

Course Code: B20AD3101					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. I Semester MODEL QUESTION PAPER					
FOUNDATION OF DATA SCIENCE					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max. Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Explain Linear algebra with Numpy?	1	2	7
	b).	Build in detail about Data Science process with necessary examples.	1	2	7
OR					
2.	a).	Explain Required steps of data science.	1	2	7
	b).	Explain Arrays and vectorized computation using NumPy with example.	1	2	7
UNIT-II					
3.	a).	How many types of files in data science? Explain each with examples .	2	2	7
	b).	Explain Correlation and covariance with examples.	2	2	7
OR					
4.	a).	Explain Data loading, Storage using pandas.	2	2	7
	b).	Make a pandas Data Frame with two-dimensional list using python.	2	3	7
UNIT-III					
5.	a).	Is regular expressions important for data science? What are the applications of regular expression?	3	2	7
	b).	Explain about Data Wrangling and uses of data wrangling.	3	2	7
OR					
6.	a).	What is data Cleaning and preparation? Explain different types of data cleaning techniques with examples.	3	2	7
	b).	Apply a methods join, Combine and reshape - Hierarchical indexing using student sample data.	3	3	7
UNIT-IV					
7.	a).	Define Data Visualization what are the benefits of data visualization.	4	2	7
	b).	Explain Data aggregation and Group operations Group By mechanics.	4	2	7

		OR			
8.	a).	Apply Different types of plots with examples .	4	3	7
	b).	How can we visualize more than three dimensions of data in a single chart?	4	3	7
		UNIT-V			
9.	a).	What is resampling and describe the methods of Down sampling, up sampling with examples	5	3	7
	b).	Describe the various tools used to represent the time data types	5	3	7
		OR			
10.	a).	Describe various applications of time series data and list out the basics of time series data	5	3	7
	b).	Explain the various methods for Moving window functions	5	3	7

CO-COURSE OUTCOME

KL-KNOWLEDGE LEVEL

M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3102					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. I Semester MODEL QUESTION PAPER					
COMPUTER NETWORKS					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max.Marks:70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT -1					
1	a).	Explain different LAN topologies?	1	2	7
	b).	Explain TCP/IP Protocol suite.	1	2	7
OR					
2	a).	Describe Guided Media in physical layer	1	2	7
	b).	Compare and contrast OSI and TCP/IP layered protocol architecture	1	3	7
UNIT -II					
3	a).	Describe selective repeat protocol.	2	2	7
	b).	Explain simplex protocol for noisy channel.	2	2	7
OR					
4	a).	Explain the following error detection techniques i) Checksum ii) CRC	2	2	7
	b).	Explain HDLC protocol transfer modes.	2	2	7
UNIT -III					
5	a).	Explain how CSMA works and modified to detect collision.	3	2	7
	b).	Explain methods for Controlled Access on a network.	3	2	7
OR					
6	a).	Explain 802.15 architecture and layers.	3	2	7
	b).	Define Multiple Access? Explain FDMA and CDMA.	3	2	7
UNIT -IV					
7	a).	Explain about IPV6 header format with neat sketch.	4	2	7
	b).	With an example explain the distance vector routing algorithms used in computer network	4	2	7
OR					
8	a).	Explain the operation of DHCP	4	2	7
	b).	Explain different classes in class full addressing and write range of	4	3	7

		IP address for each class.			
		UNIT -V			
9	a).	Explain TCP header with a neat diagram.	5	3	7
	b).	Explain congestion control in TCP.	5	3	7
		OR			
10	a).	Explain HTTP transaction.	5	2	7
	b).	Explain need for DNS? How DNS resolver performs resolution.	5	2	7

