



MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous Institution – UGC, Govt. of India)

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(Affiliated to JNTU, Hyderabad, Approved by AICTE - Accredited by NBA & NAAC - „A“ Grade - ISO 9001:2015 Certified) Maisammaguda, Dhulapally (Post Via Hakimpet), Secunderabad – 500100, Telangana State, India.
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DEPARTMENT OF INFORMATION TECHNOLOGY III B.TECH I SEMESTER R18 REGULAR PREVIOUS QUESTION PAPERS



LIST OF SUBJECTS

CODE	NAME OF THE SUBJECT
R18A1205	Artificial Intelligence
R18A0507	Design and Analysis of Algorithms
R18A0555	Data Visualization
R18A0353	Enterprise Resource Planning
R18A0464	Embedded Systems
R18A0513	Python Programming
R18A0517	Web Technologies

Code No: **R18A1205****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Regular Examinations, February 2021**Artificial Intelligence****(EEE, CSE & IT)**

Roll No									
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Time: 2 hours 30 min**Max. Marks: 70**

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 Explain about uninformed search strategies with examples [14M]

- 2 a) Define Heuristic search? What are the advantages of Heuristic search? [7M]
b) Write about any one Heuristic technique [7M]

- 3 Discuss A* algorithm in detail. [14M]

- 4 Give a brief note on Alpha-Beta Pruning [14M]

- 5 Explain how to handle uncertain knowledge in detail. [14M]

- 6 Write about the Belief Bayesian Networks [14M]

- 7 a) . Discuss about Winston’s Learning Program. [7M]
b) Briefly describe learning in Problem Solving [7M]

- 8 Discuss various ways of knowledge acquisition. [14M]

Code No: R18A0507

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

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III B.Tech I Semester Regular Examinations, February 2021**Design and Analysis of Algorithms**

(IT)

Roll No									
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Time: 2 hours 30 min

Max. Marks: 70

Answer Any **Five** Questions

All Questions carries equal marks.

- 1.a** Write a non-recursive algorithm for finding the Fibonacci Sequence and also analyze its time complexity. [7M]
- 1.b** Explain the control abstraction of divide and conquer method. [7M]
- 2.a** Explain in detail about Quick sort with example. [7M]
- 2.b** Define Algorithm? Explain about Performance Analysis of Algorithms. [7M]
- 3.a** Let $w = \{5,7,10,12,15,18,20\}$ and $m = 35$. Find all possible subsets of w that sum to m . Draw the portion of the state space tree that is generated. [7M]
- 3.b** List the operations performed on disjoint sets. Justify how Collapsing Find algorithm is performed better than Simple Find algorithm. [7M]
- 4.a** What is Spanning Tree? Write its Applications and Compare the Prim's and Kruskal's approaches to find spanning tree. [8M]
- 4.b** Explain 8 queens problem using back tracking [6M]
- 5.a** Explain and write a greedy algorithm for Job Sequencing with Deadlines. [8M]
- 5.b** Is Dynamic programming is best compared to Greedy method? Justify. [6M]
- 6.a** Obtain the solution to knapsack problem by greedy method $n=7$,
 $(p_1, p_2, p_3, p_4, p_5, p_6, p_7) = (10, 5, 15, 7, 6, 18, 3)$
 $(w_1, w_2, w_3, w_4, w_5, w_6, w_7) = (2, 3, 5, 7, 1, 4, 1)$ and $m=15$. [7M]
- 6.b** Explain how to find single source shortest paths of a given directed graph with example. [7M]
- 7.a** Solve the given instance of travelling salesperson problem using dynamic programming. [8M]
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|----------|----------|----------|----------|----------|
| | 1 | 2 | 3 | 4 |
| 1 | 0 | 10 | 15 | 20 |
| 2 | 5 | 0 | 9 | 10 |
| 3 | 6 | 13 | 0 | 12 |
| 4 | 8 | 8 | 9 | 0 |
- (Note: 1,2,3 and 4 represent vertices of graph)
- 7.b** Discuss about chained matrix multiplication. [6M]
- 8.a** Compare LIFO BB and FIFO BB? Draw the state space trees of LIFO BB and FIFO BB? [8M]
- 8.b** With a neat diagram illustrate the relationship among P, NP, NP-Complete & NP- Hard problems [6M]

Code No: R18A0555

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III B.Tech I Semester Regular Examinations, February 2021

Data Visualization

(IT)

Roll No											
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Time: 2 hours 30 min

Max. Marks: 70

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 a) Explain sampling process and types of sampling. [6M]
b) What are the data types available in R and brief on the types with examples [8M]
- 2 a) Discuss in brief about the normal distribution of random variables. [7M]
b) List the descriptive statistics functions using R. Explain each function with an example. [7M]
- 3 a) Define Package. Give the syntax for installing and loading Packages in R. [4M]
b) List Data Manipulation packages in R and briefly discuss their functionality. [10M]
- 4 Explain LUBRIDATE package and its functions each with an example. [14M]
- 5 Explain how to merge and join different data frames using pandas. Give an example. [14M]
- 6 a) Discuss in brief the purpose of pandas library and how a data frame created using pandas. [14M]
b) Explain how slicing can be done on pandas data frames.
- 7 Write short notes on the following: [14M]
a) Pie Chart
b) Bubble plot
c) Bar chart
d) Area plot
- 8 Explain how data visualization can be done by using Seaborn library. [14M]

