

Hall Ticket No:

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Question Paper Code: 16MCA111

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

MCA (2Yrs) I Year II Semester (R16) Regular End Semester Examinations – June 2017
(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) i. Explain the purpose of final keyword with example program. 5M
ii. Explain different types of operators in java. 5M
OR
- Q.1(B) i. Define constructor? Explain constructor with example. 5M
ii. Explain how to pass object as parameter in java. 5M
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- Q.2(A) What is inheritance? Explain different types of inheritance in java with examples. 10M
OR
- Q.2(B) What is exception in java? Explain the purpose of try, throw, and catch with examples. 10M
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- Q.3(A) i. What is thread? Explain the life cycle of the thread. 4M
ii. How can we create Multiple Threads in Java? Explain with an example. 6M
OR
- Q.3(B) What is meant by Auto Boxing? Discuss in detail. 10M
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- Q.4(A) i. Explain about DataInputStream, DataOutputStream classes. 5M
ii. Explain about Collection Classes. 5M
OR
- Q.4(B) i. What is meant by URL? Explain about URL connections. 6M
ii. Write Short notes on Datagrams. 4M
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- Q.5(A) i. What is Event Handling? Mention some event handling mechanisms. 5M
ii. Write short notes on JLabel, JImageIcon and JRadioButton. 5M
OR
- Q.5(B) i. Explain about Event Sources. 5M
ii. Explain about Event Listener Interfaces. 5M

*** END***

Hall Ticket No:

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Question Paper Code: 16MCA401

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Yrs) I Year II Semester (R16) Regular End Semester Examinations – June 2017

(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) With the help of HTML Tags prepare a web site for town information. 10M

OR

Q.1(B) Write about Data Types in PHP. 10M
Explain in detail about arrays.

Q.2(A) What is a function? Explain various types of functions. 10M

OR

Q.2(B) Create a website template with the help of functions. 10M

Q.3(A) Explain the mechanism of Exception Handling. 10M

OR

Q.3(B) Write about inheritance in PHP. 10M

Q.4(A) Differentiate RDBMS and DBMS. 10M
Write about primary key and secondary key.

OR

Q.4(B) Explain the process of query in PHP. 10M

Q.5(A) Define various steps to connect database through PHP. 10M

OR

Q.5(B) Construct a web site for online shopping. 10M

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Hall Ticket No:

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Question Paper Code: 16MCA407

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Yrs) I Year II Semester (R16) Regular End Semester Examinations – June 2017

(Regulations: R16)

NETWORK SECURITY ESSENTIALS & 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) i. Classify and explain different type of attacks. 10M
ii. Using the keyword "ENCRYPT" create play fair matrix and obtain cipher text for the message "MATCHFIXED". Also write the rules used.

OR

- Q.1(B) With a neat block diagram, discuss the functioning of network security model. List four basic tasks designing security model. 10M

- Q.2(A) i. In RSA algorithm system it is given that $p=3$, $q=11$, $e=7$ and $M=5$. Find the cipher text 'C' and decrypt 'C' to get plain text M. 10M
ii. Explain Diffie-Hellman key exchange algorithm with example.

OR

- Q.2(B) Explain the signing and verifying functions of digital signature algorithm(DSA) 10M

- Q.3(A) Explain the password selection strategies. 10M

OR

- Q.3(B) Explain the concept of Session Key Establishment in detail in Cryptography 10M

- Q.4(A) With a neat sketch explain overview of Message Exchanges in Kerberos version 5. 10M

OR

- Q.4(B) Write and explain TLS functions and alert codes of Transport Layer Security 10M

- Q.5(A) Briefly explain different types of protocols for secure communication. 10M

OR

- Q.5(B) i) What are the content types provided by S/MIME? Explain. 10M
ii) How is an enveloped data MIME entity prepared? Write the steps.

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MCA (2Yrs) I Year II Semester (R16) Regular End Semester Examinations – June 2017
(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) A firm makes chairs and tables. The contributions for each product as calculated by accounting department are Rs. 20/- per chair and Rs. 30/- per table. Both products are processed on three machines M_1 , M_2 and M_3 . The time required for each product and total time available per week on each machine is as follows. 10M

	Chair	Table	Available time in Hours.
M_1	5	3	36
M_2	5	2	50
M_3	2	6	60

How should the manufacturer schedule his production in order to maximize contribution? (Use Simplex Method)

OR

- Q.1(B) Solve the following LPP by Big-M method. 10M
Minimize $Z = 5X_1 + 2X_2 + 10X_3$
Subject to $X_1 - X_3 \leq 10$
 $X_2 - X_3 \geq 10$
 $X_1 + X_2 + X_3 \leq 10$
and $X_1, X_2, X_3 \geq 0$.

