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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- OCT 2019

B.Tech. VII & M.Tech. I Semester

COURSE CODE: 10M11CI111

MAX. MARKS: 25

COURSE NAME: Advance Data Structures

COURSE CREDITS: 03

MAX. TIME: One and Half Hour

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. Explain the following terms with an example if possible? [2+2+2+2+2=10 MARKS]
 - Union Find DS
 - Inverted Index
 - Partial Mechanism
 - Quad Tree
 - Potential Method

2. What is amortized analysis? Explain through an example with its various types. Further, explain stack operation, binary counter of accounting and aggregate method of amortized analysis. [1+2+2=5 MARKS]

3. a) What is K-D Tree? Explain its advantages and disadvantages over B-tree and B+ tree? Why do we need K-D tree. [2+2+1=5 MARKS]
b) Create a K-D tree of following items: $\{(60, 70), (70, 60), (90, 65), (10, 30), (95, 75), (80, 85), (65, 50), (75, 25)\}$ [3 MARKS]

4. What is partial mechanism? Explain through an example [2 MARKS]