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PAPER CODE	U321-252C (ESE)
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**MAY 2022 (ENDSEM) EXAM**  
**T.Y. INFORMATION TECHNOLOGY (SEMESTER - II)**  
**COURSE NAME: PROFESSIONAL ELECTIVE III –**  
**ADVANCE DATABASE MANAGEMENT SYSTEM**  
**COURSE CODE: ITUA32182C**  
**(PATTERN 2018)**

Time: [1 Hour]

[Max. Marks: 30]

**Instructions to candidates:**

- 1) Figures to the right indicate full marks.
- 2) Use of scientific calculator is allowed
- 3) Use suitable data where ever required

- Q.1) a) Compare Imperative vs. Declarative Query Languages. [4]  
 b) Decide what are the different types of object caches in Neo4j? [6]

**OR**

- b) Create query to insert email nodes to represent the real emails exchanged within the business, and expand our set of relationship names to encompass the full set of addressing fields that email supports. [6]
- Q.2) a) Discuss how stream data management system works? [4]  
 b) Design decision tree model for given data.

Tid	Home Owner	Marital Status	Taxable Income	Default
1	Yes	Single	125K	No
2	No	Married	100K	No
3	No	Single	70K	No
4	Yes	Married	120K	No
5	No	Divorced	95K	Yes
6	No	Married	60K	No
7	Yes	Divorced	220K	No
8	No	Single	85K	Yes
9	No	Married	75K	No
10	No	Single	90K	Yes

**OR**

- b) Discuss complex event processing? Explain any one tool used for CEP. [6]

- Q.3) a) Consider the following database schema: [4]  
Neighbours(fname,lname,duration)  
Colleagues(fname,lname,duration)

I) Write datalog query that returns all neighbours who do not have any colleagues in common.

II) Write datalog query that returns those colleagues who have same name of Neighbours.

- b) Elaborate the Indexing techniques used in Spatial database. [6]

**OR**

- b) Investigate and justify the reasons behind "A Datalog program always terminates". [6]