

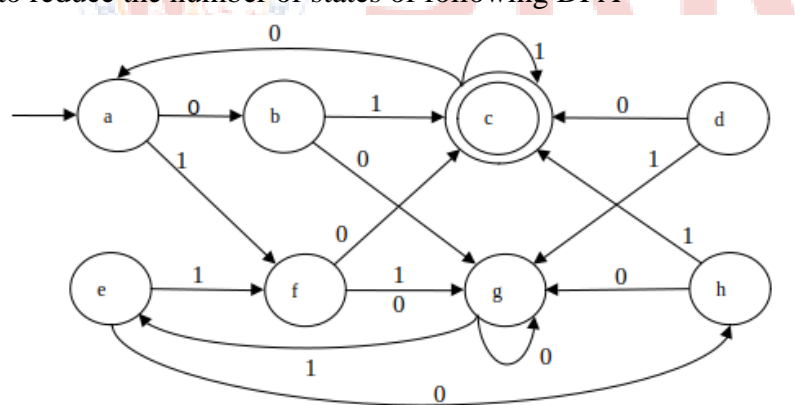
Course Code: B20CS3101					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. I Semester MODEL QUESTION PAPER					
DATA WAREHOUSING AND DATA MINING					
Computer Science & Engineering					
TIME: 3Hrs.			Max.Marks:70M		
Answer ONE Question from EACHUNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a)	Define data mining? Explain the process of Knowledge Discovery (KDD)?	1	2	7
	b)	Explain Major Issues in Data Mining?	1	2	7
OR					
2.	a)	Discuss about basic data objects and attributes types in Data Mining?	1	2	7
	b)	Discuss about estimating data dissimilarity measures on numeric data? Given two objects represented by the tuples(22,1,42,10) and (20,0,36,8). a) Compute Euclidean distance between the objects. b) Compute Manhattan distance between objects. c) Compute Supremum distance between the objects.	1	3	7
UNIT-II					
3.	a)	What is data preprocessing? Explain data cleaning in detail?	2	2	7
	b)	Explain about data transformation strategies? Use these methods to normalize the following group of data: 200,300,400,600,1000 a) min-max normalization by setting min = 0 and max = 1 b) z-score normalization. c) z-score normalization using the mean absolute deviation instead of standard deviation.	2	3	7
OR					
4.	a)	What is data ware housing? Illustrate the multitier data ware house architecture?	2	2	7
	b)	Compare OLTP and OLAP systems? Explain typical OLAP operations on multidimensional data?	2	2	7
UNIT-III					

