

Hall Ticket No:

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Question Paper Code: 18MCA111

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

(UGC-AUTONOMOUS)

**MCA II Year II Semester (R18) Regular & Supplementary End Semester Examinations – August 2021**

(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) Define data repository? Explain the architecture of data warehouse. 12M

OR

Q.1(B) What is data pre-processing? Explain in detail about data cleaning in data pre-processing. 12M

Q.2(A) Compare between OLAP and OLTP. 12M

OR

Q.2(B) Apply Apriori algorithm to an example and generate frequent pattern sets. 12M

Q.3(A) Explain Naïve Bayes classification method. 12M

OR

Q.3(B) Illustrate Decision tree induction method. 12M

Q.4(A) What is clustering? Explain the different types of clustering methods. 12M

OR

Q.4(B) Illustrate K-means clustering with example. 12M

Q.5(A) What is web usage mining? Explain the characteristics of web usage mining. 12M

OR

Q.5(B) What is Text Mining? Explain different text mining techniques. 12M

\*\*\* END\*\*\*

Hall Ticket No:

Question Paper Code: 18MCAP112

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

(UGC-AUTONOMOUS)

MCA II Year II Semester (R18) Regular & Supplementary End Semester Examinations – August 2021

(Regulations: R18)

**DATA STRUCTURES AND 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) i. What do understand by data structure? Write the program to implement Push and Pop Operation in the stack. 4M  
ii. Write an algorithm or program to convert prefix into postfix form. 8M  
**OR**
- Q.1(B) What is hash function? Explain collision resolution methods of the hashing. 12M
- 
- Q.2(A) Write the short notes on the following: 3\*4= 12M  
i Bubble Sort ii. Divide and Conquer approach iii. Binary Search  
**OR**
- Q.2(B) What do you understand by sorting? Write a program to implement Merge sort. 12M
- 
- Q.3(A) Define AVL tree. Discuss the rotations of AVL Trees. 12M  
**OR**
- Q.3(B) What is graph? Discuss graph traversal techniques with an example. 12M
- 
- Q.4(A) What is Minimum Spanning Tree? Explain Prim's algorithm and trace with an example. 12M  
**OR**
- Q.4(B) What is Greedy approach? Explain about single source shortest path problem with example. 12M
- 
- Q.5(A) Define Dynamic programming. Discuss the Travelling Salesman Problem (TSP) with the help of suitable example. 12M  
**OR**
- Q.5(B) Explain all pair's shortest path problem using dynamic programming. 12M

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Question Paper Code: 18MCAP113

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

(UGC-AUTONOMOUS)

**MCA II Year II Semester (R18) Regular & Supplementary End Semester Examinations – August 2021**

(Regulations: R18)

**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) i) Elucidate Network threats and data integrity. 6M  
ii) Briefly explain the design principles of computer clusters. 6M  
**OR**
- Q.1(B) Discuss about the service models in cloud computing. 12M
- 
- Q.2(A) i) Explain various Migration techniques used in Virtual Machine Migration 6M  
ii) Explain Aneka framework architecture with a neat diagram 6M  
**OR**
- Q.2(B) What are the characteristics of cloud integration? Explain them detail. 12M
- 
- Q.3(A) Describe the layered architecture of Virtualization technology. 12M  
**OR**
- Q.3(B) Elucidate Cluster as a Service architecture in detail. 12M
- 
- Q.4(A) i) Describe the model for federated cloud computing. 6M  
ii) Discuss the performance-related issues of HPC in the Cloud. 6M  
**OR**
- Q.4(B) What is meant by SLA? Discuss SLA levels and parameters in detail. 12M
- 
- Q.5(A) Explain CMMM and levels of CMM in detail. 12M  
**OR**
- Q.5(B) Discuss Lewin and Deming-cycle change management models in detail. 12M

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## MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA II Year II Semester (R18) Regular & Supplementary End Semester Examinations – August 2021  
(Regulations: R18)