- Q.2(A) A product is produced by four factories A, B, C and D. The unit production costs in them are Rs.2/-, Rs.3/-, Rs.1/- and Rs.5/- respectively. Their production capacities are 50, 70, 30 and 50 respectively. These factories supply the product to four stores, demand of which are 25, 35, 105 and 20 units respectively. Unit transport cost in rupees from factory to each store is given in the table. 10M

		Stores			
		1	2	3	4
Factories	A	2	4	6	11
	B	10	8	7	5
	C	13	3	9	12
	D	4	6	8	3

OR

- Q.2(B) A company has 6 jobs to be produced by 6 machines. The following table gives the return in rupees when the i^{th} job is assigned to j^{th} machine. How the jobs should be assigned to the machines so as to maximize the return. 10M

		Jobs					
		A	B	C	D	E	F
Machines	1	9	22	58	11	19	27
	2	43	78	72	50	63	48
	3	41	28	91	37	45	33
	4	74	42	27	49	39	32
	5	36	11	57	22	25	18
	6	13	56	53	31	17	28

- Q.3(A) Solve following 3X5 game using dominance rule. 10M

		Player A				
		I	II	III	IV	V
Player B	I	6	15	30	21	6
	II	3	3	6	6	4
	III	12	12	24	36	3

OR

- Q.3(B) Five jobs are performed first on machine X and then on machine Y. The time taken in hours by each job on each machine is given below. 10M

Job	A	B	C	D	E
Machine X	12	4	20	14	22
Machine Y	6	14	16	18	10

Determine the optimum sequence of the jobs that minimizes the total elapsed time to complete the jobs.

- Q.4(A) (i) What are the applications of Simulation? 10M
(ii) What are the advantages and disadvantages of simulation languages?

OR

- Q.4(B) A decision has to be made for group replacement verses individual replacement policy for 500 fluorescent tubes of a particular make in the university campus. Failure rate for the tubes were recorded as under: 10M

End of month	1	2	3	4	5	6
Prob. Of failure	0.11	0.30	0.25	0.20	0.10	0.04
	P_1	P_2	P_3	P_4	P_5	P_6

Cost of replacing an individual tube is Rs. 55 and when replaced as group it is Rs.35/_. Find out whether group replacement policy is economical or not. If economical at the end of which month should the tubes be replaced as a group?

- Q.5(A) On the average 96 patients need service of emergency clinic. Each patient requires 10 minutes time for treatment. The facility can handle only one patient at a time and it costs Rs. 100/- per patient. Each minute of decrease in this average time would cost the clinic Rs. 10/- per patient treated. How much would have to be budgeted by the clinic to decrease the average size of the queue from $4/3$ to $1/2$ patient. 10M

OR

Q.5(B) The following table gives the activities in a construction project and other related information. 10M

Activity	Optimistic time (Days)	Most likely time (Days)	Pessimistic time (Days)
1-2	20	30	46
1-3	9	12	21
2-3	3	5	7
2-4	2	3	4
3-4	1	2	3
4-5	12	18	24

- (i) Draw a PERT diagram
- (ii) Calculate total project duration
- (iii) Mark critical path
- (iv) Find the probability that the project will be completed in 50 days.

*** END***

Hall Ticket No:

Question Paper Code: 14MBA112

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA (2Yrs) I Year II Semester (R16) Regular End Semester Examinations –June2017

(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) What is meant by business research? Why is business research needed? Explain. 10M

OR

Q.1(B) How do prepositions and hypothesis differ? Explain with examples. 10M

Q.2(A) What are the various information needs of the business? Explain. 10M

OR

Q.2(B) Elaborate the role of business research in management with suitable examples. 10M

Q.3(A) What do you mean by research problem? What are the components associated with it? 10M

OR

Q.3(B) What is meant by a good research design? What are its features? 10M

Q.4(A) What do you mean by primary data? What are the different methods of collecting such data? 10M

OR

Q.4(B) What are the various limitations of questionnaire? Explain. 10M

Q.5(A) What do you mean by data analysis? What are its various objectives? 10M

OR

Q.5(B) What is meant by research report? What are its different components? 10M

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