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| **Program:** B. Tech  | **Faculty Name:** Dr. S. S. Bishoyi | **Sem.:**  4th |
| **C**s **ourse Name: Discrete Mathematics** | **Course Code:** B022411(014) | **Max Marks:** 20 |

**Assignment- 1**

1. Prove the validity of the following argument “If I get the job and work hard, then I will get promoted. If I get promoted then I will be happy. I will not be happy. Therefore, either I will not get the job or I will not work hard.” (Co-1, Po-1, Level-2)
2. Prove that for every element a and b of a Boolean algebra
3. $\left(a+b\right)^{'}=a^{'}.b'$
4. $\left(a.b\right)^{'}=a^{'}+b'$ (Co-1, Po-2, Level-2)
5. Obtain the Disjunctive Normal form of the following functions (Co-1, Po-3, Level-3)

$$F\left(x,y,z\right)=\left(x+y\right)+\left(x+z^{'}\right)+\left(y+z'\right)$$

1. Show that

$\frac{1}{1.2}+\frac{1}{2.3}+\frac{1}{3.4}+…………+\frac{1}{n(n+1)}=\frac{n}{n+1} ,∀n\geq 1$

 (Co-4, Po-2, Level-2)

1. Solve the recurrence relation

 $a\_{n+2}-5a\_{n+1}+6a\_{n}=2, $ with intial condition $a\_{0}=1 and a\_{1}=-1$ by characteristics root method. (Co-4, Po-1, Level-2)

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| **Program: - B.Tech** | **Faculty Name:- Mrs.Lincy Mendonza** | **Sem:- 4th Sem** |
| **Course Name:- DAA** | **Course Code: - B022414(022)** | **Max Marks:-20** |

**Assignment- 1**

**Even Session (Jan-June 2022)**

**Note: - Each Question carries 4 marks.**

1.Write the algorithm for insertion sort and also compute its worst case time complexity. (CO-1, PO-1, Level-2) [4] 2.Explain merge sort .(CO-2,PO-1, Level- 2) [4]

3. Write the algorithm for Binary search and also compute time complexity. (CO-1, PO- 2, Level-2) [4]

4..Explain quick sort. (CO-2, PO- 2, Level-2) [4]

5.use greedy approaach to find optimal solution to Knapsack problem

max.weight W= 10 units ,total items N=4,value of items v[]={10,40,30,50},w[]={5.4,6,3} (CO-2 PO- 1, Level-3) [4]

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| **Program: - B. Tech** | **Faculty Name:- Rupesh Mude** | **Sem:- 4th** |
| **Course Name:- oops in Java**  | **Course Code: -B022414(022)** | **Max Marks:-20** |

**Assignment- 1**

 **(Even Sem 2022)**

 **Note: - Each Question carries 4 marks.**

1. Describe the java I/O Classes and Interfaces. (CO-3, PO-3, Level-2)

2. What is Constructor? Explain types of constructor CO-3, PO-3, Level-2,3)

3. Explain the life cycle of thread? In how many ways can a thread be created in java. (CO-4, PO-2, Level-2)

4. Explain inheritance in java with suitable example? (CO-4, PO-1, Level-1)

5. Explain the following. (CO-3, PO-2 , Level-1)

* Init()
* Start()
* Stop()
* Destroy()

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| Sub Name: CSA | Faculty Name: Ms. Divyani | Sem: 4th |
| Program: B.TECH CSE | Course Code: -  | Max Marks:-20 |

Assignment –I (JAN-JUN 2022)

1. Explain various technologies used in memory design? 4
2. Explain memory hierarchy? 4
3. Explain virtual memory ,how its work? 4
4. Explain Addressing mode and its type? 4
5. The avg memory access time for a machine with a cache hit rate of 80% where the cache access time is 5ns and main memory access time is 100ns find out total avg, time for parallel and sequential memory? 4

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| Sub Name: CG | Faculty Name: Mrs. Amrita Banjare | Sem: 4th |
| Program: B.TECH CSE | Course Code: - **B022413** (022) | Max Marks:-20 |