### 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) Explain about android architecture in detail.  | 8M |
|           | ii) Discuss about features of android.  | 4M |
| <b>OR</b> |   |    |
| Q.1(B)    | i) What are the differences between JVM and DVM   | 4M |
|           | ii) Discuss android project structure in detail   | 8M |
| <hr/>     |   |    |
| Q.2(A)    | i) Create an android application to display “welcome to MITS” text message by using Click event.      | 8M |
|           | ii) Define Adapter and explain the types of adapters in android.                                      | 4M |
| <b>OR</b> |   |    |
| Q.2(B)    | i) Create an android application to display internal storage data by using LIST VIEW Component.       | 8M |
|           | ii) android.app.alert.dialogue is a child of dialogue class. Justify your answer.                     | 4M |
| <hr/>     |   |    |
| Q.3(A)    | i) What is meant by broadcast receiver?   | 4M |
|           | ii) Create an android application to get the System Announcements by using Broadcast Receiver.        | 8M |
| <b>OR</b> |   |    |
| Q.3(B)    | i) Define Intent. Explain types of Intents.   | 5M |
|           | ii) What are the steps to work with Broadcast receiver?   | 5M |
|           | iii) In what way the onBind() and onStartCommand() methods are used in services.                      | 2M |
| <hr/>     |   |    |
| Q.4(A)    | i) Explain about android file system in detail.   | 4M |
|           | ii) Create an android application to insert the records and delete the records in SQLite Database.    | 8M |
| <b>OR</b> |   |    |
| Q.4(B)    | i) Create an android application that use ContactsContract content provider in your application.      | 6M |
|           | ii) Explain about SharedPreferences in android in detail.   | 6M |
| <hr/>     |   |    |
| Q.5(A)    | i) Write short notes on sensorManager class.  | 4M |
|           | ii) Explain about various application widgets in Android.   | 8M |
| <b>OR</b> |   |    |
| Q.5(B)    | i) Create an android application to display X, Y Sensor values by using Accelerometer Sensor Service. | 8M |
|           | ii) Write short notes on Handlers.  | 4M |

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Question Paper Code: 18MCAP403

## MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA II Year II Semester (R18) Regular & Supplementary End Semester Examinations – August 2021

(Regulations: R18)

### WEB TECHNOLOGIES THROUGH JAVA

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 are the various types of CSS? Explain with an example. 12M  
ii) What is a style class? Give example.
- OR**
- Q.1(B) i) Write a javascript that accepts three numbers and displays largest number. 12M  
ii) List out various methods of Date object.
- 
- Q.2(A) i) What is XML Document type Definition? Explain. 12M  
ii) Write an XML DTD for storing book information of a library.
- OR**
- Q.2(B) i) Explain in detail about Document Object Model. 12M  
ii) Differentiate DOM and SAX.
- 
- Q.3(A) Explain in detail about the following: 12M  
i) Bound Properties.  
ii) Constrained Properties.  
iii) Persistence.  
iv) Customizers.
- OR**
- Q.3(B) i) What is a JavaBean? Explain its purpose. 12M  
ii) Explain in detail about BeanInfo interface.
- 
- Q.4(A) What are various types of Implicit JSP objects? Explain. 12M
- OR**
- Q.4(B) i) What is the difference between a Cookie & a Session? Explain. 12M  
ii) Write a JSP that shares the application data using a Session.
- 
- Q.5(A) Write a JSP to access database data and display it in a table. 12M
- OR**
- Q.5(B) What are the various steps of database programming using JDBC? Explain with syntaxes. 12M

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Question Paper Code: 18MCP402

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

(UGC-AUTONOMOUS)