CO-COURSE OUTCOME

KL-KNOWLEDGE LEVEL

M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3103					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. I Semester MODEL QUESTION PAPER					
DATA BASE MANAGEMENT SYSTEMS					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max. Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Explain the problems associated with conventional file processing system.	1	2	8
	b).	Explain different levels of abstraction offered by DBMS with an example.	1	2	6
OR					
2.	a).	Draw a neat diagram of the structure of DBMS and explain the functions of various components of DBMS.	1	2	8
	b).	Explain about Centralized and Client-Server architectures of DBMS.	1	2	6
UNIT-II					
3.	a).	A University has several departments. Each department has several instructors and one among them is the HOD. Each instructor teaches multiple courses. Each department offers several courses. A student can enrol for several courses offered by different departments. Considering above description, develop a complete E-R diagram for the University database.	2	3	7
	b).	Explain briefly about any four Integrity Constraints with suitable examples.	2	2	7
OR					
4.	a).	There are different libraries in a University. Each library maintains different books that are issued for loan. A book is uniquely identified in conjunction with its library. A student can subscribe to any one library, but, can take books from any library. Considering above description, develop a complete E-R diagram for the University database.	2	3	7
	b).	Consider an E-R diagram of a binary relationship of your choice with key and participation constraints. Translate the E-R diagram into a collection of suitable relations.	2	3	7
UNIT-III					
5.	a).	Consider the following schema. Students (<u>Std_ID</u> : String, S_Name: String, Dept: String, GPA: Real) Courses (<u>C_ID</u> : String, C_Name: String, Credits: Integer, Offered_by_Dept: String) Enrolled (<u>Std_ID</u> : String, <u>C_ID</u> :String, Grade: Character). Answer the following queries	3	3	8

		in SQL. i) For each course offered by CSE department, find the total number of enrolments. ii) Find the sum of credits of all courses enrolled by student "S01". iii) Find the courses that have at least 10 enrolments. iv) Applying outer join, find the count of enrolments for each course offered.			
	b).	Explain with a suitable example, the way nested and correlated queries are evaluated.	3	3	6
		OR			
6.	a).	Consider the following schema. Students (<u>Std ID</u> : String, S_Name: String, Dept: String, GPA: Real) Courses (<u>C ID</u> : String, C_Name: String, Credits: Integer, Offered_by_Dept: String) Enrolled (<u>Std ID</u> : String, <u>C ID</u> :String, Grade: Character). Answer the following queries in SQL. i) Write a correlated query to find IDs and names of students who are enrolled for course "C01". ii) Create a view named "GoodGrades" which contain Std_ID, S_Name and C_ID of enrolments for which the grade is "A". iii) Display Students table in the descending order of names of students. iv) Find the IDs and names of students who enrolled for both the courses "C02" and "C03".	3	3	8
	b).	Explain with suitable examples, natural inner join and all variants of natural outer joins.	3	3	6
		UNIT-IV			
7.	a).	Consider the schema R(A,B,C,D,E,G) and the list of functional dependencies $F = \{A \rightarrow BC, EC \rightarrow D, D \rightarrow A, G \rightarrow E\}$. Determine all candidate keys of R. Find the best normal form that R satisfies.	4	3	8
	b).	Explain with an example, multi-valued dependency and fourth normal form.	4	3	6
		OR			
8.	a).	Find the best normal form satisfied by the relation R(A,B,C,D,E) with set of FDs $F = \{BC \rightarrow D, AC \rightarrow BE, B \rightarrow E\}$ Decompose R into the next higher normal form.	4	3	8
	b).	What do you mean by lossless join decomposition and dependency preserving decomposition? Write down the tests for the same.	4	3	6
		UNIT-V			
9.	a).	Explain briefly ACID properties of a transaction.	5	2	6
	b).	Explain recovery related structures maintained during normal execution and explain the three phases of ARIES recovery algorithm.	5	2	8
		OR			
10.	a).	Explain search and insert operations on a B+ tree index structure.	5	2	7
	b).	Explain with an example, hash based indexing.	5	2	7

CO-COURSE OUTCOME KL-KNOWLEDGE LEVEL M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks

III B.Tech. I Semester MODEL QUESTION PAPER

SOFTWARE ENGINEERING

Artificial Intelligence & Data Science

Time: 3 Hrs.

