(ACET)

20P31F0001

Code No: MC2031/R20

2027

MCA III Semester Regular Examinations, Feb/Mar-2022

MACHINE LEARNING WITH PYTHON

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

Answer any FIVE Questions, One Question From Each Unit
All Questions Carry Equal Marks

UNIT-I

1.	a	What are different applications of Python? Give examples.	7M
	b	Write in detail about Using Python Packages.	7M
		OR	
2.	a	List the basic design issues of machine learning.	7M
	b	Which disciplines have their influence on machine learning? Explain with examples.	7M
		UNIT-II	
3.	a	Explain the features of Bayesian learning methods.	7M
	b	Contrast the hypothesis space search in ID3 and candidate elimination algorithm.	7M
		OR	
4.	a	Explain how Support Vector Machine can be used for classification of linearly separable data.	7M
	b	Discuss the issues involved in decision tree learning.	7M
		UNIT-III	
5.	a	Compare Feature Extraction and Feature Selection techniques. Explain how dimensionality can be reduced using subset selection procedure.	7M
	b	Discuss about assessing feature importance with random forests.	7M
		OR	
6.	a	Discuss the limitations of PCA and explain how LDA can help on this?	7M
	b	Discuss how to use the PCA class implemented in scikit-learn.	7M
		UNIT-IV	
7.	a	Explain about the holdout method.	7M
	b	Explain about AdaBoost technique? Write down the AdaBoost algorithm.	7M
		OR	
8.	a	How can we perform nested cross-validation in scikit-learn?	7M
	b	How to implement a simple ensemble classifier for majority voting in Python?	7M
		UNIT-V	
9.	a	Discuss about Collaborative Filtering.	7M
	b	How to transform words into feature vectors? Explain.	7M
		OR	
10.	a	Discuss briefly about Rescaling the Data with Tf-Idf.	7M
	b	Discuss about training a logistic regression model to classify the movie reviews into positive and negative reviews.	7M

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Code No: MC2033/R20

MCA III Semester Regular Examinations, Feb/Mar-2022

WEB TECHNOLOGIES

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

Answer any FIVE Questions One Question From Each Unit
All Questions Carry Equal Marks

UNIT-I

1.	a	Write about History of HTML.	7M
	b	Write about the following a)unorder lists b)ordered lists	7M

OR

2.	a	Explain the frames and table tags of HTML with suitable example	7M
	b	Explain the purpose of and tags with examples	7M

UNIT-II

3.	a	Define XML schema. Explain the creation of XML Schema with example.	7M
	b	Explain the purpose XML parser.	7M

OR

4.	a	Create a XML document to store Employee ID, Employee name, address and date of birth details. Create a DTD to validate the document.	7M
	b	What is DOM? Explain the detailed DOM objects structure.	7M

UNIT-III

5.	a	What is Servlet? Write servlet program for displaying "Welcome to JNTUK".	7M
	b	What is CGI? Explain its features and advantages.	7M

OR

6.	a	With the help of neat diagram, Explain the servlet architecture.	7M
	b	Explain steps to deploy a HTTP servelet.	7M

UNIT-IV

7.	a	Write about the anatomy of JSP page.	7M
	b	How do you pass control from one JSP page to another	7M

OR

8.	a	What is an event? What is the difference between onmouseover and onmouseout?	7M
	b	Explain about session tracking in JSP page.	7M

UNIT-V

9.	a	What are the different ways to create array in PHP? Explain with example. List out any 4 string functions in PHP?	7M
	b	Explain File handling in PHP.	7M

OR

10.	a	With an example explain the casting of data types in PHP	7M
	b	Explain with an example program, how to connect to a MYSQL Server database from a PHP script.	7M

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Code No: MC2032/R20

MCA III Semester Regular Examinations, Feb/Mar-2022

INTERNET OF THINGS

Time: 3 Hours | Max. Marks: 70

Answer any FIVE Questions One Question From Each Unit
All Questions Carry Equal Marks

UNIT-I

1.	a	Explain about the three domains of M2M architecture.	7M
	b	List the Internet-connectivity protocols and describe the features.	7M

OR

2.	a	Write about the features of HTTP and HTTPS Ports	7M
	b	What are the major challenges of Internet of Things (IoT)?	7M

UNIT-II

3.	a	Explain modified OSI Stack for the IoT/M2M Systems.	7M
	b	Draw and Explain ETSI M2M Service Architecture.	7M

OR

4.	a	Explain about various Business Model Patterns in the Internet of Things.	7M
	b	Write about ETSI M2M Domains and its High-level Capabilities.	7M