5.	a)	Discuss about frequent item set mining? A data base has five transactions. Let $\text{min_sup} \geq 60\%$ and $\text{min_conf} \geq 80\%$. Apply Apriori algorithm to find all frequent item sets.	3	3	7																																																																																										
		<table border="1"> <thead> <tr> <th>TID</th> <th>Items bought</th> </tr> </thead> <tbody> <tr> <td>T100</td> <td>{M,O,N,K,E,Y}</td> </tr> <tr> <td>T200</td> <td>{D,O,N,K,E,Y}</td> </tr> <tr> <td>T300</td> <td>{M,A,K,E}</td> </tr> <tr> <td>T400</td> <td>{M,U,C,K,Y}</td> </tr> <tr> <td>T500</td> <td>{C,O,O,K,I,E}</td> </tr> </tbody> </table>				TID	Items bought	T100	{M,O,N,K,E,Y}	T200	{D,O,N,K,E,Y}	T300	{M,A,K,E}	T400	{M,U,C,K,Y}	T500	{C,O,O,K,I,E}																																																																														
		TID				Items bought																																																																																									
		T100				{M,O,N,K,E,Y}																																																																																									
		T200				{D,O,N,K,E,Y}																																																																																									
		T300				{M,A,K,E}																																																																																									
T400	{M,U,C,K,Y}																																																																																														
T500	{C,O,O,K,I,E}																																																																																														
b)	Demonstrate FP Growth algorithm with an example.	3	2	7																																																																																											
OR																																																																																															
6.	a)	Explain mining frequent item sets using vertical data formats?	3	2	7																																																																																										
	b)	What are closed and max patterns? Explain about pattern mining in multi-dimensional and multilevel association?	3	2	7																																																																																										
UNIT-IV																																																																																															
7.	a)	Demonstrate the construction of a Decision tree with an example.	4	2	7																																																																																										
	b)	Explain about rule based classification in detail?	4	2	7																																																																																										
OR																																																																																															
8.	a)	Apply Naïve Bayes algorithm on the following dataset and classify the following tuple: (<i>Outlook=Sunny, Temperature=Cool, Humidity=High, Wind=Strong</i>)	4	3	7																																																																																										
		<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="4">Predictors</th> <th>Response</th> </tr> <tr> <th>Outlook</th> <th>Temperature</th> <th>Humidity</th> <th>Wind</th> <th>Class Play=Yes Play=No</th> </tr> </thead> <tbody> <tr><td>Day1</td><td>Sunny</td><td>Hot</td><td>High</td><td>Weak</td><td>No</td></tr> <tr><td>Day2</td><td>Sunny</td><td>Hot</td><td>High</td><td>Strong</td><td>No</td></tr> <tr><td>Day3</td><td>Overcast</td><td>Hot</td><td>High</td><td>Weak</td><td>Yes</td></tr> <tr><td>Day4</td><td>Rain</td><td>Mild</td><td>High</td><td>Weak</td><td>Yes</td></tr> <tr><td>Day5</td><td>Rain</td><td>Cool</td><td>Normal</td><td>Weak</td><td>Yes</td></tr> <tr><td>Day6</td><td>Rain</td><td>Cool</td><td>Normal</td><td>Strong</td><td>No</td></tr> <tr><td>Day7</td><td>Overcast</td><td>Cool</td><td>Normal</td><td>Strong</td><td>Yes</td></tr> <tr><td>Day8</td><td>Sunny</td><td>Mild</td><td>High</td><td>Weak</td><td>No</td></tr> <tr><td>Day9</td><td>Sunny</td><td>Cool</td><td>Normal</td><td>Weak</td><td>Yes</td></tr> <tr><td>Day10</td><td>Rain</td><td>Mild</td><td>Normal</td><td>Weak</td><td>Yes</td></tr> <tr><td>Day11</td><td>Sunny</td><td>Mild</td><td>Normal</td><td>Strong</td><td>Yes</td></tr> <tr><td>Day12</td><td>Overcast</td><td>Mild</td><td>High</td><td>Strong</td><td>Yes</td></tr> <tr><td>Day13</td><td>Overcast</td><td>Hot</td><td>Normal</td><td>Weak</td><td>Yes</td></tr> <tr><td>Day14</td><td>Rain</td><td>Mild</td><td>High</td><td>Strong</td><td>No</td></tr> </tbody> </table>					Predictors				Response	Outlook	Temperature	Humidity	Wind	Class Play=Yes Play=No	Day1	Sunny	Hot	High	Weak	No	Day2	Sunny	Hot	High	Strong	No	Day3	Overcast	Hot	High	Weak	Yes	Day4	Rain	Mild	High	Weak	Yes	Day5	Rain	Cool	Normal	Weak	Yes	Day6	Rain	Cool	Normal	Strong	No	Day7	Overcast	Cool	Normal	Strong	Yes	Day8	Sunny	Mild	High	Weak	No	Day9	Sunny	Cool	Normal	Weak	Yes	Day10	Rain	Mild	Normal	Weak	Yes	Day11	Sunny	Mild	Normal	Strong	Yes	Day12	Overcast	Mild	High	Strong	Yes	Day13	Overcast	Hot	Normal	Weak	Yes	Day14
	Predictors				Response																																																																																										
	Outlook	Temperature	Humidity	Wind	Class Play=Yes Play=No																																																																																										
Day1	Sunny	Hot	High	Weak	No																																																																																										
Day2	Sunny	Hot	High	Strong	No																																																																																										
Day3	Overcast	Hot	High	Weak	Yes																																																																																										
Day4	Rain	Mild	High	Weak	Yes																																																																																										
Day5	Rain	Cool	Normal	Weak	Yes																																																																																										
Day6	Rain	Cool	Normal	Strong	No																																																																																										
Day7	Overcast	Cool	Normal	Strong	Yes																																																																																										
Day8	Sunny	Mild	High	Weak	No																																																																																										
Day9	Sunny	Cool	Normal	Weak	Yes																																																																																										
Day10	Rain	Mild	Normal	Weak	Yes																																																																																										
Day11	Sunny	Mild	Normal	Strong	Yes																																																																																										
Day12	Overcast	Mild	High	Strong	Yes																																																																																										
Day13	Overcast	Hot	Normal	Weak	Yes																																																																																										
Day14	Rain	Mild	High	Strong	No																																																																																										
	b)	Discuss about Back propagation algorithm for neural network-based Classification of data?	4	2	7																																																																																										
UNIT-V																																																																																															
9.	a)	Consider that the data mining task is to cluster the following seven points $P_1(1,1), P_2(2,2), P_3(3,4), P_4(5,7), P_5(3,5), P_6(4,5)$ and $P_7(4,6)$. The distance function is Euclidean	5	3	7																																																																																										

