

-R20

MCA I & III SEM

END EXAMINATION QUESTION PAPERS

SUPPLEMENTARY

OCT. 2025

Subject Code: R20MCA301
MCA - III Semester Supple Examinations, October-2025
MACHINE LEARNING WITH PYTHON
Time: 3 hours
Max Marks: 60

 Question Paper Consists of **Part-A** and **Part-B**.

 Answering the question in **Part-A** is Compulsory & Four Questions should be answered from **Part-B**

All questions carry equal marks of 12.

Q.No.		Questions	KL	CO	M
PART-A					
1	a	Define Target function.	K1	CO1	2
	b	Define direct and indirect experience in learning process	K1	CO1	2
	c	Why do we need Weights and Bias?	K2	CO2	2
	d	What is training error?	K1	CO3	2
	e	Define Roulette wheel method.	K1	CO3	2
	f	Define Gibbs Theorm	K1	CO4	2
PART-B					
2	a	With neat sketch discuss about basic components of learning process.	K3	CO1	6
	b	Explain about key components of learning system.	K2	CO1	6
3	a	Explain well posed learning problems.	K2	CO2	6
	b	Discuss about KNN learning process.	K3	CO2	6
4	a	Explain biological motivation for ANN.	K2	CO3	6
	b	Write about Multi-Layer Feedforward architecture.	K2	CO3	6
5	a	Discuss about Back Propagation.	K3	CO4	6
	b	Explain Termination Criterion for Multi layer networks.	K2	CO4	6
6	a	Explain different Geno type representations.	K2	CO5	6
	b	Write a note on Genetic programming	K3	CO5	6
7	a	Explain Maximum Description Length Principle.	K2	CO6	6
	b	Briefly discuss about EM Algorithm.	K3	CO6	6

KL: Blooms Taxonomy Knowledge Level

CO: Course Outcome

M: Marks



Subject Code: R20MCA302

MCA - III Semester Supple Examinations, October-2025

WEB TECHNOLOGIES

Time: 3 hours

Max Marks: 60

Question Paper Consists of Part-A and Part-B.

Answering the question in Part-A is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

Q.No.		Questions	KL	CO	M
PART-A					
1	a	Explain different types of lists in HTML.	K2	CO1	2
	b	What is the difference between applet and JApplet in Java?	K2	CO1	2
	c	How does session tracking work? Explain.	K2	CO2	2
	d	Write the difference between Servlet and JSP.	K2	CO2	2
	e	List out the advantages of Java Beans.	K2	CO3	2
	f	Explain the differences between JDBC and ODBC.	K2	CO4	2
PART-B					
2	a	Design a HTML form for a Railway Reservation System.	K3	CO1	6
	b	Explain different event handlers in JavaScript with example.	K2	CO1	6
3	a	Write the difference between AWT controls and Swing controls.	K2	CO3	6
	b	Develop a home page using applets and swings.	K3	CO3	6
4	a	Write a Java Program which uses HttpServlet class to accept user request and give response	K2	CO2	6
	b	Create a Servlet that displays the current date and time.	K3	CO4	6
5	a	Develop a JSP to accept user's first name, last name and then welcome the user by name.	K3	CO2	6
	b	Show the detailed Anatomy of a JSP page with an example.	K2	CO2	6
6	a	Illustrate the process of sharing data between JSP pages with an example.	K2	CO4	6
	b	Show the process of Deploying JAVA Beans in a JSP Page.	K2	CO3	6
7	a	How does the JSP provide connectivity to databases? Explain in detail.	K2	CO4	6
	b	Write about java.sql.* package in detail.	K2	CO4	6

KL: Blooms Taxonomy Knowledge Level

CO: Course Outcome M: Marks



Narasaraopeta Engineering College (Autonomous)

Kotappakonda Road, Yellamanda (P.O), Narasaraopet- 522601, Guntur District, AP.

Subject Code: R20MCA303

MCA - III Semester Supple Examinations, October-2025

NETWORK SECURITY AND CRYPTOGRAPHY

Time: 3 hours

Max Marks: 60

Question Paper Consists of **Part-A** and **Part-B**.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from **Part-B**

All questions carry equal marks of 12.

