Question No : 1 of 26 Marks: 1 (Budgeted Time 1 Min)

Which one of the following is a statement?

Answer (Please select your correct option)

- x + 2 is positive
- Logic is interesting
- x + y =2
- May I come in?

Made By: Waqar Siddhu

Question No : 2 of 26 **Marks: 1 (Budgeted Time 1 Min)**

Which one of the following is the negation of the statement

" If Tanveer lives in Lahore then he lives in Pakistan. " ?

Answer (Please select your correct option)

- If Tanveer does not live in Lahore then he does not live in Pakistan.
- Tanveer does not live in Lahore then he lives in Pakistan.
- Tanveer does not live in Lahore and he lives in Pakistan.
- If Tanveer lives in Lahore then he does not live in Pakistan.

Question No : 3 of 26 **Marks: 1 (Budgeted Time 1 Min)**

Let **p** be the statement "You study" and **q** be the statement "You pass the exams."
Express the following proposition as an English sentence.

$p \rightarrow q$

Answer (Please select your correct option)

- If you pass the exams then you must have studied.
- If you study then you pass the exams.
- If you pass the exams then do not study.
- If you do not study then you do not pass the exams.

Made By: Waqar Siddhu

Question No : 4 of 26 **Marks: 1 (Budgeted Time 1 Min)**

From the truth table, for $p \leftrightarrow q$ to be true both p and q must have the same truth values.

Answer (Please select your correct option)

- True
- False

Question No : 5 of 26 Marks: 1 (Budgeted Time 1 Min)

The statement "**He will be the president if and only if he wins the presidential election**" is a _____?

Answer (Please select your correct option)

- Conditional statement.
- Biconditional statement.

Made By: Waqar Siddhu

Question No : 6 of 26 Marks: 1 (Budgeted Time 1 Min)

An argument is invalid if the conclusion is false when all the premises are .....

Answer (Please select your correct option)

- False
- True

Made By: Waqar Siddhu

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

Let A be a non empty subset of the Universal set U, then $A \cup U$ = ...

Answer (Please select your correct option)

- A
- U
- A'
- ϕ

Made By: Waqar Siddhu

Question No : 8 of 26 Marks: 1 (Budgeted Time 1 Min)

If $A \cap B = \emptyset$ then sets A and B are called .....

Answer (Please select your correct option)

- Disjoint sets
- Equal sets

Question No : 9 of 26 Marks: 1 (Budgeted Time 1 Min)

The sets {a, b,c} and {1,2,3} are equal.

Answer (Please select your correct option)

- True
- False

Made By: Waqar Siddhu

Question No : 10 of 26 Marks: 1 (Budgeted Time 1 Min)

If A = {1, 2 , 3} and B = {{1 ,2},3} then A − B = ...

Answer (Please select your correct option)

- {3 }
- {}
- {1, 2, 3 , {1 ,2}}
- {1 , 2}

Made By: Waqar Siddhu

Question No : 11 of 26 **Marks: 1 (Budgeted Time 1 Min)**

Which of the relation defines a function from X = {2,4,5} to Y={1,2,4,6}.
R_1 = {(2,4), (4,1)}
R_2 = {(2,4), (4,1), (4,2), (5,6)}
R_3 = {(2,4), (4,1), (5,6)}

Answer (Please select your correct option)

- R_1 and R_2
- R_1
- R_3
- R_2 and R_3

Made By: Waqar Siddhu

Question No : 12 of 26 Marks: 1 (Budgeted Time 1 Min)

If a relation is given by R = {(0,1),(1,2),(3,4)} then Range of R is

Answer (Please select your correct option)

- {0,1,3}
- {1,2,3}
- {2,3,4}
- {1,2,4}

Made By: Waqar Siddhu

Question No : 13 of 26 **Marks: 1 (Budgeted Time 1 Min)**

If R and S are reflexive then $R \cap S$ is .....

Answer (Please select your correct option)

- Reflexive
- Transitive
- Symmetric

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)

Let R be a binary relation on a set A. R is irreflexive iff

Answer (Please select your correct option)

- $\forall a \in A, (a,a) \in R$
- $\forall a \in A, (a,a) \notin R$
- $a \in A, (a,a) \notin R$

Question No : 15 of 26 Marks: 1 (Budgeted Time 1 Min)

For a graph to be the graph of a function, any given vertical line in its domain intersects the graph in at

Answer (Please select your correct option)

- Most one point.
- Most two points.
- Least one point.

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)

A constant function is one-to-one if and only if

Answer (Please select your correct option)

- Its domain is singleton
- Its domain is empty
- Its co-domain is empty
- Its co-domain is singleton

Question No : 17 of 26 Marks: 1 (Budgeted Time 1 Min)

If f={(a, 1), (b,1), (c, 1)} is a function from A to B, then f is

Answer (Please select your correct option)

- An identity function
- A singleton set
- An empty set
- A constant function

Question No : 18 of 26 **Marks: 1 (Budgeted Time 1 Min)**

Let $a_1, a_2, a_3, \ldots, a_n$ be an arithmetic sequence, then sum of the terms of sequence is

Answer (Please select your correct option)

- $S_n = \frac{n}{2}\{2a + (n-1)d\}$
- $S_n = \frac{n(a_1+a_n)}{6}$
- $S_n = \frac{n(a_1+a_n)}{4}$

Made By: Waqar Siddhu

Question No : 19 of 26 Marks: 1 (Budgeted Time 1 Min)

We calculate the sum of the series 1+2+3+……+100 by using formula

Answer (Please select your correct option)

- $\frac{n(n+1)}{2}$
- $\frac{(n+1)}{2}$
- $\frac{n(n+1)}{6}$

Made By: Waqar Siddhu

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

If
Initial value = 12
Final Value = 15
Increase = 3
Then the Percentage change.....