Max. Marks :70

Answer ONE Question from EACH UNIT

All questions carry equal marks

Assume suitable data if necessary

			CO	KL	M
UNIT - I					
1.	a)	Illustrate spiral model with neat diagram.	1	3	7
	b)	Illustrate unified process.	1	3	7
OR					
2.	a)	Categorize process assessment and improvement.	1	3	7
	b)	Interpret software myths.	1	3	7
UNIT - II					
3.	a)	Illustrate Extreme Programming (XP).	2	3	7
	b)	Interpret any 3 agile process models.	2	3	7
OR					
4.	a)	Classify the characteristics of negotiating requirements and validating requirements.	2	3	7
	b)	Interpret a tool set for the agile process	2	3	7
UNIT - III					
5.	a)	Identify the relationships in class diagram for online shopping .	3	4	7
	b)	Design the complete use case model for the following system Vehicle Insurance Renewal System	3	4	7
OR					
6.	a)	Interpret requirements modeling strategies.	3	3	7
	b)	Illustrate interaction diagrams with an example.	3	3	7
UNIT - IV					
7.	a)	Categorize the concepts of design.	4	3	7
	b)	Interpret design within the Context of Software Engineering	4	3	7
OR					
8.	a)	Illustrate Architectural Styles.	4	3	7
	b)	Interpret designing class based components.	4	3	7

		UNIT - V			
9.	a)	Categorize Testing Strategies for object oriented software.	5	3	7
	b)	Interpret the art of debugging.	5	3	7
		OR			
10.	a)	Interpret white-box testing and black-box testing with one example.	5	3	7
	b)	Interpret internal and external views of testing.	5	3	7
		CO-COURSE OUTCOME	KL-KNOWLEDGE LEVEL	M-MARKS	

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3105					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. I Semester MODEL QUESTION PAPER					
AUTOMATA THEORY AND COMPILER DESIGN					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max. Marks :70		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT - I					
1	a)	a) Obtain the Regular Expression represented by the following Regular Set: {0, 1, 00, 01, 000, 001, 0000, 0001, ...}.	1	3	7
	b)	Design a DFA that accepts the language over = {a, b} of all strings that contain the sub-string either aa or bb.	1	3	7
OR					
2	a)	Construct a NFA with ϵ equivalent to the regular expression: $10 + (0 + 11)0^*1$	1	3	7
	b)	Explain the procedure for converting NFA with ϵ to DFA	1	2	7
UNIT - II					
3.	a).	If G is a grammar then $S \rightarrow SbS / a$, Show that G is ambiguous	2	3	7
	b)	Design CFG for the language $\{0^n 1^n / n \geq 1\}$	2	3	7
OR					
4.	a).	Construct an LL(1) parsing Table for the following grammar. [5+5] $E \rightarrow E+T/T$ $T \rightarrow T*F/F$ $F \rightarrow (E)/id$	2	2	7
	b)	Construct LALR parsing table for the grammar given below $S \rightarrow CC$ $C \rightarrow cC d$	2	3	7
UNIT - III					
5.	a).	Explain in detail Chomsky hierarchy of languages	2	2	7
	b)	Explain in detail type conversion with suitable examples.	2	2	7
OR					
6.	a).	What role does semantic analysis play in compiler design	2	2	7
	b)	Differentiate L-attributed and S-attributed grammars with suitable	2	2	7

		examples			
		UNIT - IV			
7.	a).	State and explain different code optimization techniques.	4	3	7
	b).	What is DAG? Why DAG is used in the process of compiler construction? Construct the DAG for the following statement $Z = X - Y + X * Y * U - V/W + X + V$	4	3	7
		OR			
8.		Construct the DAG for the following basic block and apply common sub-expression and dead code elimination on it. Assume that a and b are live e as c and e arenon live on exit from the block. $a = b + c$ $b = b - d$ $c = c + d$ $e = b + c$	4	3	14
		UNIT - V			
9.	a).	What is peephole? What peephole optimizations can be performed on code	3	2	7
	b).	Explain the different storage allocation strategies	3	2	7
		OR			
10.	a).	Explain in detail about data flow analysis of flow graphs	3	2	7
	b).	Explain in detail about overloading of functions and operations.	3	2	7
		CO-COURSE OUTCOME	KL-KNOWLEDGE LEVEL	M-MARKS	

