**WIPRO-WASE DISTANCE LEARNING PROGRAMME**

**DISCRETE STRUCTURES FOR COMPUTER SCIENCE**

**2018 BATCH –ASSIGNMENT SCHEDULES**

**------------------------------------------------------------------------------------------------------------------------------------------**

**BATCH-I(1-10)**

**1. Write predicate of the statement “ There is an honest politician” and “ All Americans eat cheeseburgers” .**

**2. Use De Morgan’s law to find the negation of each of the following statements :**

**(i)Ram is rich and not happy , (ii) Gopi will have bicycle or car, (iii)Rahim walks or takes the bus to college and (iii)Nikita is smart and hard working**

**3. Prove by mathematical induction that p(n) : 12+22+32+…..+n2 = n(n+1)(2n+1)/6.**

**4. If a graph G has more than two vertices of odd degree , then prove that there can be no Euler path in G using example.**

**5. Compute MR0S and MS0R**

****

**6.Draw Hasse diagram for divisibility on the set (i){1,2,3,6,12,24,36,48} and (ii){1,2,4,8,16,32,64}**

**7.Give the relation matrices and graph for the following relations :**

**(i)R={(0,1),(1,2),(1,3),(2,2),(2,3),(3,1),(3,2),(3,3)}**

**(ii)S={(1,3),(2,1),(2,3),(3,4),(4,1)} and (iii)T={(3,2),(1,3),(1,4),(2,3),(2,4),(3,4)}**

**8. Draw a binary tree whose preorder search produces the string BJACDIHEFG**

**9. Construct tree for the algebraic expression : (x-(y+(x-y)))X((8+(2X7)X3)**

**10. Define spanning tree with two examples**

**\*\*\*\*\*\*\*\*\*\***

**WIPRO-WASE DISTANCE LEARNING PROGRAMME**

**DISCRETE STRUCTURES FOR COMPUTER SCIENCE**

**2018 BATCH –ASSIGNMENT SCHEDULES**

**------------------------------------------------------------------------------------------------------------------------------------------**

**BATCH-II(11-20)**

**1. Solve the following recurrence relation : **

**2. Find all the solutions of the recurrence relation : **

**3. Let A ={1,2,3} . Let R={1,2,3}. Let R={<1,1>,<1,2>,<2,3>,<3,1><3,3>} and S=={<1,2>,<1,3>,<2,1>,<3,3>}.**

**Compute **

**4. Define an equivalence relation with example and draw corresponding matrix relation.**

**6. Draw a binary tree whose postorder search produces the string BJACDIHEFG**

**7.Find f0g and g0f where f(x)=x^2+5 and g(x)=x+3 are functions from R to R.**

**8. Prove that for every positive integer n , **

**9. Show that **

**10 Prove that the following argument is a valid argument :**

**All men are mortal**

**Socrates is a man**

**Hence Socrates is mortal**

**\*\*\*\*\*\*\*\*\*\***

**WIPRO-WASE DISTANCE LEARNING PROGRAMME**

**DISCRETE STRUCTURES FOR COMPUTER SCIENCE**

**2018 BATCH –ASSIGNMENT SCHEDULES**

**------------------------------------------------------------------------------------------------------------------------------------------**

**BATCH-III(21-30)**

**1.Translate each of the following statement into logical expression using predicates,quantifiers and logical connectives : (i)No one is perfect (ii)All you friends are perfect (iii)Everyone is your friend and is perect(iv)Atleast one of your friends is perfect and (v)Not everyone is perfect**

**2. Prove that if n is a positive integer then n is even if and only if 7n+4 is even.**

**3. Define a partial order relation with example and draw corresponding Hasse diagram**

**4. Explain identity laws with proof by truth table**

**6. Draw a binary tree whose Inorder search produces the string CABCDIHGEF**

**7. Solve the following recurrence relation : **

**8. Define a spanning tree with examples**

**9. Define Euclid algorithm and congruence relation with examples**

**10.Draw the Hass diagram for the inclusion on the power set P(S), where S={a,b,c,d}**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**WIPRO-WASE DISTANCE LEARNING PROGRAMME**