		distance. Apply K-means algorithm with two iterations to form two clusters by taking the initial cluster centres as points P1 and P4?			
	b)	Compare partitional and hierarchical clustering algorithms?	5	2	7
		OR			
10.	a)	Explain Density based clustering and demonstrate DBSCAN algorithm with the help of an example?	5	2	7
	b)	Explain Grid based clustering and demonstrate STING algorithm with the help of an example?	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: B20CS3102					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				R20	
III B.Tech. I Semester MODEL QUESTION PAPER					
FORMAL LANGUAGES AND AUTOMATA THEORY					
Computer Science & Engineering					
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).	Construct DFA for the following languages i) $L = \{w/w \text{ begins with } 1 \text{ and ends with } 00, w \text{ in } \{0,1\}^*\}$ ii) $L = \{w/w \text{ contains Even number of zeros and Even number of ones, } w \text{ in } \{0,1\}^*\}$	1	3	7
	b).	Illustrate the differences in Mealy and Moore Machines and give an example for Mealy machine and Moore machine.	1	2	7
OR					
2.	a).	Construct NFA for accepting the strings $\{ab, ba\}$ and then convert it to DFA.	1	3	7
	b).	Explain about minimization algorithms and apply minimization algorithm to reduce the number of states of following DFA 	1	3	7
UNIT-II					
3.	a).	Define Regular expression and construct NFA with ϵ moves equivalent to the Regular Expression $(ab + aab)^*$	2	3	7
	b).	Identify the Regular expression and construct the equivalent Finite automata for the following language descriptions : i. set of all strings beginning with 01 and ending with 10 ii. set of all strings having three consecutive zeros or three consecutive ones	2	3	7
OR					
4.	a).	Explain the statement of the Pumping lemma on Regular sets and list the applications of pumping lemma.	2	2	7

	b).	Apply pumping lemma to show the set of all even length palindrome strings is not regular.	2	3	7
UNIT-III					
5.	a).	Construct Context free grammar for $L = \{ WCWR / W \text{ in } (0+1)^* \}$	3	3	7
	b).	Define CNF and convert the following CFG to CNF $S \rightarrow aSa / bSb / a / b$	3	2	7
OR					
6.	a).	Construct Context free grammar for generating all palindrome strings over (0,1)	3	3	7
	b).	Define GNF and Convert the following CFG to GNF $S \rightarrow AA \mid a, A \rightarrow SS \mid b$	3	2	7
UNIT-IV					
7.	a).	Define Pushdown Automata? Explain the acceptance of PDA by empty stack using an example.	4	2	7
	b).	Construct PDA for recognizing the Context free language $L = \{ a^n c b^n / n \geq 1 \}$	4	3	7
OR					
8.	a).	What is ID of PDA? Explain the acceptance of PDA by final state	4	2	7
	b).	Construct a PDA to accept language of odd length palindrome strings	4	3	7
UNIT-V					
9.	a).	Define the Turing Machine and Explain different types of TM?	5	2	7
	b).	Construct a TM for recognizing the language $L = \{ WWR / W \text{ in } (a,b)^* \}$	5	3	7
OR					
10.	a).	Explain about PCP and give an example	5	2	7
	b).	Explain about P and NP classes	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