**MCA II Year II Semester (R18) Regular & Supplementary End Semester Examinations – August 2021**  
(Regulations: R18)

**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. Design a web page for displaying your college details using a basic HTML. 12M  
ii. What is CSS? Create any 5 CSS style and link it with a web a page.
- OR**
- Q.1(B) i. Write a PHP program to demonstrate the different looping constructs. 12M  
ii. How do you create Arrays in PHP? Give examples for it.
- 
- Q.2(A) i. What is regular expression? Write a syntax to use the Regular Expression in PHP. 12M  
ii. Write a regular expression to math give pattern and print whether matching is found or not.
- OR**
- Q.2(B) i. Explain the different built-in function related to String in PHP. 12M  
ii. Write a PHP function that demonstrate the concept of call by value and reference
- 
- Q.3(A) i. Explain the object oriented concepts supported in PHP. 12M  
ii. What is inheritance? Create class person with member variables and inherit the property into a class Employee.
- OR**
- Q.3(B) i. Differentiate between error and exception. 12M  
ii. Explain the exception handling concepts such as try, catch, throw, and finally.
- 
- Q.4(A) Explain the architecture of database. 12M
- OR**
- Q.4(B) i. Write a PHP program to create a table called 'student' in the 'office' database and insert a row into the table. (s\_id, s\_name, department, mobile, batch\_of\_admission) 12M  
ii. Write a PHP program to insert rows of student data into student table.
- 
- Q.5(A) What is session management? Write a PHP program to create session and store/access data into/from it. List the drawbacks of session management. 12M
- OR**
- Q.5(B) What is cookie? Write a PHP program to store/retrieve the data from cookie. How you can delete the cookie? 12M

\*\*\* END\*\*\*

Hall Ticket No:

Question Paper Code: 18MCAP406

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

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**MCA II Year II Semester (R18) Regular & Supplementary End Semester Examinations – August 2021**

(Regulations: R18)

**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) Derive the basis function of Walsh transform. 12M

**OR**

Q.1(B) Explain the need of Discrete Cosine Transform in 2D plane. 12M

Q.2(A) Define histogram equalization. Explain the procedure for histogram equalization. 12M

**OR**

Q.2(B) Illustrate homomorphic filtering approach for image enhancement. 12M

Q.3(A) Draw and explain the architecture of convolution network. 12M

**OR**

Q.3(B) How to implement Deep Learning through Image Understanding? Explain. 12M

Q.4(A) Explain the applications of Natural Language Processing through Convolution Neural Networks 12M

**OR**

Q.4(B) Discuss any two Supervised Learning methods with examples. 12M

Q.5(A) How Neural networks have implemented through Long Short term memory (LSTM)? Explain with a neat architecture 12M

**OR**

Q.5(B) Illustrate Sentiment Analysis Using Recursive Neural Networks. 12M

**\*\*\* END\*\*\***

Hall Ticket No:

Question Paper Code: 18MCAP408

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

(UGC-AUTONOMOUS)

**MCA II Year II Semester (R18) Regular & Supplementary End Semester Examinations – August 2021**

(Regulations: R18)

**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) Illustrate the process of various security services. 12M

OR

Q.1(B) Illustrate the process of Advanced Encryption Standard algorithm (AES) with the diagrams. 12M

Q.2(A) Illustrate the steps of RSA algorithm and discuss the security of RSA in detail. 12M

OR

Q.2(B) Define CRT (Chinese Remainder Theorem) and solve  $X = 3 \pmod{5}$ ,  $X = 1 \pmod{7}$ ,  $X = 6 \pmod{8}$  using CRT. 12M

Q.3(A) Discuss the process and properties of Message Authentication Code (MAC) and Hash function. 12M

OR

Q.3(B) Explain the Secure Hash Algorithm-512 with a neat diagram. 12M

Q.4(A) Find the secret key shared between User A and User B using Diffie Hellman Key exchange algorithm for the following:  
 $q=97$ ,  $a=5$ , the private keys  $X_A = 36$ ,  $X_B = 58$ . 12M

OR

Q.4(B) Describe the five principal services that Pretty Good Privacy (PGP) provides. 12M

Q.5(A) Illustrate the functioning of IPSec document with a neat architecture. 12M

OR

Q.5(B) Compare and contrast the differences between viruses, worms and Trojans. Also explain about Intrusion Detection System. 12M

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