Code No: R18A0353

R18

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Regular Examinations, February 2021

**Enterprise Resource Planning
(CSE & IT)**

Roll No										
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Time: 2 hours 30 min

Max. Marks: 70

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 What is Enterprise Resource Planning System? Discuss the benefits of the ERP. [14M]
- 2 Discuss about the technologies that are used to improve the capabilities of ERP system. [14M]
- 3 Explain briefly the various measures to be taken by the top management for successful implementation of ERP. [14M]
- 4 Analyse the different phases in ERP implementation of product life cycle. Explain it. [14M]
- 5 Elaborate the concept of data mining. Discuss the major characteristics and applications of data mining in business. [14M]
- 6 What do you mean by customer relationship management? Write down the main modules of customer relationship management function in ERP. [14M]
- 7 Explain the success and failure factor of ERP implementation [14M]
- 8 Explain various extended ERP systems in detail. [14M]

Code No: **R18A0464****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Regular Examinations, February 2021**Embedded Systems****(CSE & IT)**

Roll No									
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Time: 2 hours 30 min**Max. Marks: 70**Answer Any **Five** Questions

All Questions carries equal marks.

- 1 With the help of Architecture explain the operation of 8086 microprocessor [14M]
- 2 Define addressing mode? And explain about different types of addressing modes of 8086 microprocessor [14M]
- 3 (a) What is an embedded system? Explain the different applications of embedded systems. [7M]
(b) Explain the different classifications of embedded systems. Give an example for each. [7M]
- 4 (a) Explain the different characteristics of embedded systems in detail? [7M]
(b) What is operational quality attributes? Explain the important operational quality attributes to be considered in any embedded system design [7M]
- 5 Explain the components of a typical embedded system in detail [14M]
- 6 (a) Explain about I2C bus interface [7M]
(b) Explain about SPI bus interface [7M]
- 7 Explain the different 'embedded firmware design' approaches in detail [14M]
- 8 What is the most important feature in java that makes it a highly useful high-level language for an embedded system design [14M]

Code No: **R18A0513****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Regular Examinations, February 2021**Python Programming****(CSE & IT)**

Roll No									
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Time: 2 hours 30 min**Max. Marks: 70**

Answer Any **Five** Questions
All Questions carries equal marks.

- 1 What are lists and tuples? What is the key difference between the two? [7M]
Write a Python program to multiplies all the items in a list. [7M]
- 2 What are the advantages and disadvantages of the Python programming language? [7M]
Write a Python program to sum all the items in a list. [7M]
- 3 Explain about loop statements in Python Programming with examples. [14M]
- 4 a) List different conditional statements in python with appropriate examples. [4M]
b) Write a Python program to find the greatest common divisor (gcd) of two integers. [10M]
- 5 a) How are arguments passed by value or by reference? [7M]
b) Explain local and global variable in python with an example. [7M]
- 6 a) How to add and remove values to a python array? With an example [4M]
b) What is map function in Python? [10M]
- 7 a) How to get indices of N maximum values in a NumPy array? [7M]
b) What is module and package in Python? [7M]
- 8 a) Explain the terms Class, Object, Abstraction and Encapsulation with examples [10M]
b) What are the features of Django? [4M]

Code No: **R18A0517****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

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III B.Tech I Semester Regular Examinations, February 2021**Web Technologies****(IT)**

Roll No										
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Time: 2 hours 30 min**Max. Marks: 70**Answer Any **Five** Questions

All Questions carries equal marks.

- 1 (a). Explain all CSS Types with suitable examples [9M]
(b). Create a HTML form with validation like email validation [5M]
- 2 (a). Write a Java script program to display user input from HTML form with different input fields like text boxes, check boxes, radio buttons [9M]
(b). Create HTML Tables with images as row data [5M]
- 3 (a). Create Well-formed and Valid XML document with either DTD or XML Schema for library information system. [9M]
Note:- You are allowed to assume your own attributes for library information system
(b). Write PHP program to find average of array elements [5M]
- 4 (a). Explain briefly about SAX XML processor with suitable examples [8M]
(b). Demonstrate Call by reference in PHP with suitable example [6M]
- 5 (a). List out some important classes and methods in Javax.servlet and Javax.servlet.Http packages [8M]
(b). Explain briefly Session handling techniques using Java servlets [6M]
- 6 (a). Explain Servlet Life cycle and list out steps to deploy servlet in Application server [7M]
(b). Demonstrate HTTP Sessions with example [7M]
- 7 (a). Explain JDBC Drivers and List out steps to connect servlet with database [10M]
(b). Write brief notes on Struts [4M]
- 8 (a). Differentiate JSP and Java Servlets [9M]
(b) What is Java Bean ? Explain briefly how to deploy Java Bean [5M]
