Department of Computer Science & Engineering
BABU BANARASI DAS
NORTHERN INDIA INSTITUTE OF TECHNOLOGY

Affiliated to Dr. A.P.J. Abdul Kalam Technical University (AKTU Code : 056)
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Website : www.bbdniit.ac.in

AKTU Code : 056

CSE THIRD YEAR / FIFTH SEMESTER / 2022-23(ODD)

ASSIGNMENT NO. : 3

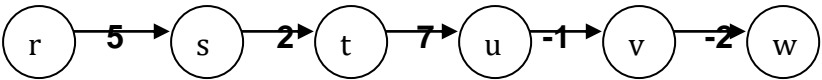1. **Name of Subject:** Design and Analysis of Algorithm

2. **AKTU Subject Code:** KCS-503

3. **NBA Subject Code :** C304

4. **Unit Covered:** III

5. **Date of Issue : 20**.11.2022   **Last Date of Submission:** 25.11.2022   **Max Marks: 25**

Q #	Question Description	CO	BTL	MM
1	Write pseudo code of bellmanford's shortest path algorithm and explain how it is different from Dijksta's shortest path algorithm.	3	3	5
2	What is a minimum spanning Tree? Write down pseudo code of PRIMs algorithm and draw a minimum spanning tree with suitable example.	3	1	5
3	Write pseudo code of the **DAG-SHORTEST-PATH,** and draw DAG-SHORTEST-PATH for the given Graph G, as shown in Figure given below, using vertex s as a source.	3	3	5
4	Find the optimal solution to the following fractional knapsack instance n=7, m=15, (P1,P2,P3,P4,P5,P6,P7)=(10,5,15,7,6,18,3), and (W1,W2,W3,W4,W5,W6,W7)=(2,3,5,7,1,4,1).	3	3	5
5	Write down the Divide and Conquer strategy and explain strassman's matrix multiplication problem.	3	1	5

CO: Course Outcome   *BTL: Bloom's Taxonomy Level*   *MM: Max Marks*

Name of Faculty: Dr. Anurag Shrivastava