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

(UGC-AUTONOMOUS)

**MCA(2Yrs) II Year I Semester (R18) Regular End Semester Examinations – December 2019**

(Regulations: R18)

**AGILE SOFTWARE DEVELOPMENT PROCESS & DEVOPS**

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 structured and behavioral UML. Discuss Activity diagram and Component diagram with the help of suitable example. 12M

**OR**

Q.1(B) Explain spiral software process model with its advantages and limitations. 12M

Q.2(A) What is Agile development? Explain advantages of agile development and how agile development is different from the traditional software development process. 12M

**OR**

Q.2(B) What do you understand about Product backlog and Sprint backlog? Explain the responsibilities of Product owner in Scrum. 12M

Q.3(A) Write short notes on the following: 12M

- i) CRC
- ii) Pair programming
- iii) User story

**OR**

Q.3(B) Write brief notes on Scrum and XP frameworks of Agile development. 12M

Q.4(A) What is technology value stream? Explain the differences between technology value stream and manufacturing value stream in detail. 12M

**OR**

Q.4(B) What is DevOps? Explain each stage of DevOps in detail. 12M

Q.5(A) Write short notes on the following: 12M

- i) Continual learning
- ii) Telemetry
- iii) Enabling and injecting learning

**OR**

Q.5(B) Write brief notes on Lead time and Process time. Calculate the waiting time if the following details are given: 12M

Lead time: 9 hours.

Processing time: 4 hours.

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

Hall Ticket No:

Question Paper Code: 18MCAP409

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

(UGC-AUTONOMOUS)

**MCA(2Yrs) II Year I Semester (R18) Regular End Semester Examinations – Dec' 2019**

(Regulations: R18)

**ARTIFICIAL INTELLIGENCE**

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 Artificial Intelligence? Explain the Foundations of Artificial Intelligence in detail. 12M

OR

Q.1(B) Comprehend the Breath First Search with it's properties in detail. 12M

Q.2(A) How MINMAX algorithm can be applied in two players game strategy? Explain in detail. 12M

OR

Q.2(B) Explain the Alpha Beta Pruning algorithm in a Decision Tree. 12M

Q.3(A) State the impact of Proportional Logic in Knowledge representation. 12M

OR

Q.3(B) From a standard deck of playing cards, a single card is drawn. The probability that The card is king is  $\frac{4}{52}$ , then calculate posterior probability  $P(\text{King}|\text{Face})$ , which means the drawn face card is a king card. 12M

Q.4(A) Explain General suggestions knowledge acquisition process towards AI. 12M

OR

Q.4(B) Distinguish between Forward Chaining and Backward Chaining in AI. 12M

Q.5(A) List and Explain any two Applications of Expert Systems in Artificial Intelligence. 12M

OR

Q.5(B) Describe the Impact of Ethical Principles for using/creating Artificial Intelligence regarding UNI Global Union. 12M

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# MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MCA(2Yrs) II Year I Semester (R18) Regular End Semester Examinations – Dec' 2019

(Regulations: R18)

## CYBER SECURITY & CYBER FORENSICS

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 mean by Cyber Security? Why Cyber Security is important? 12M

OR

Q.1(B) What is meant by Confidentiality? Explain all confidentiality tools. 12M

Q.2(A) Explain Counting Vulnerabilities 12M

OR

Q.2(B) Write a short note on Salami Attacks, Denial of Service (DoS) Attack and Cyber stalking. 12M

Q.3(A) Explain Cyber security's role in National Security 12M

OR

Q.3(B) Explain Cyber User Issues 12M

Q.4(A) Explain the process of investigating e-mail crimes and violation. 12M

OR

Q.4(B) Explain briefly the RAID architecture and its types with the data acquisition structure. 12M

Q.5(A) Defence Industry Case Study: A defense industry corporation's File Transfer Protocol (FTP) Internet site was compromised by cybercriminals without detection by the company. The cybercriminals placed malicious software (malware) on the Demilitarized Zone (DMZ) computing systems of the corporation. The cybercriminals then used the compromised site to acquire additional "footholds" inside the company and intercept network traffic to include userid and passwords of employees. The corporation security staff eventually identified the compromise when an IT administrator detected employee userid and passwords leaving the company in clear text via an FTP session. 12M

OR

Q.5(B) A company can become informed of an incident in many ways. Perhaps someone sees disturbing data in a log file or an IDS issues an alarm. Companies can even be informed about an incident from an outside party. In this case, an administrator notices TCP traffic on a strange port and immediately calls for incident response and forensics support. 12M

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Hall Ticket No:

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Question Paper Code: 18MCAP413

