MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MCA(2Yrs) I Year II Semester (R18) Regular End Semester Examinations –June 2019
(Regulations: R18)

DATA WAREHOUSING AND DATA MINING

Time: 3Hrs   Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part-A or B only

Q.1(A)	What is Data Mining? Explain What Kinds of Data can be Mined?	12M
	OR	
Q.1(B)	What is Data Pre-processing? Explain in detail about the following i. Data Cleaning ii. Data Reduction	12M
Q.2(A)	What is Data Warehouse? Explain about Data Cube and OLAP.	12M
	OR	
Q.2(B)	List and explain any one of the Frequent Itemset Mining Methods with an example	12M
Q.3(A)	Explain about basic decision tree induction algorithm with neat diagram.	12M
	OR	
Q.3(B)	Explain Rule-Based Classification with an example.	12M
Q.4(A)	Explain about Partitioning clustering methods.	12M
	OR	
Q.4(B)	Explain the various methods for detecting outliers.	12M
Q.5(A)	What is multimedia data? Explain what kind of association can be mined from multimedia data.	12M
	OR	
Q.5(B)	Explain about i. Mining the World Wide Web, ii. Mining Time Series data	12M

*** END***

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DATA STRUCTURES & ALGORITHMS

Time: 3Hrs   Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part-A or B only

Q.1(A) Write an algorithm for postfix expression, evaluate it and show the contents of stack   12M
for the following postfix expression
6 2 3 + - 3 8 2 / + * 2 4 3 +

OR

Q.1(B) Discuss in detail open addressing and rehashing.   12M

Q.2(A) Differentiate between iterative merge sort and recursive merge sort with an example   12M

OR

Q.2(B) Write an algorithm for insertion sort. Apply insertion sort, showing the various passes   12M
to sort the array A. Where a={77,33,44,11,88,22,66,55}

Q.3(A) What do you understand by the terms minimum spanning trees and Graphs? Describe   12M
in brief the various ways used to represent Graphs in memory.

OR

Q.3(B) Write in detail about the following?   12M
    i) Depth first search of a graph   ii) Breadth first search of a graph
    ii)

Q.4(A) i) What are connected components of graph? Is there a method to find out all the   12M
connected components of graph? Explain.
ii) Explain Prim's algorithm with an example

OR

Q.4(B) i) Find the shortest weight path from A to all other vertices for the graph in given   12M
below figure
ii) Find the shortest unweighted path from B to all other vertices for the graph in
given below figure
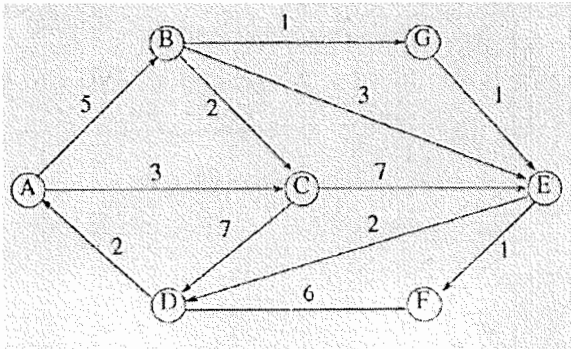
Q.5(A) Discuss the 4 – queen's problem. Draw the portion of the state space tree for n = 4   12M
        queens using backtracking algorithm.

OR

Q.5(B) Explain the FIFO BB 0/1 Knapsack problem procedure with the knapsack instance for   12M
        n=4.m=15,(p1,p2,p3,p4)=(10,10,12,18) (w1,w2,w3,w4) =(2, 4, 6, 9). Draw the portion
        of the state space tree and find optimal solution.

*** END***

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CLOUD COMPUTING

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either Part-A or B only**

Q.1(A)	Differentiate between High Performance Computing and High Throughput Computing.	6+6
	Elaborate on different type of cloud deployment model.	M
	OR	
Q.1(B)	What is virtualization? What are the primitive operation of virtualization?	6+6
	Explain the different modes of virtualization in detail.	M
Q.2(A)	What is cloud computing? What are advantages of migrating into a cloud?	6+6
	Explain the steps involved in migration model.	M
	OR	
Q.2(B)	Elaborate the challenges of SaaS Paradigm.	6+6
	Discuss about three type of integration model.	M
Q.3(A)	Explain the life cycle of VM with a neat diagram.	6+6
	Discuss about Cluster as a service technology.	M
	OR	
Q.3(B)	Elaborate the VM provisioning with a neat diagram.	6+6
	Discuss about reservation based provisioning of virtualized resource.	M
Q.4(A)	Elaborate on layers enhancement for Federation.	6+6
	Explain the basic principles of cloud computing.	M
	OR	
Q.4(B)	Define service level agreement (SLA) with an example.	6+6
	Explain different types of SLA.	M
Q.5(A)	Discuss about Change Management Maturity Model (CMMM) in detail.	8+4
	What is the current current state of data security in the cloud?	M
	OR	
Q.5(B)	Elaborate on the cloud computing and identity.	6+6
	Write a short notes on Homo-Sapiens and digital information in cloud computing.	M

