Hall Ticket No: | | | | | | | | | | | Question Paper Code: 16MCA111

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Y) I Year II Semester (R16) Supplementary End Semester Examinations –Dec 2018

(Regulations: R16)

JAVA PROGRAMMING

Time: 3Hrs **Max Marks: 50**

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 short notes on java Data types. Write about operators in java. Write a program to find the biggest of 3 numbers.	4M 6M
	OR	
Q.1(B)	Write short notes on conditional statements. Write a program to read the input in between 1 to 7 and display the output as weekdays.	10M
Q.2(A)	Explain various Loops in Java. Write a program to find the given number is Armstrong Number or Not.	10M
	OR	
Q.2(B)	i. What is a method? Give example for a method. ii. What is a constructor? How a constructor can be overloaded. Give an example.	2M 8M
Q.3(A)	Define interfaces in Java. Write a program for Hybrid interfaces.	10M
	OR	
Q.3(B)	What is meant by Auto Boxing and Unboxing? Discuss in detail.	10M
Q.4(A)	i. Write short notes on TypeWrappers. ii. Write short notes on Thread LifeCycle.	5M 5M
	OR	
Q.4(B)	i. What is meant by Collection Classes? ii. Write Short notes on TCP/IP client sockets.	5M 5M
Q.5(A)	Write short notes on i. Event Sources ii. Event Listener Interfaces	5M 5M
	OR	
Q.5(B)	Write a swing program to design an E-Mail Registration form with action.	10M

*** **END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 16MCA402

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Y) I Year II Semester (R16) Supplementary End Semester Examinations – Dec 2018

(Regulations: R16)

WEB TECHNOLOGY THROUGH JAVA

Time: 3Hrs **Max Marks: 50**

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 the role of CSS? Create HTML document with necessary HTML tags and CSS that describes the resume of student. ii. Write a Java script program which picks a random image from image pool and display it in the browser window on every time user refreshes the web page.	10M
	OR	
Q.1(B)	i. What is Frame? Use a <frameset>and <frame> tag to create two frame windows in display area. Create the HTML documents which will be displayed in these two frame windows. ii. What is XML DTD? Create XML DTD that describes the details of employees. Write a XML document that strictly follows the employee DTD.	10M
Q.2(A)	Explain the classes and interfaces available in java.net.* package for creating network based application.	10M
	OR	
Q.2(B)	i. Differentiate between TCP and UDP based communication. ii. Write short notes on Datagram and InetAddress.	10M
Q.3(A)	i. Explain the life cycle of servlet. ii. Write an example HttpServlet program to handle the GET request initiated from HTML page.	10M
	OR	
Q.3(B)	What is Session Tracking? Explain the different techniques of Session Tracking with an example.	10M
Q.4(A)	Explain the following components of JSP with examples i. Scriptlet and Action tag ii. Directives and Custom tag	10M
	OR	
Q.4(B)	i. Explain the different types of implicit objects in JSP. ii. Create a JSP application that greets the user with Good Morning/Good Afternoon/ GoodEvening based on the time in server machine.	10M
Q.5(A)	Explain the classes and interfaces available in java.sql.* package for creating database based application.	10M
	OR	
Q.5(B)	Create a JSP application that authenticates the entered username and password in HTML form by comparing it with user information in the database. If the user is authenticated, user will be directed to welcome page, otherwise display entered information is incorrect.	10M

*** END***

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 16MCA401

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Y) I Year II Semester (R16) Supplementary End Semester Examinations – Dec 2018

(Regulations: R16)

WEB PROGRAMMING THROUGH PHP

Time: 3Hrs **Max Marks: 50**

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 String? Write a PHP program that demonstrates the different operations on String. Create a HTML form for getting feedback about the workshop on "Web Programming" organized by MITS.	10M
	OR	
Q.1(B)	i. How are variables and constants declared in PHP? Write a PHP program that demonstrates the usage of decision making control structure. ii. What is regular expression? Write a PHP program that demonstrates the usage of regular expression in validating values entered in Forms.	10M
Q.2(A)	i. Explain the passing by value and reference. Write a PHP program to swap values of two numbers using both of the concepts. ii. What is function and scope? Write a PHP function that finds the largest of 2 numbers	10M
	OR	
Q.2(B)	Write a recursive function to find the factorial of given numbers? What are the advantages of using recursive function call instead of looping structure?	10M
Q.3(A)	Explain the different type of inheritance? Write a PHP program to demonstrate the different types of inheritance.	10M
	OR	
Q.3(B)	i. Define object and class with an example program. ii. What is function overriding? Write a PHP program to demonstrate the concepts.	10M
Q.4(A)	i. What is database management system? Write the advantages of RDBMS over file system. ii. Explain the web database architecture with a neat diagram.	3M 7M
	OR	
Q.4(B)	i. How will you create primary key and foreign key constraints on database tables? Write an example SQL statements. ii. Explain the DDL and DML commands in MySQL.	5M 5M
Q.5(A)	i. Discuss about tree based parsing of XML with examples. ii. Explain the implementation of authentication with PHP and MySQL.	5M 5M
	OR	
Q.5(B)	Explain the procedure for connecting to MySQL database from PHP. Write PHP applications that demonstrate the accessing of MySQL database using PHP.	10M

*** END***

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 16MCA407

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Y) I Year II Semester (R16) Supplementary End Semester Examinations – Dec 2018

(Regulations: R16)