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

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**MCA(2Yrs) II Year I Semester (R18) Regular End Semester Examinations – Dec' 2019**

(Regulations: R18)

**.NET FRAMEWORK AND C#**

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 meant by Common Language Specification? Explain in detail. 5M  
ii. Explain in detail: Windows Form in C# in detail. 7M

**OR**

- Q.1(B) Explain the Base Classes and Libraries in C# with example. 12M

- Q.2(A) i. Discuss: While, Do..While and for Loop construct in C# with example. 6M  
ii. Explain: If, If..else and switch..case with example in C#. 6M

**OR**

- Q.2(B) i. What is meant by procedure in C#? How the scope of procedures are implemented in C#? Explain with example. 5M  
ii. Explain Exception handling in detail with an example. 7M

- Q.3(A) i. What is inheritance in C#? Mention its types. 3M  
ii. Explain its types with example for each type. 9M

**OR**

- Q.3(B) i. What is polymorphism? Mention its types. 3M  
ii. Write a programming example for function overloading and function overriding. 9M

- Q.4(A) i. Define Thread. What are its types in C#? 3M  
ii. Explain multi-threading in C# with example program. 9M

**OR**

- Q.4(B) Elucidate how network socket programming can be implemented in C# with example. 12M

- Q.5(A) i. What is meant by ADO.Net? What is its functionality? 2M  
ii. Discuss ADO.Net in C# with example. 10M

**OR**

- Q.5(B) i. What is unsafe mode? Explain the Web Form controls in detail in C#. 5M  
ii. Discuss in detail. Graphical Device Interface in C#. 5M

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

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## MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

**MCA(2Yrs) II Year I Semester (R18) Regular End Semester Examinations - Dec'2019**

(Regulations: R18)

### ADVANCED JAVA PROGRAMMING

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 steps involved in java database connectivity with a simple program using Type-IV driver. 12M

OR

Q.1(B) i. Discuss different types of JDBC Drivers and State which two drivers are best suited for Web Based Multi-Tiered Distributed Application. 12M  
ii. Explain the following advanced JDBC data type: BLOB, CLOB.

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Q.2(A) i. List and explain any six methods of HttpServletRequest class. 12M  
ii. Write a servlet program to check whether the session is new or old.

OR

Q.2(B) Write a Java servlet program to accept two parameter from webpage, find the sum of them, display the result in web page, Also give necessary html script to create web page. 12M

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Q.3(A) i. Discuss about JSP error handling and debugging. 12M  
ii. Explain briefly MVC architecture.

OR

Q.3(B) i. Write short notes on JSP Life cycle. 5M  
ii. Discuss briefly about JSP Action tags with an example. 7M

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Q.4(A) i. Differentiate between scriptlets and declarations in a JSP page. 12M  
ii. Write a JSP program which uses <jsp:forward> and <jsp:include> action tags.

OR

Q.4(B) Write a JSP program to read data from a HTML form (Gender data from radio buttons and colours data from checkboxes) and display. 12M

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Q.5(A) Define a Spring? Explain the various steps to create spring application with an example. 12M

OR

Q.5(B) Write short notes on: 6M  
i. IOC Container. 6M  
ii. Dependency Injection.

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

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

**OPERATIONS RESEARCH**

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 the Phases of Operations research methods. 12M

OR

Q.1(B) Use simplex method to solve the following LPP. 12M

*Maximize*  $Z = 15x_1 + 6x_2 + 9x_3 + 2x_4$   
*Subject to*  $2x_1 + x_2 + 5x_3 + 6x_4 \leq 20$   
 $3x_1 + x_2 + 3x_3 + 25x_4 \leq 24$   
 $7x_1 + 7x_4 \leq 70; x_1, x_2, x_3, x_4 \geq 0$

Q.2(A) Fin the optimum solution to the transportation problem by Vogel's approximation method and Modified distribution method. 12M

Sources	Destination			Supply
	x	y	z	
A	2	7	4	50
B	3	3	7	70
C	5	4	1	80
D	1	6	2	140
Demand	70	90	180	340

OR

Q.2(B) Solve the following assignment problem. 12M

Typist	Job			
	P	Q	R	S
A	85	50	30	40
B	90	40	70	45
C	70	60	60	50
D	75	45	35	55

Q.3(A) i) Find the optimum strategies for palyer A and B with game value for the following game: 6M

	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>
A <sub>1</sub>	5	3	8	5
A <sub>2</sub>	-4	-3	12	9
A <sub>3</sub>	8	3	-1	-5
A <sub>4</sub>	3	-1	2	3

6M

ii) solve the following payoff matrix, determine the optimal strategies and the value of game.

