H.T.No: 20A91F0634

Course Code: 203MC3T11

ADITYA ENGINEERING COLLEGE (A)

MCA – III Semester End Examinations Regular (AR20) – FEB 2022

(ADTP)

MACHINE LEARNING WITH PYTHON

(Master of Computer Applications)

2022

Time: 3 hours **Max. Marks: 70**

Answer ONE question from each unit
All Questions Carry Equal Marks
All parts of the questions must be answered at one place only

UNIT – I					
1	a	Discuss the Uses of Numpy, Scipy in Python?	K2	CO1	[7M]
	b	Explain about different types of machine learning	K2	CO1	[7M]
		OR			
2	a	What is Machine learning? Explain a Types of Machine learning	K2	CO1	[7M]
	b	Discuss Tiny application of Machine Learning with example?	K1	CO1	[7M]
UNIT – II					
3	a	Explain various types of Supervised learning Techniques with examples?	K2	CO2	[7M]
	b	Discuss about Decision Trees with Example?	K2	CO2	[7M]
		OR			
4	a	Explain about Naive Bayes classifiers Algorithm with example?	K3	CO2	[7M]
	b	Write about Uncertainty Estimates from Classifiers?	K1	CO2	[7M]
UNIT – III					
5	a	Explain about assessing feature importance with Random forest?	K2	CO3	[7M]
	b	Elaborate on how to deal with Missing Data?	K3	CO3	[7M]
		OR			
6	a	Explain how to handle Categorical Data with example?	K3	CO3	[7M]
	b	How to Select Meaningful features? Interpret?	K3	CO3	[7M]
UNIT – IV					
7	a	Explain about Debugging Algorithms with example?	K3	CO4	[7M]
	b	What are the other different Evaluation Metrics? List and Explain?	K2	CO4	[7M]
		OR			
8	a	Explain about Adaptive Boosting?	K2	CO4	[7M]
	b	Discuss about Streamlining workflows with pipelines?	K1	CO4	[7M]
UNIT – V					
9	a	Explain about representing Text data as a Bag of Words and implement Bag of Words to any Dataset with example?	K1	CO5	[7M]
	b	How the Text Data is represented as Stop Words? Explain?	K2	CO5	[7M]
		OR			
10	a	Define LDA? Apply LDA on movie review to find group of words?	K3	CO5	[7M]
	b	Elaborate the Steps how to approach a Machine Learning Problem?	K1	CO5	[7M]

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H.T.No: | A | 7 | 2 | 0 | 9 | F | 0 | 0 | 5 | 3 |

ADITYA ENGINEERING COLLEGE (A)

MCA – III Semester End Examinations Regular (AR20) – FEB 2022

CLOUD COMPUTING

Time: 3 hours **Max. Marks: 70**

Answer ONE question from each unit
All Questions Carry Equal Marks
All parts of the questions must be answered at one place only

UNIT – I					
1	a	Discuss briefly i) Peer-to-peer (P2P) network ii) Computer cluster versus computational grid	K6	CO1	[7M]
	b	Explain multicore and multi-threading technologies	K2	CO1	[7M]
		OR			
2	a	Describe briefly cloud computing models and give example for each model.	K2	CO1	[7M]
	b	Explain service oriented architecture.	K1	CO1	[7M]
UNIT – II					
3	a	Discuss briefly virtualization levels with advantages and shortcomings.	K6	CO2	[7M]
	b	Define OS-level virtualization. Discuss the advantages and disadvantages of OS extensions.	K1	CO2	[7M]
		OR			
4	a	Describe hardware support for virtualization. Explain with an example	K2	CO2	[7M]
	b	Demonstrate live migration steps and performance effects in physical node.	K2	CO2	[7M]
UNIT – III					
5	a	Compare and contrast Centralized versus Distributed Computing	K4	CO3	[6M]
	b	Discuss the IaaS, PaaS, and SaaS cloud service models at different service levels.	K6	CO3	[8M]
		OR			
6	a	Describe the properties of SOA as a form of distributed systems architecture.	K2	CO3	[7M]
	b	Discuss Enterprise Multitier Architecture	K6	CO3	[7M]
UNIT – IV					
7	a	Explain the architecture of Google App Engine.	K2	CO4	[7M]
	b	Discuss Control flow implementation of the MapReduce functionalities in Map workers and Reduce workers	K6	CO4	[7M]
		OR			
8	a	Explain briefly storage models.	K2	CO4	[7M]
	b	Differentiate file systems and database systems	K4	CO4	[7M]
UNIT – V					
9	a	Identify the applications of control theory to task scheduling on a cloud.	K3	CO5	[7M]
	b	Discuss Stability of a Two-Level Resource Allocation Architecture	K6	CO5	[7M]
		OR			
10	a	Demonstrate Cloud Scheduling Subject to Deadlines.	K2	CO6	[7M]
	b	Differentiate Fair Queuing and Start Time Fair Queuing.	K4	CO6	[7M]