COMPUTER NETWORKS

Computer Science & Engineering

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).	Define computer network and describe various network topologies.	1	3	7
	b).	Sketch layered Architecture of TCP/IP and discuss functions of each layer.	1	3	7
OR					
2.	a).	Elaborate various Digital-to-Digital data transmission techniques	1	3	7
	b).	Discuss about various Guided media	1	2	7
UNIT-II					
3.	a).	Solve the following. A bit stream 1101011011 is transmitted using the standard CRC method. The generator polynomial is x^4+x+1 . What is the actual bit string transmitted?	2	3	7
	b).	Describe Sliding window flow control Algorithm	2	3	7
OR					
4.	a).	Illustrate various ARQ mechanisms	2	3	7
	b).	Discuss about HDLC protocol.	2	2	7
UNIT-III					
5.	a).	Discuss CSMA/CD protocol	3	2	7
	b).	Compare Fast Ethernet and Gigabit Ethernet	3	3	7
OR					
6.	a).	Demonstrate Architecture of Bluetooth.	3	3	7
	b).	Discuss services at MAC sub layer of IEEE 802.11	3	2	7
UNIT-IV					
7.	a).	Discuss IPV4 addressing and importance of Subnetting.	4	2	7
	b).	Describe Internet Protocol (IP) header.	4	2	7
OR					
8.	a).	Explain Link state Routing Algorithm.	4	3	7
	b).	What is NAT? Explain how address translation is done using NAT?	4	2	7

		UNIT-V			
9.	a).	Define UDP Datagram and Explain the UDP frame format?	5	3	7
	b).	Explain slow start algorithm and briefly discuss Reno TCP?	5	3	7
		OR			
10.	a).	Describe SMTP, POP protocols.	5	2	7
	b).	Discuss about Following Application layers protocols a. DNS b. HTTP	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: B20CS3104					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. I Semester MODEL QUESTION PAPER					
ARTIFICIAL INTELLIGENCE					
Computer Science & Engineering					
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).	Explain about different problem characteristics of AI problem.	1	2	7
	b).	Explain production system in AI.	1	2	7
OR					
2.	a).	Explain about water jug problem and suggest a suitable solution to waterjug problem.	1	2	7
	b).	Explain how to perform Turing test.	1	3	7
UNIT-II					
3.	a).	Explain A* algorithm with an example.	2	2	7
	b).	Apply nearest neighbor heuristic algorithm to solve TSP.	2	3	7
OR					
4.	a).	Explain about Means ends analysis.	2	2	7
	b).	Apply simple hill climbing to solve 8-puzzle problem.	2	3	7
UNIT-III					
5.	a).	Apply unification algorithm to the following : a. Like(john, x) Hate (john, x) b. Like (Marcus, Caesar, john) and Like(x, y) c. Like (john, kate) and Like (x, kate)	3	3	7
	b).	Explain Truth maintenance system in detail.	3	2	7
OR					
6.	a).	Apply the Resolution algorithm to Prove that: • John likes peanuts. From the following facts: a. John likes all kind of food. b. Apple and vegetable are food. c. Anything anyone eats and not killed is food. d. Anil eats peanuts and still alive. e. Harry eats everything that Anil eats.	3	3	7
	b).	Explain about Clause conversion algorithm.	3	2	7

