Question # 10 of 10 ( Start time: 06:00:55 PM, 18 November 2024 ) Total Marks: 1

The number of elements in the power set of  $P(\phi)$  denoted by  $P(P(\phi))$  is

Select the correct option

- 2
- 0
- 4
- 1

Reload Math Equations

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MTH202 - Discrete Mathematics (Quiz No.2) Quiz Start Time: 05:36 PM, 02 December 2024

Question # 2 of 10 (Start time: 05:38:25 PM, 02 December 2024) Total Marks: 1

Let  $f(x) = 3x$  and  $g(x) = 3x - 2$  define functions  $f$  and  $g$  from  $R$  to  $R$ , then  $(f + g)(x)$  is \_\_\_\_\_.

Select the correct option

$9x - 2$

$9x^2 - 6x$

$6x - 2$

2

Reload Math Equations

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Question # 3 of 10 (Start time: 05:38:17 PM, 02 December 2024) Total Marks: 1

One-to-One correspondence means the condition of \_\_\_\_\_.

Select the correct option

(a) one-One

(c) onto

(b) identity

(d) both (a) and (c)

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MTH202 - Discrete Mathematics (Quiz No.2) Quiz Start Time: 05:36 PM, 02 December 2024

Question # 4 of 10 (Start time: 05:40:00 PM, 02 December 2024) Total Marks: 1

Which of the following is the example of an alternating sequence?

Select the correct option [Reload Math Equations](#)

- $C_n = \frac{1}{n}$  for  $n > 0$
- $C_n = \frac{-n}{n+1}$  for  $n \geq 0$
- $C_n = \frac{(-1)^n}{n+2}$  for  $n \geq 0$
- $C_n = \frac{(-1)}{n+2}$  for  $n \geq 0$

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Question # 5 of 10 (Start time: 05:41:07 PM, 02 December 2024) Total Marks: 1

In the directed graph of an antisymmetric relation there is \_\_\_ pair of arrows between two distinct elements of the set.

Select the correct option

- two
- one
- no
- infinite

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Question # 6 of 10 ( Start time: 05:41:40 PM, 02 December 2024 ) Total Marks: 1

Which of the following logical connective is not a binary operation?

Select the correct option

- Disjunction
- Implication
- Conjunction
- Negation

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Question # 7 of 10 ( Start time: 05:42:52 PM, 02 December 2024 ) Total Marks: 1

Let  $X = \{1,2,3,4\}$  and a function  $f$  defined from  $X$  to  $X$  by  $f(1) = 1, f(2) = 1, f(3) = 1, f(4) = 1$  then which of the following is true?

Select the correct option

- $f$  is an identity function
- $f$  is a constant function
- $f$  is bijective
- $f$  is injective

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MTH202 - Discrete Mathematics (Quiz No.2) Quiz Start Time: 05:36 PM, 02 December 2024

Question # 8 of 10 (Start time: 05:43:21 PM, 02 December 2024) Total Marks: 1

which of the following is the reason for a function  $f(x) = x^2$  for all  $x \in \mathbb{Z}$  for being 'f' not one-to-one?

Select the correct option Reload Math Equations

- because range is equal to co domain.
- because function is not defined for all values of the domain
- because range is not equal to co domain.
- because two different elements of domain are mapped onto the same element of range

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MTH202 - Discrete Mathematics (Quiz No.2) Quiz Start Time: 05:36 PM, 02 December 2024

Question # 9 of 10 (Start time: 05:43:47 PM, 02 December 2024) Total Marks: 1

How many one-to-one functions are there from a set with seven elements to a set with six elements.

Select the correct option Reload Math Equations

- 7
- 1
- 6
- 0

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Question # 10 of 10 ( Start time: 05:45:19 PM, 02 December 2024 ) Total Marks: 1

The composition of functions is always -----

Select the correct option

- commutative
- onto
- associative
- one-to-one