NOTE: Questions can be given as A,B splits or as a single Question for 14 marks

Course Code: B20AD3106					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. I Semester MODEL QUESTION PAPER					
DEVOPS					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max. Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Explain the Phases of Software Development Life Cycle	1	2	7
	b).	Explain various principles of agile software development	1	2	7
OR					
2.		Explain the values of agile software development	1	2	14
UNIT-II					
3.	a).	Explain the Architecture and Deployments of DevOps	2	2	7
	b).	Explain the DevOps eco system	2	2	7
OR					
4.		Explain the Orchestration and DevOps delivery pipeline,	2	2	14
UNIT-III					
5.	a).	Explain the Agiling capabilities	3	2	7
	b).	Describe the Technology aspects of DevOps	3	2	7
OR					
6.	a).	Explain the implementation of DevOps	3	2	7
	b).	Illustrate the People aspect and processes in DevOps adoption	3	4	7
UNIT-IV					
7.	a).	Explain Continuous Delivery and Deployment of CI/CD	4	2	7
	b).	Illustate the Benefits of CI/CD	4	4	7
OR					
8.	a).	Explain the Continuous Integration in detail?	4	2	7
	b).	Explain the Metrics to track CICD practices	4	2	7
UNIT-V					
9.	a).	Explain Key factors of DevOps maturity model	5	2	7

	b).	Describe stages of Devops maturity model	5	2	7
		OR			
10.		Describe the DevOps maturity Assessment with example?	5	2	14
		CO-COURSE OUTCOME	KL-KNOWLEDGE LEVEL	M-MARKS	

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3107					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. I Semester MODEL QUESTION PAPER					
INTERNET OF THINGS					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max: Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Illustrate Internet of Things Technology	1	3	7
	b).	Explain various terms in Application Layer Protocols- HTTP, HTTPS, FTP	1	2	7
OR					
2.	a).	Explain the Sources of IoT. Examples OF IoT	1	2	7
	b).	Describe the Design Principles For Connected Devices	1	2	7
UNIT-II					
3.	a).	Explain Device Management Gateway Ease of designing and affordability	2	2	7
	b).	Explain High- level capabilities, Communication Technologies	2	2	7
OR					
4.		Explain Business Processes in the Internet of Things, IoT/M2M systems LAYERS and designs standardizations	2	2	14
UNIT-III					
5.	a).	Explain Design Principles for the Web Connectivity for connected-Devices	3	2	7
	b).	Describe Message Communication protocols for Connected Devices	3	2	7
OR					
6.	a).	Explain Web Communication protocols for Connected Devices	3	2	7
	b).	Illustrate Web Connectivity for connected-Devices	3	3	7
UNIT-IV					
7.	a).	Explain Integration and Enterprise Systems	4	2	7
	b).	Illustate IOT/M2M Data Acquiring and Storage	4	2	7
OR					
8.	a).	Explain Business Models for Business Processes in the Internet Of	4	2	7

		Things			
	b).	Explain Organizing Data, Transactions, Business Processes	4	2	7
		UNIT-V			
9.	a).	Explain Cloud Platform for IoT/M2M	5	2	7
	b).	Describe IOT cloud-based services using the Xively	5	2	7
		OR			
10.	a).	Describe Wireless, Sensor Network Technology, Sensors Technology, Sensing the World.	5	2	7
	b).	Illustrate Radio Frequency Identification	5	3	7