NETWORK SECURITY ESSENTIALS AND STANDARDS

Time: 3Hrs **Max Marks: 50**

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)	Determine the security services required to counter various types of Active and Passive attacks. What are the common C-functions that give raise to buffer overflow?	10M
	OR	
Q.1(B)	Explain the models of Multi-Level security in computer networks	10M
Q.2(A)	i. Briefly explain Digital Signature algorithm ii. Discuss clearly Secure Hash Algorithm	10M
	OR	
Q.2(B)	i. Explain Diffie-Hellman key exchange algorithm. ii. Users A and B use the Diffie-Hellman key exchange technique with a common prime q=71 and primitive root g=7. If user A has private key x=5, what is A's Public Key R1? If user B has private key y=12, what is B's public key R2? What is the shared secret key?	10M
Q.3(A)	Explain cryptographic Authentication Protocols and their functionalities	10M
	OR	
Q.3(B)	Explain the following i. KDC ii. Certification of Authorities	10M
Q.4(A)	(a) What is Kerberos? Explain how it provides authenticated service? (b)Explain the architecture of IPSEC	10M
	OR	
Q.4(B)	i. Define Perfect Forward Secrecy? Explain with example. ii. Write short note on session key Establishment.	10M
Q.5(A)	What are the different cryptographic algorithms used in S/MIME? Explain how S/MIME is better than MIME.	10M
	OR	
Q.5(B)	In PGP, What is the probability that a user with N public keys will have at least one duplicate key ID? Explain.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 16MBA114

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Y) I Year II Semester (R16) Supplementary End Semester Examinations – Dec 2018

(Regulations: R16)

OPERATIONS RESEARCH

Time: 3Hrs **Max Marks: 50**

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) Solve the following L.P.P. by two-phase Simplex method: 10M

$$Max.Z = 2x_1 + x_2$$

Subject to $x_1 + x_2 \geq 2$, $x_1 + x_2 \leq 4$, $x_1, x_2 \geq 0$

OR

Q.1(B) Explain the various steps for the computation of an optimum solution under Simplex Algorithm. 10M

Q.2(A) Explain the following with examples: 10M

i) North-west corner rule

ii) Vogel's approximation method.

OR

Q.2(B) Consider the problem of assignment five jobs to five persons. The assignment costs are given below. Determine the optimal assignment schedule: 10M

$$\begin{array}{c} \\ A \\ B \\ C \\ D \\ E \end{array} \begin{array}{c} \begin{array}{ccccc} 1 & 2 & 3 & 4 & 5 \end{array} \\ \begin{bmatrix} 8 & 4 & 2 & 6 & 1 \\ 0 & 9 & 5 & 5 & 4 \\ 3 & 8 & 9 & 2 & 6 \\ 4 & 3 & 1 & 0 & 3 \\ 9 & 5 & 8 & 9 & 5 \end{bmatrix} \end{array}$$

Q.3(A) Write short notes on: 10M

i) Dominance property

ii) Type of games.

OR

Q.3(B) There are five jobs, each of which must go through the two machines A and B in the order AB. Processing times are given below: 10M

Job	1	2	3	4	5
Machine A	5	1	9	3	10
Machine B	2	6	7	8	4

Determine a sequence for the five jobs that will minimize the total elapsed time.

Q.4(A) Explain the replacement of items that deteriorate with time. 10M

OR

Q.4(B) The following data is observed in a tea serving counter. The arrival is at one minute interval. 10M

No. of persons arriving	0	1	2	3	4	5
Probability	0.05	0.15	0.40	0.20	0.15	0.05

The service is taken as 2 persons for one minute interval. Using the following random numbers, simulate for 15 minutes period. 09, 54, 94, 01, 80, 73, 20, 26, 90, 79, 25, 48, 99, 25, 89. Also calculate the average number of persons waiting in the queue per minute.

Q.5(A) Assuming that the expected times are normally distributed, find the probability of meeting the scheduled time as given for the network. 10M

Activity	Days		
	Optimistic	Most likely	Perssimistic
(i-j)	a	m	b
1-2	2	5	14
1-3	9	12	15
2-4	5	14	17
3-4	2	5	12
4-5	6	6	12
3-5	8	17	20

Scheduled project completing time is 30 days.

OR

Q.5(B) i) Explain the terms: 10M

a) Critical path b) Total float c) Free float

d) Interference float e) Independent float.

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 16MBA112

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Y) I Year II Semester (R16) Supplementary End Semester Examinations – Dec 2018

(Regulations: R16)

BUSINESS RESEARCH METHODS

Time: 3Hrs **Max Marks: 50**

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 brief notes on (i) Concepts & Constructs, (ii) Theory & models	10M
	OR	
Q.1(B)	Write brief notes on (i) Induction & deduction, (ii) Propositions & Hypothesis	10M
Q.2(A)	Discuss the role of business research in managerial decisions.	10M
	OR	
Q.2(B)	What are the technologies used in business research? Explain.	10M
Q.3(A)	Describe the various steps involved in a research process.	10M
	OR	
Q.3(B)	Write short notes on (i) Ranking scales, (ii) Rating scales	10M
Q.4(A)	Explain the guidelines for the construction of questionnaire.	10M
	OR	
Q.4(B)	What are the sources of data? Explain the primary sources of data.	10M
Q.5(A)	Write about the descriptive and inferential analysis.	10M
	OR	
Q.5(B)	What is research report? Design the layout of a research report.	10M

***** END*****