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Course Code: **203MC3T14**

ADITYA ENGINEERING COLLEGE (A)

MCA – III Semester End Examinations Regular (AR20) – FEB 2022

CRYPTOGRAPHY AND NETWORK SECURITY

(Master of Computer Applications)

Time: 3 hours **Max. Marks: 70**

Answer ONE question from each unit
All Questions Carry Equal Marks
All parts of the questions must be answered at one place only

UNIT – I					
1	a	Explain different security services.	K2	CO1	[7M]
	b	Define a model of network security.	K1	CO1	[7M]
		OR			
2	a	Explain the data encryption standard in detail.	K2	CO2	[7M]
	b	What is a symmetric key cipher model?	K1	CO2	[7M]
UNIT – II					
3	a	Explain Fermat factorization method.	K2	CO1	[7M]
	b	What is asymmetric key cryptosystem. Explain the general idea behind it.	K2	CO3	[7M]
		OR			
4	a	Explain RSA with an example.	K3	CO3	[7M]
	b	What is elliptic curve cryptosystem?	K1	CO3	[7M]
UNIT – III					
5	a	What is a hash. Discuss the features of a message digest.	K1	CO4	[7M]
	b	What is CBC. How is it used in a Hash.	K1	CO4	[7M]
		OR			
6	a	Discuss the different variants of SHA.	K2	CO4	[7M]
	b	Explain Elgamal digital signature scheme.	K2	CO4	[7M]
UNIT – IV					
7	a	Discuss secret key distribution with confidentiality.	K2	CO4	[7M]
	b	Explain X.509 certificate format.	K2	CO4	[7M]
		OR			
8	a	Discuss remote user authentication using an asymmetric key.	K2	CO4	[7M]
	b	Write about Kerberos version 4.0.	K1	CO4	[7M]
UNIT – V					
9	a	Discuss about Email threats.	K2	CO5	[7M]
	b	Explain about S/MIME.	K2	CO5	[7M]
		OR			
10	a	Explain about applications of IP security.	K2	CO6	[7M]
	b	Write about ESP.	K1	CO6	[7M]

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H.T.No: | 20 | A | 9 | 1 | F | 0 | 0 | 5 | 3 | Course Code: 203MC3T13

ADITYA ENGINEERING COLLEGE (A)

MCA – III Semester End Examinations Regular (AR20) – FEB 2022

WEB TECHNOLOGIES

(Master of Computer Applications)

Time: 3 hours **Max. Marks: 70**

Answer ONE question from each unit
All Questions Carry Equal Marks
All parts of the questions must be answered at one place only

