

Unit 2 - Week 0 Assignment 0

Course outline

How does an NPTEL online course work?

Week 0 Assignment 0

Quiz : Assignment 0

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Assignment 0

The due date for submitting this assignment has passed. **Due on 2020-01-27, 23:59 IST.**
 As per our records you have not submitted this assignment.

- 1) The number of elements in the power set P of the set $S = \{ \phi, 1, \{2, 3\} \}$ is **1 point**
- a. 2
 b. 4
 c. 8
 d. None of these
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: c.
- 2) Let S be a set of points inside a square, T be the another set of points inside a triangle and C is the another set of points inside a circle. If the triangle and circle intersect each other and are contained in a square, then **1 point**
- a. $S \cap T \cap C = \phi$
 b. $S \cup T \cup C = C$
 c. $S \cup T \cup C = S$
 d. $S \cup T = S \cap C$
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: c.
- 3) In a language survey of students, it is found that 80 students know English, 60 know French, 50 know German, 30 know English and French, 20 know French and German, 15 know English and German and 10 students know all the three languages. How many students know at least one language? **1 point**
- a. 135
 b. 30
 c. 10
 d. 45
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: a.
- 4) Order of the power set of a set of order n is **1 point**
- a. n
 b. 2n
 c. n^2
 d. 2^n
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: d.
- 5) If A and B are two sets and $A \cup B = A \cap B$, then **1 point**
- a. $A = B$
 b. $A = \phi$
 c. $B = \phi$
 d. None of these
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: a.
- 6) Which of the following sets is a null set? **1 point**
- I. $X = \{x|x = 9, 2x = 4\}$
 II. $Y = \{x|x = 2x, x \neq 0\}$
 III. $Z = \{x|x - 8 = 4\}$
- a. I and II only
 b. I, II and III
 c. I and III only
 d. II and III only
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: a.
- 7) In a beauty contest, half the number of experts voted for Mr. A and two thirds voted for Mr. B. 10 voted for both and 6 did not vote for either. How many experts were there in all? **1 point**
- a. 18
 b. 24
 c. 36
 d. 44
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: b.
- 8) Let R be a relation "(x -y) is divisible by m", where x, y, m are integers and $m > 1$, then R is **1 point**
- a. symmetric but not transitive
 b. partial order
 c. equivalence relation
 d. anti-symmetric and not transitive
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: c.
- 9) What is the cardinality of the power set of $\{0, 1, 2, \dots, 10\}$? **1 point**
- a. 1023
 b. 1024
 c. 2043
 d. 2048
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: d.
- 10) Which set is not empty? **1 point**
- a. $\{x: x \text{ is an even prime greater than } 3\}$
 b. $\{x: x \text{ is a multiple of } 2 \text{ and is odd}\}$
 c. $\{x: x \text{ is an even number and } x + 3 \text{ is even}\}$
 d. $\{x: x \text{ is a prime number less than } 5 \text{ and is odd}\}$
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: d.
- 11) If A and B are matrices, then which one of the following is true? **1 point**
- a. $A + B \neq B + A$
 b. $(A^T)^T \neq A$
 c. $AB \neq BA$
 d. All are true
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: c.
- 12) The identity element in the group given below with respect to matrix $\{[x \ x]\}$ multiplication is **1 point**
- $G = \{ \begin{bmatrix} x & x \\ x & x \end{bmatrix} : x \in R, x \neq 0 \}$
- a. $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$
 b. $\begin{pmatrix} -1 & 0 \\ 0 & -1 \end{pmatrix}$
 c. $\begin{pmatrix} \frac{1}{2} & \frac{1}{2} \\ \frac{1}{2} & \frac{1}{2} \end{pmatrix}$
 d. $\begin{pmatrix} 1 & 1 \\ 1 & 1 \end{pmatrix}$
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: c.
- 13) If $A = \begin{bmatrix} 2i & i \\ i & -i \end{bmatrix}$ then $|A| = ?$ **1 point**
- a. 2
 b. 3
 c. 4
 d. 5
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: b.
- 14) For a skew symmetric odd ordered matrix A of integers, which of the following is true? **1 point**
- a. $\det(A) = 9$
 b. $\det(A) = 81$
 c. $\det(A) = 0$
 d. $\det(A) = 4$
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: c.
- 15) Degree of the polynomial $4x^4 + 0x^3 + 0x^2 + 5x + 7$ is **1 point**
- a. 4
 b. 5
 c. 3
 d. 7
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: a.
- 16) Given a set $\{0, \dots, 4\}$ and a relation on the set is defined by : **1 point**
- $R = \{(x, y) \mid x + y \leq 2x\}$
 Which of the properties listed below applies to this relation?
- I. Transitive
 II. Symmetric
 III. Reflexive
- a. I only
 b. III only
 c. I and III
 d. II and III
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: b.
- 17) If $a < 0$, then function $f(x) = ax^2 + bx + c$ has a maximum value at **1 point**
- a. $x = a/2b$
 b. $x = -a/2b$
 c. $x = -b/2a$
 d. None of Above
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: c.
- 18) $f: R \rightarrow R$ is a function defined by $f(x) = 10x - 7$. If $g = f^{-1}$, then $g(x) =$ **1 point**
- a. $\frac{1}{10x-7}$
 b. $\frac{1}{10x+7}$
 c. $\frac{x+7}{10}$
 d. $\frac{x-7}{10}$
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: c.
- 19) `#include<stdio.h>`
`main()`
`{`
`int x = 3, y=2;`
`int z = x << 1 > 5;`
`printf("%d\n", z);`
`}` **1 point**
- a. 1
 b. 0
 c. 3
 d. Compiler error
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: a.
- 20) `#include<stdio.h>`
`int main()`
`{`
`int a = 100, b = 200, c = 300;`
`if !(a >= 500))`
`b = 300;`
`c = 400;`
`printf("%d,%d,%d\n",a, b, c);`
`return 0;`
`}` **1 point**
- a. 100,300,300
 b. 100,200,400
 c. 100,200,300
 d. 100,300,400
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
 Score: 0
 Accepted Answers: b.