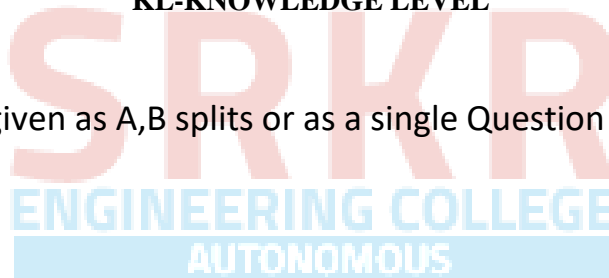
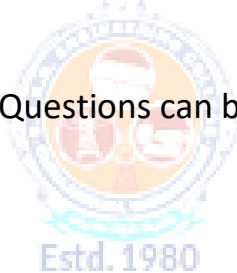
UNIT-IV					
7.	a).	Differentiate Procedural knowledge and Declarative Knowledge.	4	2	7
	b).	Represent the following facts using Partitioned Semantic Nets: a. The dog bite the mail carrier b. Every batter hit every bowler	4	3	7
OR					
8.	a).	Differentiate Forward and Backward Reasoning.	4	3	7
	b).	Represent the following facts in Conceptual Dependency : a. John gave the AI book to marry. b. John punched marry.	4	3	7
UNIT-V					
9.	a).	Explain about goal stack planning.	5	3	7
	b).	Explain different types of expert systems.	5	2	7
OR					
10.	a).	Explain various steps in the natural language processing.	5	2	7
	b).	Explain the architecture of Expert 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: B20CS3105					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				R 20	
III B.Tech. I Semester MODEL QUESTION PAPER					
SOFTWARE PROJECT MANAGEMENT					
Computer Science & Engineering					
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).	Explain in detail various activities of software management	1	2	7
	b).	Explain few problems associated with software projects	1	2	7
OR					
2.	a).	Explain in detail the five basic parameters of the Software Cost Model?	1	2	7
	b).	Explain detail about the effort estimation models.	1	2	7
UNIT-II					
3.	a).	Define Artifact? Write short notes on Engineering Artifacts.	2	2	7
	b).	Illustrate the principles of modern software management	2	3	7
OR					
4.	a).	Explain the typical minor milestones in the lifecycle of iteration	2	2	7
	b).	Explain the first two phases of the life-cycle process.	2	2	7
UNIT-III					
5.	a).	Illustrate in detail different models of COCOMO with an example	3	3	7
	b).	Illustrate periodic status assessments	3	3	7
OR					
6.	a).	Write a short notes on software process workflow & iteration workflow	3	2	7
	b).	Sketch and explain in detail various steps in Project Monitoring Cycle	3	3	7
UNIT-IV					
7.	a).	Discuss Cost monitoring with suitable example.	4	2	7
	b).	List and explain seven categories of resources	4	2	7
OR					
8.	a).	Briefly explain about the earned values	4	2	7
	b).	Explain the risk assessment	4	2	7
UNIT-V					
9.	a).	What is capability maturity model? Explain.	5	2	7
	b).	With neat diagram explain product and process metrics.	5	2	7

		OR			
10.	a).	What is Software Quality Metrics? Explain in detail various Categories of Software Quality Metrics with suitable example each.	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



III B.Tech. I Semester MODEL QUESTION PAPER

DISTRIBUTED SYSTEMS

Computer Science & Engineering

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).	Describe the characteristics of Parallel Systems	1	3	7
	b).	Explain Different Primitives for Distributed Communication	1	2	7
OR					
2.	a).	Distinguish between Message Passing Systems versus Shared Memory Systems.	1	2	7
	b).	Explain different design issues in Distributed Systems.	1	2	7
UNIT-II					
3.	a).	Discuss about different Message ordering Paradigms	2	3	7
	b).	Explain the Chandy–Lamport algorithm for FIFO channels.	2	2	7
OR					
4.	a).	Explain about Group Communication.	2	2	7
	b).	Explain the Issues in recording a global state.	2	3	7
UNIT-III					
5.	a).	Explain about the LAMPORT'S ALGORITHM.	3	2	7
	b).	Explain different Issues in Deadlock Detection.	3	2	7
OR					
6.	a).	Explain the three basic approaches for implementing distributed mutual exclusion	3	2	7
	b).	Explain the SUZUKI-KASAMI'S BROADCAST ALGORITHM	3	2	7
UNIT-IV					
7.	a).	Explain about Communication-induced Check pointing rollback-recovery technique.	4	2	7
	b).	Explain CONSENSUS PROBLEM IN ASYNCHRONOUS SYSTEMS.	4	2	7
OR					
8.	a).	Why is rollback recovery of distributed systems complicated?	4	3	7
	b).	Explain the NONBLOCKING UNIVERSAL ALGORITHM.	4	2	7