Q.No.		Questions	KL	CO	M
PART-A					
1	a	Define Security Attack	1	1	2
	b	What is authentication	1	2	2
	c	What is digital signature	1	3	2
	d	Define Security association	1	4	2
	e	List the difference between MIME and S/MIME	1	4	2
	f	List the different types of firewalls	1	5	2
PART-B					
2	a	List and explain the security services and mechanisms	2	1	12
3	a	Explain the cipher block modes of operation in detail	2	2	12
4	a	Illustrate the RSA algorithm with example	2	3	6
	b	Explain the X.509 authentication service in detail	2	3	6
5	a	Explain the IP security architecture with neat sketch	2	4	6
	b	Discuss the key management in IP security	2	4	6
6	a	Explain the role of dual signature in SET	2	4	6
	b	Discuss the services of PGP	2	4	6
7	a	Write a short note on a) Intruders b) Viruses c) Trusted systems	2	5	12

KL: Blooms Taxonomy Knowledge Level

CO: Course Outcome M: Marks



Subject Code: R20MCA308

MCA - III Semester Supple Examinations, October-2025**HUMAN RESOURCE MANAGEMENT****Time: 3 hours****Max Marks: 60**

Question Paper Consists of Part-A and Part-B.

Answering the question in Part-A is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

Q.No.		Questions	KL	CO	M
PART-A					
1	a	Briefly explain how HRM is different from personal management.	K3	CO1	2
	b	List out on-the job training methods. Give reasons for their wide use in manufacturing industry.	K1 & K4	CO2	2
	c	Define ergonomics. Write its applications.	K1	CO3	2
	d	Define performance appraisal? Identify latest trends in performance appraisal.	K1	CO4	2
	e	Distinguish between statutory and non-statutory welfare measures.	K4	CO5	2
	f	Identify the types of stress. Suggest stress management strategies.	K1 & K6	CO6	2
PART-B					
2	a	Discuss the recent trends and contemporary challenges of HRM in 21 st century.	K3	CO1	6
	b	Write the functions of HRM? Why is human resource management considered the most important asset in any organization?	K5	CO1	6
3	a	Identify the critical issues of HR planning. Discuss the factors lead to the failure of HR planning in business organisations.	K1 & K3	CO2	6
	b	Identify selection tests? Describe selection process with the help of a flow chart.	K2	CO2	6
4	a	List out eh components of job analysis? Explain the process of job analysis.	K1 & K2	CO3	6
	b	Discuss the contemporary relevance of methods of job evaluation	K3	CO3	6
5	a	Write about the purpose of performance appraisal. Identify the methods and types of performance appraisal.	K1 & K2	CO4	6
	b	Explain various methods used in compensation payment in business organisations.	K3	CO4	6
6	a	Identify the determinants of payment of wages. Critically review the current wage structure followed in business organisations.	K1 & K4	CO5	6
	b	Write about the scope of welfare management. Briefly explain the importance of non-statutory welfare measures in India.	K3	CO5	6
7	a	Analyse the role of trade unions in the future of work in business organisations.	K5	CO6	6
	b	Discuss the effectiveness of industrial dispute resolution mechanism	K4	CO6	6

KL: Blooms Taxonomy Knowledge Level

CO: Course Outcome

M: Marks



Narasaraopeta Engineering College (Autonomous)

Kotappakonda Road, Yellamanda (P.O), Narasaraopet- 522601, Guntur District, AP.

Subject Code: R20MCA101

MCA - I Semester Supple Examinations, October-2025

C PROGRAMMING AND DATA STRUCTURES

Time: 3 hours

Max Marks: 60

Question Paper Consists of **Part-A** and **Part-B**

Answering the question in **Part-A** is Compulsory

Four Questions should be answered from **Part-B**

PART-A

1. (a) Define flowchart and algorithm
- (b) Write the syntax of Do-While
- (c) What is call by reference
- (d) What is the need of self-referential structures
- (e) Define space complexity and time complexity
- (f) Write the equivalent post fix form of the following infix expression: $(A + B) / (C - D)$
[2+2+2+2+2+2]

PART-B

4X 12 = 48

2. (a) Explain the various Data Types available in C-Language. (6 M)
- (b) Write short note on SWITCH statement. Clearly mention the use of *break* statement (6 M)
3. (a) Write a C language program to check whether the given string is palindrome or not (6 M)
- (b) Explain the different string handling functions with appropriate code (6 M)
4. (a) Explain the storage classes with example. (6 M)
- (b) Define Pointer. Illustrate the process of passing array to a function (6 M)
5. (a) Compare and Contrast structures and unions (6 M)
- (b) Explain various File Input and Output operations with the help of a sample C program. (6 M)
6. (a) Briefly discuss the Asymptotic notations used to represent Worst Case and Best case run time complexity of an algorithm. (6 M)
- (b) Explain the binary search algorithm with example (6 M)
7. (a) Define Binary search Tree. Explain various operations to perform on Binary Search trees with examples (6 M)
- (b) What is the primary use of Linked list as compared to an Array. Briefly discuss the merits and demerits of double linked list over single linked lists. (6 M)