CO-COURSE OUTCOME

KL-KNOWLEDGE LEVEL

M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20HS3201					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				R20	
III B.Tech. II Semester MODEL QUESTION PAPER					
MANAGERIAL ECONOMICS AND FINANCIAL ACCOUNTANCY					
Artificial Intelligence & Data Science					
Time: 3 Hrs.					
Max. Marks: 70 M					
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	Define Managerial Economics and Explain its nature and scope		1	2	14
OR					
2.	What do you mean by Elasticity of demand? Explain in detail about degrees of Price elasticity of Demand?		1	2	14
UNIT-II					
3.	Define Cost & classify the Elements of Cost?		2	2	14
OR					
4.	How do you calculate BEP? What are its Assumptions and Applications?		2	3	14
UNIT-III					
5.	What are Market Structures and explain the features of Perfect Competition?		3	2	14
OR					
6.	Why is pricing significant in the context of business? Describe any four pricing practices?		3	2	14
UNIT-IV					
7.	Describe about the Importance of Accounting and types of accounts		4	2	14
OR					
8.	From the following Trail Balance of Sureshasat December 31, 2013, prepare Trading, Profit and Loss Account for the year ended December 31, 2013 and a Balance Sheet as on that date:		4	3	14
	Dr.(Rs.)	Cr.(Rs.)			
	Purchases of materials	32,000			
	Productive wages	13,000			

	Sales	60,000			
	Salaries	4,000			
	Travelling expenses	1,000			
	Carriage inwards	550			
	Insurance	300			
	Commission	650			
	Rent and rates	1,000			
	Cash in hand	350			
	Cash at bank	5,550			
	Repairs	600			
	Sundry expenses	110			
	Mortgage	6,100			
	Buildings	8,000			
	Machinery	3,000			
	Furniture	1,000			
	Stock on hand(1.1.2013)	11,500			
	Capital	21,310			
	Sundry debtors	9,000			
	Sundry creditors	4,200			
		91,610	91,610		
	Closing stock Rs.12,000				
	UNIT-V				
9.	Explain about capital and the sources available for raising finance		5	2	14
	OR				
10.	Explain about the concept and causes of depreciation. Evaluate the straight-line method and diminishing balance methods.		5	2	14

CO-COURSE OUTCOME KL-KNOWLEDGE LEVEL M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks

Course Code: B20AD3201					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. II Semester MODEL QUESTION PAPER					
MACHINE LEARNING					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max. Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Explain about Types of Machine Learning Systems?	1	2	8
	b).	Illustrate the following: 1) Artificial Intelligence 2) Machine Learning 3) Deep learning	1	3	6
OR					
2.	a).	Differentiate between Supervised and Unsupervised Learning?	1	3	7
	b).	Write about Sampling distribution of an estimator?	1	3	7
UNIT-II					
3.	a).	Discuss about various steps to construct the decision tree model.	2	3	7
	b).	Elaborate Naive Bayes probabilistic model for categorical data with an example?	2	3	7
OR					
4.	a).	Explain types of Regression?	2	3	7
	b).	Differentiate between the One-Versus-One and One-versus-Rest methods for multi class classification using binary classification?	2	3	7
UNIT-III					
5.	a).	Write about Ensemble Learning. Justify bagging with Random Forest algorithm with an example?	3	3	7
	b).	Write about Voting Classifiers?	3	3	7
OR					
6.	a).	Explain how Support Vector Machine can be used for classification of linearly separable data.?	3	3	14
UNIT-IV					
7.	a).	Write about K-Means algorithm with an example?	4	3	7
	b).	Write about Clustering for Semi-Supervised Learning?	4	3	7
OR					

8.	a).	What is meant by Dimensionality reduction? Apply PCA to reduce the dimensionality reduction.	4	3	7
	b).	Explain the concept of learning hidden layer representations	4	2	7
UNIT-V					
9.	a).	Write short notes on Implementation of MLP with Keras.	5	3	14
OR					
10.	a).	Write short notes on Loading and Preprocessing Data with Tensor Flow.	5	3	14