		UNIT-V			
9.	a).	Explain the Content Addressable Network (CAN).	5	2	7
	b).	Explain Napster P2P System.	5	2	7
		OR			
10.	a).	Distinguish between Structured vs. unstructured overlays	5	3	7
	b).	Explain Extended Barabasi-Albert Model.	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: B20CS3107					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				R 20	
III B.Tech. I Semester MODEL QUESTION PAPER					
ADVANCED UNIX PROGRAMMING					
Computer Science & Engineering					
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).	Write the Brief History of Unix	1	2	7
	b).	Explain any 7 Basic Command of Unix	1	2	7
OR					
2.	a).	Explain about Unix Components	1	2	7
	b).	Explain about Command Substitution in Unix	1	3	7
UNIT-II					
3.	a).	Explain about The Directory Hierarchy in Unix	2	2	7
	b).	Explain about File-Directories and File Names of Unix	2	3	7
OR					
4.	a).	Explain about File Permissions in Unix	2	2	7
	b).	Explain about Chmod, Chown, Chgrp commands in Unix	2	3	7
UNIT-III					
5.	a).	Explain about Shell Variable in Unix	3	3	7
	b).	Explain about The Grep Family	3	2	7
OR					
6.	a).	Explain about Looping in Shell Programs	3	3	7
	b).	Explain about AWK Pattern Scanning	3	2	7
UNIT-IV					
7.	a).	Write a shell program to find the biggest of three numbers	4	2	7
	b).	Compare Continue and Break Statements in Unix	4	3	7
OR					
8.	a).	Write a shell program to find the given number is prime are not	4	3	7
	b).	Compare Eval and Exec Commands in Unix	4	3	7
UNIT-V					
9.	a).	Compare Parent and Child Processes	5	3	7
	b).	Compare Internal and External Commands	5	3	7

		OR			
10.	a).	Compare Foreground and Background processes	5	3	7
	b).	Compare Stty and Kill Command	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: B20CS3201					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R 20
III B.Tech. II Semester MODEL QUESTION PAPER					
COMPILER DESIGN					
Computer Science & Engineering					
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).	Draw a diagram for phases of a compiler and explain the main functions of each phase along with an example of position = initial + rate * 45.	1	2	7
	b).	Explain about Recognition of tokens.	1	2	7
OR					
2.	a).	Discuss about the Science of Building a Compiler.	1	2	7
	b).	Explain the Role of Lexical analyzer.	1	2	7
UNIT-II					
3.	a).	Explain the role of parser.	2	2	7
	b).	Explain how the Shift-Reduce parser operates by taking an example.	2	2	7
OR					
4.	a).	Describe about model of a table driven predictive parser and algorithm with neat sketch.	2	2	7
	b).	List the differences between Top-down and Bottom-up parsers and eliminate the left recursion in CFG with an example.	2	2	7
UNIT-III					
5.	a).	What is LR parser and construct SLR parsing table using a CFG.	3	2	8
	b).	What is syntax directed translation specification for a more advanced desk calculator. How it is different from translation schemes.	3	2	6
OR					
6.	a).	Explain CLR parser by taking an example.	3	2	8
	b).	Explain about evaluation of SDD at nodes of a parse tree by taking an example.	3	2	6
UNIT-IV					
7.	a).	Translate the expression $a = (b * -c) + (b * -c)$ into Quadruples, triples and indirect triples.	4	3	7
	b).	Explain about data-flow analysis on basic blocks and reaching definitions.	4	2	7

		OR			
8.	a).	Explain about the principle sources of optimization.	4	2	7
	b).	Explain about DAG and construct DAG for $a + a*(b-c) + (b-c)*d$	4	3	7
		UNIT-V			
9.	a).	Generate target code from a sequence of three address statements using a simple code generator algorithm.	5	3	7
	b).	Discuss about peephole optimization techniques.	5	2	7
		OR			
10.	a).	Define Symbol table? Explain about the data structures used for symbol table.	5	2	8
	b).	Explain about Heap Management.	5	2	6
		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: B20CS3202							
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R 20		
III B.Tech. II Semester MODEL QUESTION PAPER							
MACHINE LEARNING							
Computer Science & Engineering							
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 in detail about ingredients of Machine Learning.			1	3	7
	b).	Demonstrate about curse of Dimensionality and Overfitting.			1	2	7
OR							
2.	a).	List out & explain the models in the output of Machine Learning.			1	2	7
	b).	Differentiate between Prior Probability and Conditional Probability.			1	2	7
UNIT-II							
3.	a).	Demonstrate least-squares method using least square regression for classification.			2	3	7
	b).	Demonstrate Nearest Neighbor Classification with suitable example.			2	3	7
OR							
4.	a).	Develop Decision trees for following set of training examples.			2	3	7
		Day	Outlook	Temperature	Humidity	Wind	Play Tennis
		D1	Sunny	Hot	High	Weak	No
		D2	Sunny	Hot	High	Strong	No
		D3	Overcast	Hot	High	Weak	Yes
		D4	Rain	Mild	High	Weak	Yes
		D5	Rain	Cool	Normal	Weak	Yes
		D6	Rain	Cool	Normal	Strong	No
		D7	Overcast	Cool	Normal	Strong	Yes
		D8	Sunny	Mild	High	Weak	No
		D9	Sunny	Cool	Normal	Weak	Yes
		D10	Rain	Mild	Normal	Weak	Yes
		D11	Sunny	Mild	Normal	Strong	Yes
		D12	Overcast	Mild	High	Strong	Yes
		D13	Overcast	Hot	Normal	Weak	Yes
		D14	Rain	Mild	High	Strong	No
	b).	Explain briefly distance based clustering and hierarchical clustering.			2	2	7