UNIT – I					
1	a	Explain how basic and nested tables are created using HTML.	K2	CO1	[7M]
	b	Develop CSS code that defines five classes of paragraph with different background, color, margins, padding and border style.	K3	CO1	[7M]
		OR			
2	a	Illustrate HTML frame tags with examples.	K2	CO1	[7M]
	b	Demonstrate different ways to insert CSS with examples.	K3	CO1	[7M]
UNIT – II					
3	a	Extend XML Schema to an Employee XML document, which includes the following: i) Employee ID ii) Employee Name iii) Department iv) Job v) Age vi)Salary	K2	CO2	[7M]
	b	Illustrate XSLT to transform the Employee XML document in to HTML table.	K3	CO2	[7M]
		OR			
4	a	Illustrate DTD for your daily schedule.	K2	CO2	[7M]
	b	Explain the creation of namespaces in XML.	K2	CO2	[7M]
UNIT – III					
5	a	Explain the potential advantages of servlets over CGI programs.	K2	CO3	[7M]
	b	Demonstrate the use of cookies in servlets with an example.	K3	CO3	[7M]
		OR			
6	a	Explain Methods of ServletRequest interface.	K2	CO3	[7M]
	b	Build a servlet program to retrieve data from the database.	K3	CO3	[7M]
UNIT – IV					
7	a	Explain about JSP Declarations.	K2	CO4	[7M]
	b	Explain in detail of how to use Java Beans in JSP pages with suitable example.	K2	CO4	[7M]
		OR			
8	a	Demonstrate various implicit objects in JSP.	K2	CO4	[7M]
	b	Explain in detail how to access a database from a JSP.	K2	CO4	[7M]
UNIT – V					
9	a	Develop PHP code to validate the form consisting of a username, password and email fields.	K3	CO5	[7M]
	b	Construct PHP page for inserting data into tables, updating data in the table and selecting data from a table of a MySQL database.	K3	CO5	[7M]
		OR			
10	a	Explain about PHP Variable declaration and initialization of values with various data types	K2	CO5	[7M]
	b	Explain how the result set of MySQL be handled in PHP.	K2	CO5	[7M]

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H.T.No: | 2 | 0 | A | 9 | 1 | F | 0 | 0 | 5 | 3 |

Course Code: 203MC3T12

ADITYA ENGINEERING COLLEGE (A)

MCA – III Semester End Examinations Regular (AR20) – Feb 2022

INTERNET OF THINGS

(Master of Computer Applications)

Time: 3 hours **Max. Marks: 70**

Answer ONE question from each unit
All Questions Carry Equal Marks
All parts of the questions must be answered at one place only

UNIT – I						
1	a	Explain major components of IoT systems	K2	CO1	[8M]
	b	Why do IoT systems have to be self-adapting and self-configuring?	K1	CO1	[6M]
		OR				
2	a	Describe the usage of the term 'the internet of things' in different contexts?	K2	CO1	[5M]
	b	Discuss the features of HTTP AND HTTPS protocols	K2	CO1	[9M]
UNIT – II						
3	a	Discuss the Applications of M2M?	K2	CO2	[6M]
	b	Illustrate IETF six layered modified OSI model for IoT.	K2	CO2	[8M]
		OR				
4	a	Discuss the design principles for IoT/M2M?	K2	CO2	[7M]
	b	Compare machines in M2M and Things in IoT?	K2	CO2	[7M]
UNIT – III						
5	a	Discover the various web communication protocols used in IoT?	K2	CO3	[7M]
	b	Explain the principles of designing the Internet of things?	K2	CO3	[7M]
		OR				
6	a	Discuss Message Communication protocols for Connected Devices?	K2	CO3	[7M]
	b	Explain services offered by Internet Service Providers(ISP)	K2	CO3	[7M]
UNIT – IV						
7	a	What are the different types devices used in data Generation process.	K2	CO4	[7M]
	b	Compare Data acquisition and data validation?	K2	CO4	[7M]
		OR				
8	a	How to organize the data with databases and SQL.	K2	CO4	[7M]
	b	Explain different types of Transaction processing in OLTP.	K2	CO4	[7M]
UNIT – V						
9	a	Discuss sensors and its usage?	K2	CO5	[7M]
	b	Explain web based services on IoT devices.	K2	CO5	[7M]
		OR				
10	a	List out the Cloud Computing Features and Advantages?	K2	CO5	[7M]
	b	Explain RFID technology.	K2	CO5	[7M]

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