CO-COURSE OUTCOME

KL-KNOWLEDGE LEVEL

M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3202					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. II Semester MODEL QUESTION PAPER					
DATA WAREHOUSING AND DATA MINING					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max. Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Write the difference between OLAP AND OLTP	1	2	7
	b).	Draw the 3-tier data warehouse architecture and explain each component in detail	1	2	7
OR					
2.	a).	Discuss about data Warehouse Implementation steps in detail	1	2	7
	b).	Describe the steps to be performed in KDD in detail	1	2	7
UNIT-II					
3.	a).	Describe the Data Mining Tasks in detail	2	2	7
	b).	Describe the various types of data and list out the methods to measure dissimilarity between binary attributes	2	2	7
OR					
4.	a).	Discuss about various methods of dimensionality reduction	2	2	7
	b).	List out the methods of feature subset selection and feature creation methods	2	3	7
UNIT-III					
5.	a).	Discuss about steps in building a decision tree	3	2	7
	b).	List out various measures for selecting the best split during tree construction	3	2	7
OR					
6.	a).	Discuss about holdout method, random sub sampling methods	3	2	7
	b).	Describe the Naïve Bayes Classifier algorithm	3	3	7
UNIT-IV					
7.		Write A-priori algorithm and describe the methods to improve performance of it.	4	2	14

8.	a).	What is Frequent Item sets? discuss the steps of FP-Growth Algorithm	4	3	7
	b).	Discuss the difference between Frequent pattern and conditional pattern	4	3	7
		OR			
9.	a).	Describe the steps in K-means Algorithm for clustering	5	3	7
	b).	Describe the different data Types for Clustering	5	3	7
		UNIT-V			
10.	a).	Explain Agglomerative Hierarchical Clustering Algorithm with an example	5	3	7
	b).	Explain DBSCAN Algorithm steps in detail.	5	3	7

CO-COURSE OUTCOME

KL-KNOWLEDGE LEVEL

M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3203					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. II Semester MODEL QUESTION PAPER					
DEEP LEARNING					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max. Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Explain the fundamentals of Deep Learning	1	3	7
	b).	Explain the Decision Trees, Random forests, and Gradient Boosting Machines	1	3	7
OR					
2.	a).	Analyze the Four Branches of Machine Learning	1	4	7
	b).	Explain the Evaluating Machine learning Models	1	3	7
UNIT-II					
3.	a).	Explain the difficulties in Human and Machine Language	2	3	7
	b).	Explain the working of Artificial Neural Networks	2	3	7
OR					
4.	a).	Identify the difficulty of Training Deep Networks	2	3	7
	b).	Explain how to improve the Deep Networks.	2	3	7
UNIT-III					
5.	a).	Explain the working of Keras, TensorFlow, Theano, and CNTK.	3	3	7
	b).	Explain about environment setting up Deep Learning Workstation.	3	3	7
OR					
6.	a).	Explain the Binary Classification over the Movie Reviews Classification.	3	3	7
	b).	Explain the Multiclass Classification with Classifying newswires	3	3	7
UNIT-IV					
7.	a).	Explain the importance of Convolutional Layers.	4	3	7
	b).	Explain Multichannel Convolution Operation.	4	3	7
OR					
8.	a).	Explain the RNN and RNN with code	4	3	7
	b).	Explain deep learning with PyTorch and CNN in PyTorch.	4	3	7

		UNIT-V			
9.	a).	Explain the various interactive applications of deep learning.	5	3	7
	b).	Explain Generative Adversarial Networks, Deep Reinforcement Learning.	5	3	7
		OR			
10.	a).	Explain various Autoencoders in Deep Learning.	5	3	7
	b).	Differentiate Boltzmann Machines, Restricted Boltzmann Machines, and Deep Belief Networks.	5	3	7

CO-COURSE OUTCOME

KL-KNOWLEDGE LEVEL

M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3204					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. II Semester MODEL QUESTION PAPER					
SOFTWARE PROJECT MANAGEMENT					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max.Marks :70		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT - I					
1.	a).	Interpret the activities of software project management with an example.	1	3	7
	b).	Interpret few problems associated with software projects.	1	3	7
OR					
2.	a).	Interpret principles of modern software management.	1	3	7
	b).	Interpret pragmatic software cost estimation.	1	3	7
UNIT - II					
3.	a).	Write about Life cycle phases.	2	2	14
OR					
4.	a).	Interpret Management artifacts, Engineering artifacts, and programmatic artifacts.	2	3	14
UNIT - III					
5.	a).	Discuss about “A Management perspective and technical perspective”.	3	2	7
	b).	Interpret Software process workflows.	3	3	7
OR					
6.	a).	Interpret Periodic status assessments.	3	3	7
	b).	Illustrate cost and schedule estimating.	3	3	7
UNIT - IV					
7.	a).	Interpret Line-of-Business Organizations	4	3	7
	b).	Write about Automation Building blocks.	4	2	7
OR					
8.	a).	Briefly explain Management indicators.	4	3	7
	b).	Interpret life cycle expectations.	4	3	7