UNIT-III

5.	a	Describe the functionality of Constrained Application Protocol.	7M
	b	List out comparisons between CoAP-MQ and MQTT features.	7M

OR

6.	a	What are the functions of MQTT broker? Explain its details.	7M
	b	How is a SOAP message structured? Explain.	7M

UNIT-IV

7.	a	Write about Integration and Enterprise Systems.	7M
	b	Describe about Business Model Patterns in the Internet of Things.	7M

OR

8.	a	Discuss in detail about Streaming Analytics Spatial Analytics.	7M
	b	Write about IoT/M2M Data Acquiring and Storage.	7M

UNIT-V

9.	a	Explain about Participatory Sensing.	7M
	b	Describe different Cloud Service Models.	7M

OR

10.	a	List the technological and security issues in the RFIDs in IoT design.	7M
	b	What are the merits and concerns when using cloud services for IoT applications?	7M

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20P31F 500

Code No: MC2034/R20

MCA III Semester Regular Examinations, Feb/Mar-2022

CRYPTOGRAPHY AND NETWORK SECURITY

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

Answer any FIVE Questions One Question From Each Unit
All Questions Carry Equal Marks

UNIT-I

1. a Explain various types of security attacks. 7M
   b Describe the two classes of product ciphers. 7M

OR

2. a What are the components of a modern block cipher? Explain 7M
   b Discuss the analysis of Data Encryption Standard (DES). 7M

UNIT-II

3. a Using Fermat's theorem, find 3^{201} mod 11. 7M
   b Write pseudo code for Pollard p-1 factorization. 7M

OR

4. a Find the values of following Euler totient functions. 6M
   i)$\Phi(13)$ ii) $\Phi(15)$ iii) $\Phi(8)$
   b Explain Miller Rabin primality test algorithm. 8M

UNIT-III

5. a Discuss the hash functions based on block ciphers. 7M
   b Explain Elgamal digital signature scheme. 7M

OR

6. a Discuss the operation of SHA-512. 7M
   b Describe NIST digital signature algorithm. 7M

UNIT-IV

7. a Explain about man-in- the- middle attack. 7M
   b Discuss different ways for distribution of public keys. 7M

OR

8. a Discuss symmetric key distribution using symmetric encryption. 7M
   b Explain remote user-authentication using asymmetric encryption. 7M

UNIT-V

9. a Draw and explain the electronic mail architecture. 7M
   b Draw the ESP header and trailer and list the steps for ESP procedure. 7M

OR

10. a Explain the format of public key ring table. 7M
    b Draw and explain the ISAKMP general header. 7M

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Code No: MC2035C/R20

MCA III Semester Regular Examinations, Feb/Mar-2022

CLOUD COMPUTING

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

Answer any FIVE Questions One Question from Each Unit
All Questions Carry Equal Marks

UNIT-I

1.	a	Discuss in detailed about distributed system models.	7M
	b	Explain the role of Fault Tolerance and System Availability in Distributed Computing System.	7M
		OR	
2.	a	Differentiate between parallel and distributed computing Paradigms.	7M
	b	Discuss about Security And Energy Efficiency.	7M
		UNIT-II	
3.	a	Explain in detail about virtualization of clusters and data centers.	7M
	b	Discuss abut levels of virtualization.	7M
		OR	
4.	a	Discuss the Design Objectives of Computer Clusters.	7M
	b	Explain the differences between full-virtualization and para-virtualization and give one example of VMM (virtual machine monitor), that was built in each of the two categories.	7M
		UNIT-III	
5.	a	Elaborate the term "Software as a Service" related to cloud computing.	7M
	b	Describe the five essential characteristics of Cloud Computing.	7M
		OR	
6.	a	What is SOA? Discuss with architecture how two software communicate using SOA.	7M
	b	Explain the Evolution of SaaS.	7M
		UNIT-IV	
7.	a	Write and explain about programming on Amazon AWS and Microsoft Azure.	7M
	b	Discuss about Emerging Cloud Software Environments.	7M
		OR	
8.	a	Discuss about Google File system.	7M
	b	Discuss about Amazon Simple Storage Service.	7M
		UNIT-V	
9.	a	Discuss about Applications of control theory to task scheduling on a cloud.	7M
	b	Discuss about Fair queuing algorithm.	7M
		OR	
10.	a	Discuss about Resource bundling.	7M
	b	Explain the oobjective of the borrowed virtual time (BVT) algorithm in detail.	7M

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