ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
III/IV B. Tech II- Semester Regular Examinations April - 2018
COMPILER DESIGN
(IT)

Time: 3 hours   **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

Unit-1

1. a. Discuss about Language processing system [6M]
   b. Construct a DFA equivalent to NFA whose transition table shown below [6M]

states	a	b
q0	q1,q3	q2,q3
q1	q1	q3
q2	q3	q2
q3	-	-

(or)

2. Explain the various phases of a compiler with an illustrative example. [12M]

Unit-2

3. a. Discuss in brief about the role of lexical analyzer in compiler construction process. [6M]
   b. Explain various error recovery strategies in lexical analysis. [6M]

(or)

4. Write the regular definitions and construct the transition diagram to recognize the tokens given below [12M]
   a)Identifier   b)Relational operators c)Unsigned number(Integer and floating point)

Unit-3

5. Construct a Predictive parsing table for the Grammar and check the string **id+id*id** is acceptable or not. [12M]
   E$\rightarrow$E + T | T
   T$\rightarrow$T * F | F
   F$\rightarrow$(E)/id

(or)

6. Construct SLR parsing table for the following grammar. [12M]
   E$\rightarrow$E + T | T
   T$\rightarrow$T * F | F
   F$\rightarrow$ (E)/id

Unit-4

7. Translate the following expression: [12M]
   x:= (a + b) * (c + d) + (a + b + c) into
   a) Quadruples   b) Triples   c) Indirect triples

(or)

8. a. Explain various storage allocation strategies with its merits and demerits [6M]
   b. Explain about parameter passing mechanisms. [6M]

Unit-5

9. a. What is DAG? Construct DAG for the following Basic block. [7M]

    b. Explain various method to handle peephole optimization. [5M]

(or)

10. a. Illustrate loop optimization with suitable example. [8M]

    b. Generate the code for the following expression: x = (a + b)–((c + d)–e). Also Compute its cost.   D: = B*C; E:= A+B; B:=B+C; A:=E-D; [4M]

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Hall Ticket No :   **Question Paper Code :**

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
III/IV B. Tech II- Semester Regular Examinations April – 2018
DESIGN AND ANALYSIS OF ALGORITHMS
(IT)

Time: 3 hours   **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT-I

1.
   i. Explain Mathematical Analysis of recursive & Non-recursive Algorithms.   (6M)
   ii. Explain Asymptotic Notations and Basic Efficiency classes.   (6M)

(OR)

2.
   i. Design an algorithm and deduce its time complexity for Selection Sort   (6M)
   ii. Discuss Closest Pair and Convex-Hull Problems using Brute force.   (6M)

UNIT-II

3
   i. Design an algorithm and Analyze its time complexity for Merge sort.   (6M)
   ii. Discuss Strassen's Matrix Multiplication and analyze its complexity.   (6M)

(OR)

4
   i Explain Depth-First Search algorithm with an example graph.   (6M)
   ii. Discuss Decrease by a Constant Factor Algorithms   (6M)

UNIT-III

5.
   i. Explain balanced search trees.   (6M)
   ii. Explain computing lcm and reduction to graph problems under problem reduction**.**   (6M)

(OR)

6.
   i. Explain Horspool's algorithm for Input Enhancement in string matching   **(6M)**
   ii. Explain Hashing   (6M)

UNIT-IV

7.
   i. Explain Floyd'sAlgorithm.   (6M)
   ii. Compute Knapsack Problem using Dynamic programming for the given data.   (6M)
      $\{V1,V2,V3\}=\{60,100,120\}$ $\{w1,w2,w3\}=\{10,20,30\}$ $W=50$.

(OR)

8
   i. Explain Prim's Algorithm with an example graph.   (6M)
   ii. Discuss about Huffman trees & Construct Huffman Tree for the data   (6M)

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symbol	A	B	C	D	_
Frequency	0.35	0.1	0.2	0.2	0.15

UNIT-V

9.

i. Discuss P,NP,NP-hard and NP- complete Problems. (6M)

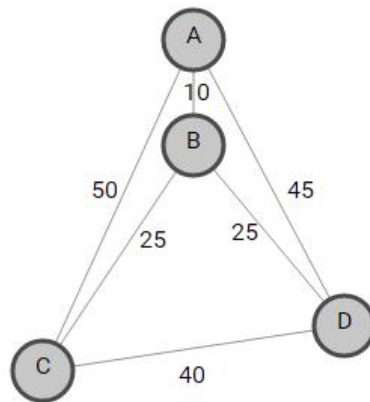ii.Explain Decision trees. (6M)

(OR)

10.

i. Explain Backtracking-for 4 Queens problem. (6M)

ii.Compute shortest tour for travelling salesman for the graph using branch and bound

(6M)

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
III/IV B. Tech II- Semester Regular Examinations April – 2018
MOBILE COMPUTING & APPLICATION DEVELOPMENT
(IT)

Time: 3 hours   **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

		UNIT-I	**Marks**
1.	a)	Explain types of android applications and identify the differences.	6 M
	b)	Illustrate and Describe android stack.	6 M
		OR	
2.	a)	Explain the history and features of Android	6 M
	b)	Describe the working of Dalvik Virtual machine.	6 M

