

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

II B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018Subject: **OBJECT ORIENTED PROGRAMMING**

Branch: CSE

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions of the following

5x15M=75M

1. a) Explain the concept of object in classes and also write the need of OOP program. [7+8]
b) Explain the fundamental characteristics of OOPS.
2. a) Explain about the arrays in java. [8M]
b) Define constructor? Explain constructor overloading with an example. [7M]
3. a) Explain member access rules when they exist in the same class same package and different classes and different packages. [7M]
b) Explain Dynamic Method dispatch with an example [8M]
4. a) What is an Interface? Explain multiple inheritance using interfaces. [7+8]
b) What is serialization? Explain with example.
5. a) Write short notes on Checked Exceptions and unchecked Exceptions with examples. [8+7M]
b) Illustrate Comparators and Maps.
6. a) Explain about thread group with an example. [8 M]
b) What are Daemon threads? Write the applications of threads. [7 M]
7. Write simple java program which uses the components of layout manager types. [15M]
8. a) Explain how an Applet is initialized and terminated with an example. [8M]
b) Write the importance of MVC architecture with an example. [7M]

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Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad**II B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018**Subject: **DESIGN AND ANALYSIS OF ALGORITHMS**

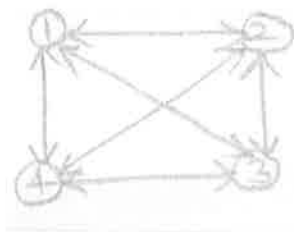
Branch: CSE

Time: 3 hours

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Answer any **FIVE** Questions of the following**5x15M=75M**

1. a) What is an Algorithm? What are the characteristics of an Algorithm? [7M]
b) Explain briefly about Asymptotic Notations. [8M]
2. a) Explain Connected Components in details. [8 M]
b) Explain the various representations of elements of sets. [7 M]
3. Explain how divide and conquer can be used to search an element using binary search with the help of an algorithm.
4. a) What is Greedy Method? Write its general method.
b) State the greedy Knapsack .find an optimal solution to the knapsack instance $n=3$, $M=20$, $(P_1, P_2, P_3)=(25,24,15)$ and $(W_1, W_2, W_3)=(18,15,10)$
5. What is principle of Optimality? Find the path and minimum cost of travelling for the travelling sales person problem in dynamic programming technique for the following instance



	1	2	3	4
1	0	10	15	20
2	5	0	9	10
3	6	13	0	12
4	8	8	9	0

6. Explain the Hamiltonian Cycles in backtracking algorithm with an example by constructing the state space tree.
7. Explain Travelling Sales Person's Problem using branch & bound approach for the following adjacency matrix.

α	25	40	31	27
5	α	17	30	25
19	15	α	6	1
9	50	24	α	6
22	8	7	10	α

8. a) Explain the relationship among P, NP, NP Hard and NP complete classes [8 M]
b) Briefly explain about Cook's theorem [7 M]

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II B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018Subject: **COMPUTER ORGANIZATION**

Branch: CSE

Time: 3 hours**Max. Marks: 75**Answer any **FIVE** Questions of the following**5x15M=75M**

1. Explain the following
 - a) Fixed point representation
 - b) Floating point representation [7+8M]
2. Explain briefly arithmetic logic shift unit with help of functional table.
3. Draw and explain typical hard wired [8+7M]
 - a) Control Unit
 - b) Explain the execution of complete instruction with an example
4. a) Draw a flow chart to explain how addition and subtraction of two fixed point numbers can be done. Draw the circuit using full adder for the same. 7M
- b) Explain the Booth's Multiplication Algorithm with example.(multiplication of two numbers). 8M
5. a) Explain with diagram memory hierarchy.
- b) Explain what is cache memory and how memory mapping is done in cache memory
6. a) Explain daisy chaining with neat sketch. [7M]
- b) What is an interrupt? Explain different types of interrupt. [8M]
7. a) Explain delayed branch with three segment pipeline with an example [7M]
- b) Discuss in detail on attached array processor [8M]
8. Write short notes on : [8+7M]
 - a) Cache Coherence Protocols
 - b) Shared Memory Multiprocessor