		UNIT-III			
5.	a).	Explain Feature construction and selection.	3	2	7
	b).	Compare Bagging and random forests.	3	2	7
		OR			
6.	a).	Explain how thresholding and discretisation is done in feature transformations	3	2	7
	b).	Demonstrate Adaboost and Gradient Boosting.	3	2	7
		UNIT-IV			
7.	a).	Summarize Principle Component Analysis.	4	2	7
	b).	Illustrate LDA	4	2	7
		OR			
8.	a).	Compare Model Evaluation Techniques.	4	2	7
	b).	Demonstrate the Regularization Process	4	2	7
		UNIT-V			
9.	a).	Explain back propagation in Neural Network with suitable Example.	5	2	7
	b).	Explain Markov Decision Process.	5	2	7
		OR			
10.	a).	Compare multilayer perceptrons with respect to linear perceptron.	5	2	7
	b).	Outline the uses of Reinforcement Learning.	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: B20CS3203					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				R 20	
III B.Tech. II Semester MODEL QUESTION PAPER					
CRYPTOGRAPHY AND NETWORK SECURITY					
Computer Science & Engineering					
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).	Differentiate Active attacks and Passive attacks.	1	2	7
	b).	Explain Traditional Block cipher Structure	1	2	7
OR					
2.	a).	What is mono alphabetic cipher? How it differs from Caesar cipher.	1	2	7
	b).	Explain Block cipher design principles.	1	2	7
UNIT-II					
3.	a).	Perform Encryption and Decryption using RSA algorithm for $p=17, q=11, e=7, M=88$.	2	3	7
	b).	Explain the structure of AES algorithm with neat diagram and describe the steps in AES encryption.	2	2	7
OR					
4.	a).	Find the secret key shared between User A and User B using DiffieHellman Key exchange algorithm for the following: $q=97, a=5, \text{ the private keys } X_A = 36, X_B = 58$.	2	3	7
	b).	Explain Block Cipher modes of operations	2	2	7
UNIT-III					
5.	a).	Illustrate digital signature algorithm with neat diagram and explain how to sign and verify using DSS algorithm.	3	3	7
	b).	Differentiate between HMAC and CMAC	3	2	7
OR					
6.	a).	List and explain various steps of SHA in detail with neat diagram.	3	2	7
	b).	Describe Kerberos with steps to grant the ticket.	3	2	7
UNIT-IV					
7.	a).	Describe IP sec architecture with neat diagram.	4	2	7
	b).	Discuss the services provided by PGP with neat diagram.	4	2	7
OR					
8.	a).	Discuss in detail about SSL/TLS.	4	2	7

	b).	Explain Web security requirements	4	2	7
		UNIT-V			
9.	a).	Explain key elements in Blockchain technology.	5	2	7
	b).	Explain about different types of firewalls.	5	2	7
		OR			
10.	a).	Explain how firewalls are configured.	5	2	7
	b).	Describe how Blockchain technology is used in smart contracts	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



