UNIT - II

2 (a) Show the result of inserting 10, 12, 1, 14, 6, 5, 8, 15, 3, and 9. One at a time into an initially empty min heap ?

8

(b) Explain the implementation of a binomial heap and its operation with suitable example.

8

OR

2 Write short note on :

(a) Binomial trees

(b) Implementing fibonancy heap

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UNIT - III

3 A network G = (V,E) as follows

V = {a, b, c, d, e, f}

E = {(ab, 2), (Cb, 2), (Cd, 2), (ed, 2), (ef, 2), (ac, 4), (be, 4), (df, 4) }

where the number following each edge is the capacity of that edge :

(i) A function f is defined on the edge of G with each edge e having f (e) equal to the capacity of e. Explain why this defines a valid st. flow on G for suitably chosen vertices S and t.

(ii) State the Max-flow Min-cut theorem and explain how your answer to part (a) illustrate this theorem.

OR

3 Consider the following graph :