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Code No: 138AC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year II Semester Examinations, December - 2020

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ADVANCED ALGORITHMS
(Computer Science and Engineering)

Time: 2 hours

Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks

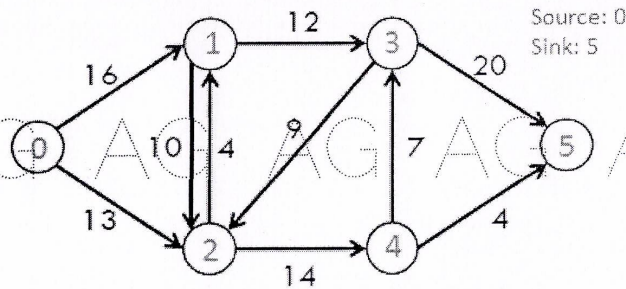
AG 1.a) Solve the following recurrence equation using substitution method.
 $T(n) = 4T(n/2) + n^2$ AG AG AG A

b) Write the applications of Dynamic Programming. [8+7]

2. Write a Randomized algorithm of Quick Sort and explain. [15]

3. Write an algorithm of Prim's minimum cost spanning tree and illustrate with an example. [15]

AG 4. Find the max flow of the following graph: [15]



AG 5. Explain how to solve the system of linear equations with an example. [15]

6. Explain about the Strassen's Matrix multiplication. [15]

7. Write an algorithm of Rabin-Karp and also analyze the time complexity of the same. [15]

AG 8. Explain about the Approximation algorithm of Vertex cover problem with an example. [15]

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