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Marking Scheme

DECEMBER 2021 - ENDSEM EXAM

T. Y. (IT) (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]

→ Each Comparison point -1 mark

Q.1) b) Decide what are the different types of object caches in Neo4j?

[6]

→ Neo4j provides four different types of caches built into the default package

→ Each Cache object description -1.5 marks

OR

b) Write 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]

→ Each query will carry (create, insert & relationship)-2marks

Q.2) a) How stream data management system works?

[4]

→ stream data management description-1 marks,

→ working explanation-3 marks

b) Design decision tree model for given data.

[6]

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

- Tree Construction- 2 Marks
- Explanation – 4 Marks

OR

- b) What is complex event processing? Explain any one tool used for CEP. [6]
- Complex event processing explanation – 3 marks
 - Explain any one tool used for CEP -3 Marks

Q.3) a) Consider the following database schema: [4]

Neighbours(fname,lname,duration)
 Colleagues(fname,lname,duration)

- 1) Write datalog query that returns all neighbours who do not have any colleagues in common.
 Write datalog query that returns those colleagues who have same name of Neighbours.

- Each query carries -2 mark

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

- Indexing techniques -2 marks
- Diagram-1 marks
- Explanation-2 marks

OR

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

- Investigation-2 marks
- Justification-2 marks
- Example-2 marks