R20

MCA III SEM

REGULAR & SUPPLEMENTARY EXAMINATIONS

JAN./FEB. 2025

END EXAMINATION QUESTION PAPERS

Subject Code: R20MCA301

MCA - III Semester Regular & Supple Examinations, January-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	List the Issues with machine learning Concept	K1	CO1	2
	b	Define Radial Bases	K1	CO2	2
	c	Define Neural Networks?	K1	CO2	2
	d	Draw an neat diagram to represent multilayer networks	K3	CO2	2
	e	Define Hypothesis Space search	K1	CO3	2
	f	Define Least squared Error Hypothesis	K1	CO3	2
		PART-B			
2	a	Explain Candidate Eliminations	K4	CO1	6
	b	Illustrate how to designing a learning system	K4	CO1	6
3	a	Implement and construct Decision tree model with a suitable dataset	K3	CO2	12
4	a	Explain Neural Network Representation	K4	CO2	6
	b	Summarizing appropriate problems for Neural Network Learning	K2	CO2	6
5	a	Explain the Back propagation algorithm	K4	CO2	6
	b	Explain face Recognition application using Back propagation	K4	CO2	6
6	a	Explain Genetic Programming	K4	CO2	6
	b	Explain Models of Evaluation and learning	K4	CO3	6
7	a	Explain Naïve Bayes Classifier	K4	CO2	6
	b	Illustrate EM Algorithm	K4	CO2	6

KL: Blooms Taxonomy Knowledge Level   CO: Course Outcome   M:Marks

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Subject Code: R20MCA302

MCA - III Semester Regular & Supple Examinations, January-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	Define CSS.	K2	CO1	2
	b	What is event handler?	K1	CO1	2
	c	What is Applet?	K1	CO2	2
	d	What is session tracking?	K1	CO2	2
	e	What are the advantages of java beans?	K1	CO3	2
	f	Explain JDBC Type3 Driver	K2	CO4	2
		PART-B			
2	a	What are the HTML common tags? List and explain it.	K2	CO1	6
	b	Explain event handlers with example program	K2	CO1	6
3	a	What is the difference between AWT control and Swing Control ? Explain it.	K2	CO1	6
	b	Explain life cycle of an applet with example program.	K2	CO1	6
4	a	Explain the methods present in Servlet interface and write a servlet program by implementing Servlet interface	K2	CO2	6
	b	Write about HttpServlet and methods present in HttpServlet. Write a servlet program by inheriting HttpServlet	K4	CO2	6
5	a	Explain Anatomy of JSP	K2	CO3	6
	b	Differentiate Servlets and JSP	K3	CO3	6
6	a	What are JSP Documents? Explain in detail about scriptlets?	K2	CO3	6
	b	List out the steps that involved creating a new bean. Explain each step in detail.	K3	CO3	6
7	a	Explain about JDBC Driver Types?	K2	CO4	6
	b	How to access a database from JSP page? Explain with example.	K2	CO4	6

KL: Blooms Taxonomy Knowledge Level   CO: Course Outcome   M:Marks

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Subject Code: R20MCA307

MCA - III Semester Regular & Supple Examinations, January-2025
UNIFIED MODELING LANGUAGE

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	What is UML?	K2	CO2	2
	b	Describe about *interfaces*.	K2	CO1	2
	c	What are the design objectives of interaction diagrams?	K1	CO1	2
	d	Distinguish between *action state* and a*ctivity state*.	K1	CO2	2
	e	What is the importance of time and space in Object Oriented Design using UML?	K2	CO2	2
	f	Define component.	K1	CO1	2
		PART-B			
2	a	What are the features of Object Oriented Programming?	K1	CO1	6
	b	Explain behavioral things in UML.	K2	CO2	6
3	a	Explain attributes, operations and responsibilities in a class definition.	K3	CO1	6
	b	Explain association relationship with adornments *name, role, multiplicity* and *aggregation.*	K2	CO3	6
4	a	How do you model Flow of Control by Time Ordering using Sequence Diagram? Illustrate with example.	K4	CO4	12
5	a	Describe the relationship between *actors* and use *cases*.	K2	CO3	4
	b	Draw and explain *use case* diagram for *Credit Card Validation system.*	K3	CO2	8
6	a	Explain two standard stereotypes namely *process* and *threads* that apply to *active classes*. Illustrate with example.	K3	CO3	6
	b	What is state chart diagram? Illustrate with example.	K2	CO2	6
7	a	Explain modelling of physical database using component diagram.	K2	CO2	6
	b	Explain modelling of *client/server* system using deployment diagram.	K2	CO2	6

KL: Blooms Taxonomy Knowledge Level   CO: Course Outcome   M:Marks

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Subject Code: R20MCA303

MCA - III Semester Regular & Supple Examinations, January-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	What is meant by cryptography?	1	1	2
	b	List Cipher block modes of operation.	1	2	2
	c	What is meant by relative prime?	1	3	2
	d	What is Internet key management in IPSec	1	4	2
	e	List out web security threats.	1	5	2
	f	List out different types of firewalls.	1	6	2
		PART-B			
2	a	Briefly explain the security services and mechanisms defined under X800 standard	2	1	6
	b	Differentiate between passive attacks and active attacks	2	1	6
3		What are the various block cipher design principles? Explain how different cryptographic algorithms use Fiestel Cipher Structure?	2	2	12
4	a	Demonstrate the working of RSA algorithm with an example.	3	3	6
	b	Write and explain the digital signature algorithm	2	3	6
5	a	Draw the IP security authentication header and describe the functions of each field	2	4	6
	b	What is transport mode and tunnel mode authentication in IP? Describe how ESP is applied to both these modes	2	4	6
6	a	Explain in detail S/MIME certification processing.	2	5	6
	b	Explain the four protocols defined by Secure Socket Layer	2	5	6
7	a	Write briefly about the signature based Intrusion Detection Systems	2	6	6
	b	Discuss about trusted systems	2	6	6

KL: Blooms Taxonomy Knowledge Level   CO: Course Outcome   M:Marks

Subject Code: R20MCA301

MCA - III Semester Regular & Supple Examinations, January-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	Discuss the Nature of Human Resource Management	K2	CO1	2
	b	Discuss the Recruitment process.	K2	CO2	2
	c	Outline the Job Analysis.	K1	CO3	2
	d	Write a short note on Performance Appraisal	K3	CO4	2
	e	Illustrate the Wage Concepts.	K2	CO5	2
	f	Classify the Grievances	K3	CO6	2
		PART-B			
2	a	Evaluate the Managerial and Operating Functions of Human Resources Management.	K6	CO1	6
	b	Distinguish between Human Resource Management and Personnel Management	K4	CO1	6
3	a	Classify the various Training Methods. Discuss the various Selection tests.	K2	CO2	6
	b	Describe the recent trends in Recruitment Process in India.	K6	CO2	6
4	a	Critically discuss the concept of Job Analysis. Discuss the content of Job Analysis.	K4	CO3	6
	b	Illustratively discuss the various methods of Job Evaluation.	K4	CO3	6
5	a	Elucidate the traditional and modern methods of Performance Appraisal.	K6	CO4	6
	b	Differentiate between Wage Administration and Reward Administration	K4	CO4	6
6	a	Highlight the legal framework of Wages and Salary Administration in India.	K	CO5	6
	b	Summarize the Statutory and Non Statutory Welfare measures.	K6	CO5	6
7	a	Critically evaluate the performance of Trade Unions in India	K4	CO6	6
	b	Illustrate the sources of Stress. Suggests the remedies for stress.	K4	CO6	6

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