		UNIT - V			
9.	a).	Interpret Patterns for Adopting Scrum.	5	3	7
	b).	Write about ADAPTING to Scrum.	5	2	7
		OR			
10.	a).	Interpret DevOps eco system.	5	3	7
	b).	Interpret Tool stack implementation	5	3	7
		CO-COURSE OUTCOME	KL-KNOWLEDGE LEVEL	M-MARKS	

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



SRKR

ENGINEERING COLLEGE

AUTONOMOUS

III B.Tech. II Semester MODEL QUESTION PAPER

DISTRIBUTED SYSTEMS

Artificial Intelligence & Data Science

Time: 3 Hrs.

Max. Marks: 70 M

Answer ONE Question from EACH UNIT

All questions carry equal marks

Assume suitable data if necessary

			CO	KL	M
UNIT-I					
1.	a).	What is Distributed system? Explain its characteristics.	1	2	7
	b).	List the Features of distributed systems	1	2	7
OR					
2.	a).	Describe the capabilities and rules for implementation of logical clocks	1	2	7
	b).	Identify and explain the basic properties of scalar time	1	2	7
UNIT-II					
3.	a).	Design FIFO and non-FIFO executions	2	2	7
	b).	Explain the hierarchy of execution classes	2	3	7
OR					
4.	a).	Explain the two possible executions of the snapshot algorithm for money transfer	2	3	7
	b).	Discuss in detail about the distributed algorithm to implement total order and casual order of messages	2	2	7
UNIT-III					
5.	a).	List and explain the following properties to satisfy a mutual exclusion algorithm.	3	3	7
	b).	Analyze in detail about maekawa's quorum-based mutual exclusion algorithm.	3	4	7
OR					
6.	a).	What is deadlock? Explain the models of deadlock.	3	2	7
	b).	Discuss about knapp's classification of distributed deadlock detection algorithm.	3	3	7
UNIT-IV					
7.	a).	What is rollback? and explain the several types of messages for rollback	4	2	7

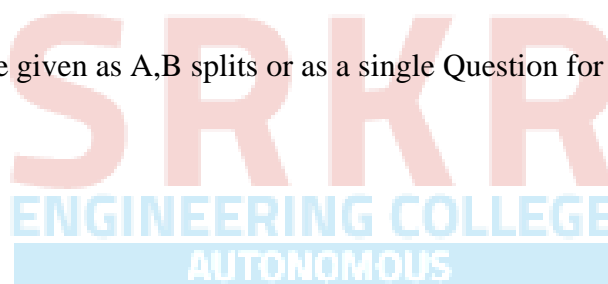
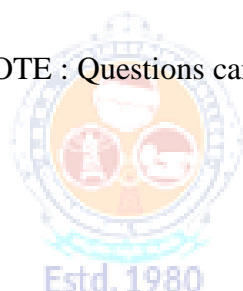
	b).	Describe the issues involved in a failure recovery with the help of a distributed computation	4	2	7
		OR			
8.	a).	Explain recovery rollback algorithm	4	2	7
	b).	Explain agreement in (message-passing) synchronous systems with failure	4	2	7
		UNIT-V			
9.	a).	Point out tapestry P2P overlay network and its routing with an example	5	2	7
	b).	Illustrate the advantages and disadvantages of Distributed Shared Memory	5	3	7
		OR			
10.	a).	Summarize in detail how node insertion and deletion are applied in tapestry	5	3	7
	b).	Point out the main issues in designing a Distributed Shared Memory system	5	3	7