	B	
A	5	1
	3	4

OR

Q.3(B) What are the different environments in which decisions are made ? 12M

Q.4(A) i) Explain Monte Carlo method. 6M

ii) Write the applications of simulation. 6M

OR

Q.4(B) The data collected in running a machine, the cost of which is Rs.60000 are given : 12M

Year	1	2	3	4	5
Resale value (Rs)	42000	30000	20400	14400	9650
Cost of spares (Rs)	4000	4270	4880	5700	6800
Cost of labour (Rs)	14000	16000	18000	21000	25000

Determine the optimum period for replacement of the machine.

Q.5(A) Customers arrive at a sales counter manned by a single person according to a Poisson process with a mean rate of 20 per hour. The time required to serve a customer has an exponential distribution with a mean of 100 seconds. Find the average waiting time of a customer. 12M

OR

Q.5(B) A project has the following time schedule : 12M

Activity	1-2	1-3	2-4	3-4	3-5	4-9	5-6	5-7	6-8	7-8	8-9	8-10	9-10
Time in week	4	1	1	1	6	5	4	8	1	2	1	8	7

Construct a PERT network and compute :

- $T_E$  and  $T_L$  for each event,
- Float for each activity, and
- Critical path and its duration.

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Hall Ticket No:

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Course Code: 18MBAP434

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

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**MCA(2Yrs) II Year I Semester (R18) Regular End Semester Examinations – Dec'2019**

(Regulations: R18)

**E-BUSINESS**

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 E-Business? Explain in detail the advantages and disadvantages of E-Business. 12M

OR

Q.1(B) What is E-Business strategy? Explain the considerations to be kept in mind while framing an E-Business strategy. 12M

Q.2(A) What is E-Market? What is traditional market? Write the advantages of E-Market over traditional market. 12M

OR

Q.2(B) What is Electronic payment system? Explain the different types of EPS. 12M

Q.3(A) Write a short notes on:  
i) Middleware  
ii) Remote Procedure Calls 12M

OR

Q.3(B) Explain about Distributed-object middleware. Write its advantages and disadvantages. 12M

Q.4(A) What is a legacy enterprise asset? Explain the strategies for modernizing legacy systems. 12M

OR

Q.4(B) Explain about Enterprise application. What are the key drivers of e-business integration? 12M

Q.5(A) What are web services? What characteristics of web services can be used for e-business applications? 12M

OR

Q.5(B) Explain in detail about security and reliability for e-business. 12M

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



Hall Ticket No:

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Question Paper Code: 18MBAP501

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

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**MCA(2Yrs) II Year I Semester (R18) Regular End Semester Examinations - Dec'2019**

(Regulations: R18)

**MANAGEMENT INFORMATION SYSTEM**

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) Elaborate the contemporary approaches to information systems. 12M

**OR**

Q.1(B) Define management information system and discuss its role in decision-making by top management. 12M

Q.2(A) Explain the key concepts of information system architecture with diagram. 12M

**OR**

Q.2(B) What is information system? Discuss its various types. 12M

Q.3(A) Describe the system development life cycle. 12M

**OR**

Q.3(B) Discuss the steps in software development. 12M

Q.4(A) Explain the features and components of expert system. 12M

**OR**

Q.4(B) Discuss the importance of MIS security and control. 12M

Q.5(A) What are the ethical and social issues connected to information systems? Explain. 12M

**OR**

Q.5(B) Write in detail about the moral dimensions of information system. 12M

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

Hall Ticket No:

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Question Paper Code: 18MBAP513

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

(UGC-AUTONOMOUS)

**MCA(2Yrs) II Year I Semester (R18) Regular End Semester Examinations - Dec'2019**

(Regulations: R18)

**ENTREPRENEURSHIP DEVELOPMENT & PROJECT MANAGEMENT**

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 an entrepreneur. State the main characteristics of an entrepreneur. 12M

**OR**

Q.1(B) Explain any two successful women entrepreneurs in Indian. 12M

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Q.2(A) Explain the role of IDBI in financing small entrepreneurs in India. 12M

**OR**

Q.2(B) What is market analysis? Describe the commonly used methods to estimate the demand for a product. 12M

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Q.3(A) What is a project? How will you classify the projects? Explain. 12M

**OR**

Q.3(B) Discuss the role and responsibilities of project manager. 12M

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Q.4(A) Discuss the features and stages of venture capital financing. 12M

**OR**

Q.4(B) What is agriculture entrepreneurship? Give your suggestions for developing entrepreneurship in agriculture 12M

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Q.5(A) What is the role of network analysis in project planning, scheduling and controlling? Discuss. 12M

**OR**

Q.5(B) What is project implementation? Discuss the problems of project implementation. 12M

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