**DISCRETE STRUCTURES FOR COMPUTER SCIENCE**

**2018 SIM BATCH –ASSIGNMENT SCHEDULES**

**------------------------------------------------------------------------------------------------------------------------------------------**

**BATCH-IV(31-40)**

**1. Define Euler path and Hamiltonian path with examples**

**2. Use De Morgan’s law to find the negation of each of the following statements :**

**(i)Ram is rich and not happy , (ii) Gopi will have bicycle or car, (iii)Rahim walks or takes the bus to college and (iii)Nikita is smart and hard working**

**3. Prove by mathematical induction that p(n) : 1+2+3+…..+n = (n(n+1)/2)**

**4. If a graph G has more than two vertices of odd degree , then prove that there can be no Euler path in G using example.**

**5.Compute MR0S and MS0R**

****

**6.Draw Hasse diagram for divisibility on the set (i){1,2,3,6,12,24,36,48} and (ii){1,2,4,8,16,32,64}**

**7.Give the relation matrices and graph for the following relations :**

**(i)R={(0,0),(1,1),(1,3),(2,2),(2,3),(3,1),(3,2),(3,3)}**

**(ii)S={(1,2),(2,1),(2,3),(3,4),(4,1)} and (iii)T={(1,2),(1,3),(1,4),(2,3),(2,4),(3,4)}**

**8. Draw a binary tree whose preorder search produces the string JBACDIHEGF**

**9. Construct tree for the algebraic expression : (x-(y+(x-y)))X((6+(2X7)X4)**

**10. Define spanning tree with two examples**

**\*\*\*\*\*\*\*\*\*\***

**WIPRO-WASE DISTANCE LEARNING PROGRAMME**

**DISCRETE STRUCTURES FOR COMPUTER SCIENCE**

**2018 BATCH –ASSIGNMENT SCHEDULES**

**------------------------------------------------------------------------------------------------------------------------------------------**

**BATCH-V (41-50)**

**1. Solve the following recurrence relation : **

**2. Fin all the solutions of the recurrence relation : **

**3.Let A ={1,2,3} . Let R={1,2,3}. Let R={<1,1>,<1,2>,<2,3>,<3,1><3,3>} and S=={<1,2>,<1,3>,<2,1>,<3,3>}.**

**Compute **

**4.Define an equivalence relation with example and draw corresponding matrix relation.**

**6. Draw a binary tree whose postorder search produces the string BJACDIHEFG**

**7.Find f0g and g0f where f(x)=x^2+1 and g(x)=x+2 are functions from R to R.**

**8.Prove that for every positive integer n , **

**9.Show that **

**10Prove that the following argument is a valid argument :**

**All men are mortal**

**Socrates is a man**

**Hence Socrates is mortal**

**\*\*\*\*\*\*\*\*\*\***

**WIPRO-WASE DISTANCE LEARNING PROGRAMME**

**DISCRETE STRUCTURES FOR COMPUTER SCIENCE**

**2018 BATCH –ASSIGNMENT SCHEDULES**

**------------------------------------------------------------------------------------------------------------------------------------------**

**BATCH-VI (51-60)**

**1.Translate each of the following statement into logical expression using predicates,quantifiers and logical connectives : (i)No one is perfect (ii)All you friends are perfect (iii)Everyone is your friend and is perect(iv)Atleast one of your friends is perfect and (v)Not everyone is perfect**

**2.Prove that if n is a positive integer then n is even if and only if 7n+4 is even.**

**3.Define a partial order relation with example and draw corresponding Hasse diagram**

**4.Explain identity laws with proof by truth table**

**6. Draw a binary tree whose Inorder search produces the string CABCDIHGEF**

**7. Solve the following recurrence relation : **

**8. Define a spanning tree with examples**

**9. Define Euclid algorithim and congruence relation with examples**

**10.Draw the Hasse diagram for the inclusion on the set P(S), where S={a,b,c,d}**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\***