Day : Monday   Time : 10:00 AM-01:00 PM

Date : 20-11-2023   **W-26126-2023**   Max. Marks : 100

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N.B.

1) Attempt any **FIVE** questions from **SECTION** I Each question carries **12 Marks.**
2) Attempt any **TWO** questions from **SECTION** II Each question carries **20 Marks.**

SECTION – I

Q.1 Explain with diagram: **(12)**
  a) Waterfall Model   b) V Model
  c) RAD Model   d) Spiral Model.

Q.2 What is Interaction Diagram? Discuss the need of Interaction Diagram   **(12)**
  in UML.

Q.3 Explain in detail various phases of Rational Unified Process (RUP).   **(12)**

Q.4 Answer the following: **(12)**
  a) Describe the role of Class diagram in domain modeling.
  b) Discuss the role of Use Case modeling in Software Design and
     Development.

Q.5 What is Domain Modeling? Explain following concepts of Domain   **(12)**
  Modeling.
  a) Association Role   b) Multiplicity

Q.6 Write Short Note on **ANY TWO** of the following: **(12)**
  a) Inheritance
  b) Requirement Elicitation
  c) Polymorphism

SECTION – I

Q.7 Draw and Explain Class Diagram for Online Shopping System.   **(20)**

Q.8 Draw and Explain Activity Diagram for Naukari.com website.   **(20)**

Q.9 Draw and Explain Use Case Diagram to withdraw the amount using   **(20)**
  ATM transaction

*   *   *   *

Day : Wednesday   Time : 10:00 AM-01:00 PM

Date : 22-11-2023   **W-26127-2023**   Max. Marks : *100*

N.B.
1. Attempt **ANY FIVE** questions from Section – I and **ANY TWO** questions from Section II.
2. Figures to the **RIGHT** indicate **FULL** marks.
3. Answers to both the sections should be written in the **SAME** answer book.

SECTION-I

Q.1   What is cloud computing? Explain in brief various benefits of cloud computing.   **(12)**

Q.2   What are various common services management by the cloud service providers?   **(12)**

Q.3   What is virtualization? Explain in brief various advantages of virtualization in cloud computing.   **(12)**

Q.4   Explain features of AWS for managing various could services of business enterprise.   **(12)**

Q.5   Differentiate between Platform as a Service and Software as a Service.   **(12)**

Q.6   Write short note on **ANY TWO** of the following: **(12)**

    a)   Next generation cloud
    b)   Google cloud
    c)   Cloud economics
    d)   Components of cloud IT model

SECTION-II

Q.7   What is service oriented architecture? Explain various layers of service oriented architecture.   **(20)**

Q.8   **a)**   Comment on "proper cloud deployment can provide significant saving, better IT services and high reliability".   **(10)**

    b)   Explain cloud development environment.   **(10)**

Q.9   What are various factors considered as an economical solution to migrate our traditional infrastructure to cloud based infrastructure.   **(20)**

*   *   *   *   *

Day : Friday   Time : 10:00 AM-01:00 PM

Date : 24-11-2023   **W-26128-2023**   Max. Marks : 100

N.B.:

1) Attempt any **FIVE** questions from Section – I and Attempt any **TWO** questions from Section – II.
2) Answers to both the sections should be written in the **SAME** answer book.
3) Figures to the right indicates **FULL** marks.

SECTION – I

Q.1   Describe the following operators in Python   **(12)**
i) Bitwise   ii) Logical

Q.2   Describe use of Tuple and List types in Python with all possible operations   **(12)**
in it.

Q.3   What is Exception? List six various exceptions may occur in Python and also   **(12)**
describe scenario when it may occur.

Q.4   Why there is need of Linked List? State and explain its applications.   **(12)**

Q.5   What is Binary Tree? Construct binary tree for data (56, 34, 78, 45, 25, 38,   **(12)**
23, 89, 56, 68). State the various tree traversing methods and explain working
of any one on Tree constructed.

Q.6   Write short notes on any **TWO** of the following: **(12)**

   a) dictionary

   b) Deque

   c) Balanced Tree

   d) Recursion

SECTION – II

Q.7   What is ADT? Define ADT 'Date' to represent calendar date (day, month and   **(20)**
year) with all possible operations. Implement Date ADT, create one object of
it and perform various operations defined in Date ADT.

Q.8   Sate importance of postfix expression. Write an algorithm to convert infix   **(20)**
expression into postfix and implement the same in Python. Also test it convert
infix expression: (a+b) * c – d into postfix.

Q.9   What is need of sorting? Explain the working of Merge sort with its algorithm   **(20)**
in Python. Also comment on when to use Merge sort.

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Day : Tuesday

Time : 10:00 AM-01:00 PM

Date : 28-11-2023

W-26129-2023

Max. Marks : 100

N.B.:

1) Attempt **ANY FIVE** questions from Section – I and attempt **ANY TWO** questions from Section – II.
2) Answers to both the sections should be written in **SAME** answer books.
3) Draw neat and labelled diagram **WHERE-EVER** necessary.
4) Figures to the right indicate **FULL** marks.

SECTION – I

Q.1 What is computerised Decisions Support System? Explain framework for Decisions Support System. [12]

Q.2 Define Data warehouse. Explain the need and advantages of data warehouse. [12]

Q.3 Explain the various techniques of data cleaning in detail. [12]

Q.4 Explain Architecture of a typical data mining system. [12]

Q.5 What is Association rule mining? Explain Apriori Algorithm with suitable example. [12]

Q.6 Write short notes on **ANY TWO** of the following: [12]

a) Supervised and Unsupervised learning

b) Hierarchical clustering

c) Star schema

SECTION – II

Q.7 a) What is BI process? Explain framework for Business Intelligence. [10]

b) Explain the various techniques of Data Reduction in detail. [10]

Q.8 a) Explain the various functionalities of Data Mining. [10]

b) What is Constraint based association mining? Explain it with suitable example. [10]

Q.9 a) What is Classification? Explain how classification is done through Decision Tree. [10]

b) Explain Grid based Clustering method. [10]

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