Answer (Please select your correct option)

- 30%
- 15%
- 25%
- 12%

Made By: Waqar Siddhu

Question No : 21 of 26 **Marks: 2 (Budgeted Time 4 Min)**

A relation R on the set of Natural numbers N is defined as:
For all $a, b \in N$, $a \, R \, b$ iff $a \times b$ is odd.
Show that R is not reflexive.

Answer (Please click here to Add Answer)

Made By: Waqar Siddhu

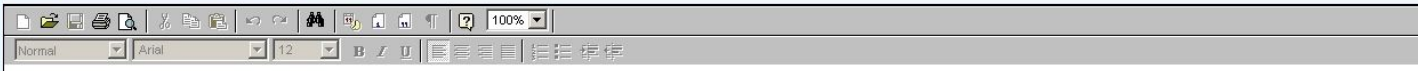
Question No : 22 of 26 **Marks: 2 (Budgeted Time 4 Min)**

Let

$A \times A = \{(1,1),(1,2),(1,3),(2,1),(2,2),(2,3),(3,1),(3,2),(3,3)\}$

Determine the relation R such that $x \, R \, y \;\; iff \;\; x < y$

Answer (Please click here to Add Answer)



Made By: Waqar Siddhu

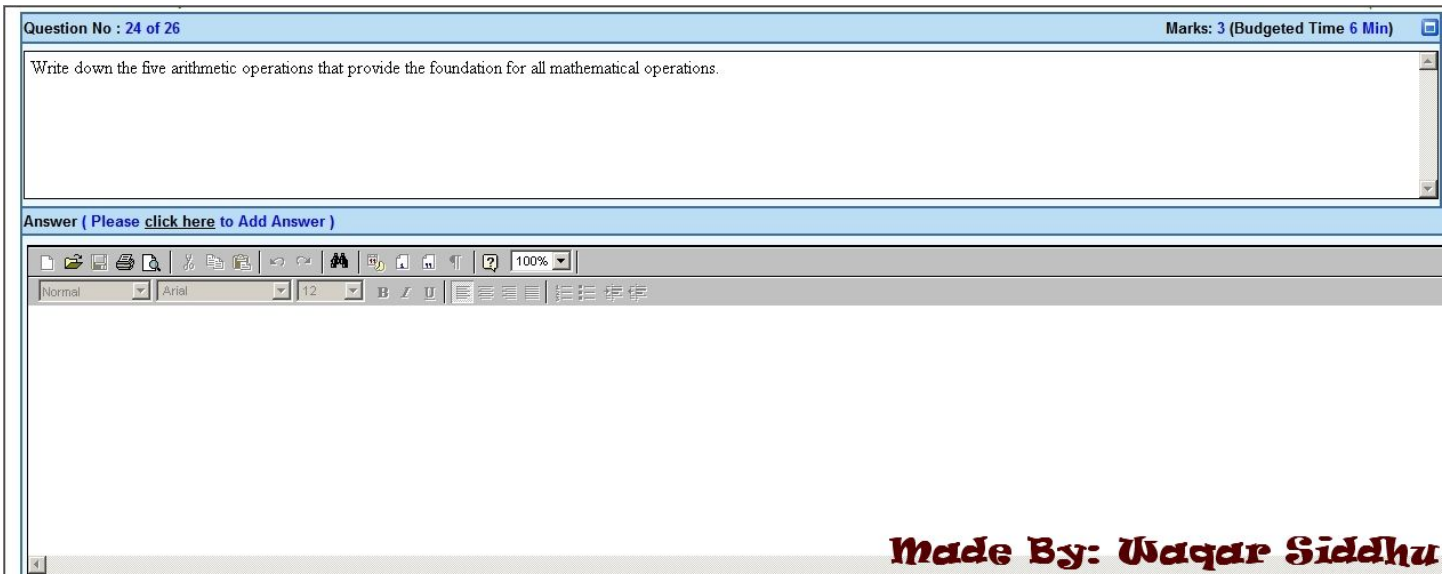
Question No : 23 of 26 Marks: 3 (Budgeted Time 6 Min)

Find x and y if

$(x + 2y, 3x - 4y) = (6,12)$

Answer (Please click here to Add Answer)

Made By: Waqar Siddhu


Question No : 24 of 26
Marks: 3 (Budgeted Time 6 Min)
Write down the five arithmetic operations that provide the foundation for all mathematical operations.
Answer (Please click here to Add Answer)
100%
Normal
Arial
12
Made By: Waqar Siddhu

Question No : 25 of 26 **Marks: 5 (Budgeted Time 10 Min)**

Which of the following sets are equal?

$C = \{x : x \in N and\ x < 3\}$

$D = \{x : x \in N and\ x is\ odd, x < 5\}$

Answer (Please click here to Add Answer)

Normal Arial 12 100%

Made By: Waqar Siddhu

Question No : 26 of 26 **Marks: 5 (Budgeted Time 10 Min)**

Let f : R→R be defined by

$$f(x) = \frac{x+1}{x+2}$$

Show that f is one-to-one and onto.

Answer (Please click here to Add Answer)

Normal Arial 12 100%

Made By: Waqar Siddhu

Question No : 25 of 26 Marks: 5 (Budgeted Time 10 Min)

$E = \{1, 2\}$ $G = \{3, 1\}$

$F = \{2,1\}$ $H = \{1,3\}$

Answer (Please click here to Add Answer)

Normal Arial 12 100%

Made By: Waqar Siddhu