UNIT-II

3.	a)	What is an Emulator? Explain in brief.	6 M
	b)	List the steps to create a Hello World Application in android.	6 M
		OR	
4.	a)	Explain android's UI MVC Architecture.	6 M
	b)	Discuss the attributes of Manifest and Layout files	6 M

UNIT-II

5.	a)	Explain and illustrate activity lifecycle of an android app	4 M
	b)	What is Layout? List out different Layouts supported by Android system and also explain Linear Layout with its various attributes.	8 M
		OR	
6.	a)	What is a view? Write the code to create a Simple Grid View.	6 M
	b)	How to create menus in android? Explain with example	6 M

UNIT-IV

7.	a)	With an example explain the role of filter and filter matching rules.	6 M
	b)	Create an android app to show the usage of broadcast receivers.	6 M
		OR	
8.	a)	Explain the process of creating and applying a simple theme in android app.	6 M
	b)	Explain inheriting built in styles and user defined styles	6 M

UNIT-V

9.	a)	What is a content provider? Explain in brief.	3 M
	b)	Create an android application to insert and retrieve data from Sqlite	9 M
		OR	
10.	a)	Explain media player lifecycle in android	6 M
	b)	Explain the Features and advantages of Xamarin.	6 M

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
III/IV B. Tech II- Semester Regular Examinations April – 2018
OBJECT ORIENTED ANALYSIS AND DESIGN WITH UML
(IT)

Time: 3 hours   **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT-I
1. a) Explain Object orientation and development.   (6 M)
   b) Define modeling. State and explain the three models?   (6 M)
   (OR)
2. a) Write about links and association concepts among objects and classes.   (6M)
   b) Explain objects and classes concepts?   (6M)

UNIT-II
3. a) Differentiate composition and Aggregation.   (6 M)
   b) Write about constrains in modeling elements.   (6 M)
   (OR)
4. a) Explain State Diagram in modeling ?   (6 M)
   b) Explain Nested states in Nested State diagrams?   (6 M)

UNIT-III
5. a) Explain the concepts of Use case Diagram in Modeling   (6 M)
   b) What is a Use case Scenario. Describe various scenarios for a Vending Machine (6M)
   (OR)
6. a) Describe the concepts of Sequence Diagrams in Modeling   (6 M)
   b)Draw a sequence diagram and activity diagram for ATM Banking system   (6 M)

UNIT-IV
7. a) Write about Process Development stages   (6 M)
   b) Write the steps involved in preparing a problem statement   (6 M)
   (OR)

8. Explain Domain class Model .   (12 M)

UNIT-V
9. a). Write about Application Interaction model   (6 M)
   b).Explain the steps in breaking the system into subsystems   (6 M)
   (OR)
10. a) How is data storage managed   (6 M)
    b)write about design optimization in designing the classes   (6 M)

MODEL PAPER

Hall Ticket No :   **Question Paper Code :**

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
III/IV B. Tech II- Semester Regular Examinations April – 2018
SOFTWARE TESTING AND AUTOMATION (Elective-I)
(IT)

Time: 3 hours   **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT-I

1. a) Differentiate testing and debugging.   (5M)
    b) Discuss origin of defects.   (7M)

(OR)

2. Discuss software testing principles.   (12M)

UNIT-II

3. Explain equivalence class partitioning in detail.

                                                                              (12M)

(OR)

4. Discuss boundary value analysis.   (12M)

UNIT-III

5. a) What are various levels in testing?   (4M)
    b) Discuss various phases in unit testing?

                                                                              (8M)

(OR)

6. Explain various types of system testing strategies.   (12M)

UNIT-IV

7. Write about the components of a test plan.

                                                                              (12M)

(OR)

8. Discuss the role of the three groups in test Planning and Test Policy Development. (12M)

UNIT-V

9. Discuss major activities in software configuration management (SCM).   (12M)

(OR)

10. Explain the levels in testing maturity model (TMM).   (12M)

MODEL PAPER

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
III/IV B. Tech II- Semester Regular Examinations April – 2018
TECHNOLOGY MANAGEMENT
(IT)

Time: 3 hours   Max Marks: 60

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT-I

1.
  i. Explain Decision Support Systems.   (6M)
  ii. What is GIS? What are the uses of GIS?   (6M)

OR

2.
  Define an Information System. Discuss the Types of Information Systems.   (12M

UNIT-II

3
  i. Define a system and list the different types of systems with examples   (6M)
  ii. Discuss about the Decision Table Methodology.   (6M)

OR

4.   Write a short note on UML diagrams.   (12M)

UNIT-III

5.
  i. Explain Concurrency Management in DBMS.   (12M)

OR

6.
  i. Explain HDBMS.   (6M)
  ii. Explain OODBMS.   (6M)

UNIT-IV

7. Discuss the different types of system testing.   (12M)

OR

8
  i. Explain the types of wireless networks.   (6M)
  ii. Discuss about Automatic Repeat Request (ARQ)   (6M)

UNIT-V

9. Differentiate E-Government and E-Governance.

                                                                            (12M)

OR

10. Write a short note on Cloud Computing.   (12M)

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