CO-COURSE OUTCOME

KL-KNOWLEDGE LEVEL

M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3206					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				R20	
III B.Tech. II Semester MODEL QUESTION PAPER					
DATA WRANGLING IN DATA SCIENCE					
Artificial Intelligence & Data Science					
Time: 3 Hrs.			Max. Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	What Is Data Wrangling?	1	2	7
	b).	List and explain Data Wrangling tools.	1	3	8
OR					
2.	a).	Write the Data Wrangling Steps?	1	2	8
	b).	What are the Goals of Data Wrangling?	1	2	7
UNIT-II					
3.	a).	Explain about pdf miner.	2	3	7
	b).	Explain the parsing procedure for parsing Excel files.	2	3	8
OR					
4.	a).	Explain the Programmatic Approaches to PDF Parsing.	2	3	7
	b).	List and explain Different Relational Databases and Non Relational Databases.	2	3	8
UNIT-III					
5.	a).	Explain the necessity of cleaning the data.	3	3	7
	b).	Explain about Data Cleaning Process.	3	3	8
OR					
6.	a).	What's the Difference Between Data Wrangling and Data Cleaning?	3	2	8
	b).	List and explain best practices for cleaning data	3	3	7
UNIT-IV					
7.	a).	What is exploratory data analysis?	4	2	7
	b).	Difference Between Data Wrangling and Exploratory Data Analysis.	4	3	8
OR					
8.	a).	Is exploratory data analysis equivalent to data visualization? Justify?	4	3	7
	b).	What are some important features of a good data visualization?	4	2	8

UNIT-V					
9.	a).	What is data scraping?	5	2	7
	b).	What are the steps involved in data scraping?	5	2	8
OR					
10.	a).	What are the benefits of data scraping?	5	2	7
	b).	What role does Python play in data scraping?	5	2	8
CO-COURSE OUTCOME			KL-KNOWLEDGE LEVEL		M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks



Course Code: B20AD3207					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				R20	
III B.Tech. II Semester MODEL QUESTION PAPER					
SNOW FLAKE CLOUD ANALYTICS					
Artificial Intelligence & Data Science					
Time: 3 Hrs.		Max. Marks: 70 M			
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Explain the Snow flake architecture?	1	3	7
	b).	Explain about benefits of cloud partitioning?.	1	3	7
OR					
2.	a).	Explain the steps to create and connect to a snowflake account?.	1	3	7
	b).	Explain Key Cloud Computing Concepts.	1	3	7
UNIT-II					
3.	a).	What are the various Virtual Warehouse Considerations	2	3	7
	b).	Write about CREATE FILE FORMAT, DROP FILE FORMAT in Snow SQL Commands.	2	3	7
OR					
4.	a).	Explain steps in Building a Snowflake Virtual Warehouse	2	3	7
	b).	Write about CREATE , ALTER AND DROP TABLE in Snow SQL Commands.	2	3	7
UNIT-III					
5.	a).	Explain steps involved in Bulk Loading with the Snowflake Web Interface	3	3	7
	b).	Explain Data movement stages.	3	3	7
OR					
6.	a).	List and explain Bulk Loading recommendations.	3	3	7
	b).	What is Continuous Data Loading with Snow pipe.	3	3	7
UNIT-IV					
7.	a).	Explain the responsibilities of Snow flake Administration	4	3	7
	b).	Differentiate between Object security and Data security.	4	3	7
OR					
8.	a).	Explain about Security validations?.	4	3	7

	b).	Explain the terms Failover, and Failback.	4	3	7
		UNIT-V			
9.	a).	How can we achieve Secure Data Sharing, Secure Table Sharing.	5	2	7
	b).	What is optimization? Explain query optimization with example.	5	2	7
		OR			
10.	a).	Explain about supported file formats and data types.	5	2	7
	b).	Explain techniques for Designing Tables for High Performance	5	3	7

CO-COURSE OUTCOME

KL-KNOWLEDGE LEVEL

M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 14 marks