*** END***

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MOBILE APPLICATION DEVELOPMENT USING ANDROID

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either Part-A or B only**

Q.1(A)	I. What is Dalvik VM and ART explain?	6M
	ii. Explain the Applications of Android.	6M
	OR	
Q.1(B)	What is meant by Android Stack? Explain it elaborately with the help of a neat diagram.	6M 6M
Q.2(A)	i. What is back Screen navigation? Explain.	6M
	ii. What is Alert Dialog? How it works?	6M
	OR	
Q.2(B)	i. What is Intent, Explain different types of Intents?	6M
	ii. Explain different methods used Intent.	6M
Q.3(A)	i. Explain AsyncTask with its basic methods.	6M
	ii. What is the need of threads and explain its process.	6M
	OR	
Q.3(B)	i. What are notifications?	4M
	ii. How to create and send the notifications?	8M
Q.4(A)	Write in detail about android file system.	12M
	OR	
Q.4(B)	i. Explain content Resolver.	6M
	ii. Explain different SQLite database operations.	6M
Q.5(A)	i. Write about Live wallpaper.	6M
	ii. What is the main idea of SensorEvent class and SensorEventListner interface?	6M
	OR	
Q.5(B)	i. Define Sensors in Android? Mention the types of Sensors.	6M
	ii. Explain Motion Sensor and Positional Sensor in detail.	6M

*** END***

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WEB PROGRAMMING THROUGH PHP

Time: 3Hrs   Max Marks: 60

> Attempt all the questions. All parts of the question must be answered in one place only.
> **In Q.no 1 to 5 answer either Part-A or B only**

Q.1(A)	i. Write any eight basic tags in HTML with example	(6+6)
	ii. What is CSS? Describe inline and internal style sheets	M
	OR	
Q.1(B)	i. Write syntax and example of switch statement in PHP	(6+6)
	ii. Describe the loop control structures in PHP with example	M
Q.2(A)	i. Explain PHP built in functions preg_match(), preg_split() and preg_replace() that support regular expressions with examples.	(6+6) M
	ii. Explain any three PHP - Sort Functions For Arrays with examples	
	OR	
Q.2(B)	Write a PHP program to demonstrate the passing a	(4+4+
	i. variable by reference.	4)M
	ii. Default Argument Values	
	iii. Variable by value.	
Q.3(A)	i. What is function overloading and overriding? Explain with an example	(6+6)
	ii. Explain in detail the types of inheritance supports by PHP	M
	OR	
Q.3(B)	i. What is an Exception and Basic Use of Exceptions	(6+6)
	ii. Write short notes on PHP error handling keywords	M
Q.4(A)	i. Explain the concepts of RDBMS?	(6+6)
	ii. How to create a connection between PHP and My SQL?	M
	OR	
Q.4(B)	Explain Data Manipulation: SELECT, INSERT, UPDATE, and DELETE Syntax with example.	12M
Q.5(A)	i. What is a PHP form? Explain with an example	(6+6)
	ii. What is the difference between session and cookie? Explain with an example.	M
	OR	
Q.5(B)	i. What is a Sessions? How many ways session handling can be done?	(6+6)
	ii. Explain with example PHP User Authentication with MySQL	M

*** END***

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DEEP LEARNING

Time: 3Hrs   **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part-A or B only

Q.1(A)	Explain the 2D Transformations with suitable diagrams.	12M
	OR	
Q.1(B)	State the various phases from Image acquisition to Information Retrieval.	12M
Q.2(A)	What is a Histogram? How it can be modified for a real time application?	12M
	OR	
Q.2(B)	What is Image Restoration? Explain one real time application of restoration.	12M
Q.3(A)	Identify Edge detection in Images for Deep learning.	12M
	OR	
Q.3(B)	Explain Region Based Segmentation in a 2D plane.	12M
Q.4(A)	Discuss Supervised Learning method by your own.	12M
	OR	
Q.4(B)	How Pooling is applied in Natural Language Processing.	12M
Q.5(A)	How Neural networks is implemented through Long Short Term Memory Architecture.	12M
	OR	
Q.5(B)	How the Localized Structure is applied in Neural Networks.	12M

*** END***

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CRYPTOGRAPHY AND NETWORK SECURITY

Time: 3Hrs   Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part-A or B only

Q.1(A)	Categorize active and passive security attacks and Explain each one with an example.	12M
	OR	
Q.1(B)	Draw neat diagram of AES algorithm and Explain in detail.	12M
Q.2(A)	Explain in detail Discrete Logarithm Problem (DLP) with suitable example.	12M
	OR	
Q.2(B)	Discuss Principles of Public Key Crypto Systems and Write RSA algorithm.	12M
Q.3(A)	Define authentication. Discuss Message Authentication Code in detail.	12M
	OR	
Q.3(B)	Explain in detail Digital Signature Standards.	12M
Q.4(A)	What are the different techniques for Distribution of Keys and Explain with examples?	12M
	OR	
Q.4(B)	Draw neat diagram of Simplified overview Kerberos protocol and Explain each action.	12M
Q.5(A)	Discuss Encapsulating Security Payload of IP with neat format in detail.	12M
	OR	
Q.5(B)	Write short notes on i) Virus and Worm ii) Intrusion Detection System	12M

*** END***