SRKR

ENGINEERING COLLEGE

AUTONOMOUS

Course Code: B20CS3204					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
III B.Tech. II Semester MODEL QUESTION PAPER					
MOBILE COMPUTING					
Computer Science & Engineering					
TIME: 3Hrs.			Max.Marks:70M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
Assume suitable data if necessary					
			CO	KL	M
UNIT-I					
1.	a).	Give brief introduction to voice-oriented data communication standards	1	2	7
	b).	Explain the characteristics of Mobile Computing.	1	2	7
OR					
2.	a).	Differentiate guided with unguided transmission- signal propagation frequencies in Mobile Communication.	1	2	7
	b).	Explain the structure of Mobile Computing Application	1	2	7
UNIT-II					
3.	a).	Illustrate 3G communication standards.	2	2	7
	b).	Explain the functional Architecture of GSM system with a neat diagram.	2	2	7
OR					
4.	a).	Discuss about the mobile services and data services in GSM.	2	3	7
	b).	Compare 4G with 5G communication.	2	3	7
UNIT-III					
5.	a).	List and explain the applications of ad-hoc networks.	3	2	7
	b).	What is MANET? What are the characteristics of MANET?	3	2	7
OR					
6.	a).	Explain various improvements in TCP performance with diagram	3	3	7
	b).	Explain the agent discovery process in Mobile IP	3	2	7
UNIT-IV					
7.	a).	Explain usage models for synchronization in mobile application.	4	2	7
	b).	Briefly discuss about various types of data synchronization in mobile computing systems.	4	2	7
OR					
8.	a).	Classify the rules that need to be applied for conflict resolution.	4	2	7
	b).	Explain domain-dependent specific rules for data synchronization	4	2	7
UNIT-V					

9.	a).	Explain in detail about wireless datagram protocol	5	2	7
	b).	Demonstrate wireless transport layer security (WTLS).	5	2	7
		OR			
10.	a).	Write a short note on wireless LAN (WLAN).	5	2	7
	b).	Explain the architecture of WAP and its optimal support.	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. II Semester MODEL QUESTION PAPER

BIG DATA ANALYTICS

Computer Science & Engineering

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).	Define Bigdata? Describe the main features of a big data in detail.	1	2	7
	b).	Explain in detail about Nature of Data and its applications.	1	2	7
OR					
2.	a).	List the main characteristics of Big Data.	1	2	7
	b).	Explain in detail about Storage Considerations in Big Data.	1	2	7
UNIT-II					
3.	a).	Describe how would you stream data model architecture with suitable block diagram?	2	3	7
	b).	How is data analysis used in stock market predictions?	2	2	7
OR					
4.	a).	Discuss the concept of decaying window in detail.	2	2	7
	b).	What can you say about the real time analytics platform applications?	2	2	7
UNIT-III					
5.	a).	Explain Hadoop Architecture with a neat diagram.	3	3	7
	b).	Illustrate a simple example of the working of MapReduce	3	3	7
OR					
6.	a).	Explain about Hadoop Yarn Architecture.	3	2	7
	b).	Explain the differences between old and new Java MapReduce API	3	2	7
UNIT-IV					
7.	a).	Explain the principles to be considered while writing Pig scripts.	4	2	7
	b).	What are the filters are available in Apache HBase?	4	2	7
OR					
8.	a).	Describe two modes for running scripts in Pig.	4	3	7
	b).	Explain in brief about Data manipulation in HIVE.	4	2	7
UNIT-V					
9.	a).	Explain Regression analysis in Data Analytics	5	2	7
	b).	What is a scatter plot? For what type of data is scatter plot usually used for?	5	2	7

		OR			
10.	a).	Explain about Multiple Linear Regression.	5	2	7
	b).	Which are most frequently used techniques for big data visualization?	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. II Semester MODEL QUESTION PAPER

OBJECT ORIENTED ANALYSIS AND DESIGN

Computer Science & Engineering

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).	Explain the Architecture of UML	1	3	7
	b).	Describe the basic activities in Object oriented analysis and explain	1	3	7
		OR			
2.	a).	Explain the different phases of Unified Process	1	3	7
	b).	Illustrate the software development life cycle	1	3	7
		UNIT-II			
3		Describe the strategies used to identify conceptual classes. Describe the steps to create a domain model used for representing conceptual classes	2	2	14
		OR			
4.		Describe the UML notations for class diagram with an example. Explain the concept of Link, association and inheritance	2	3	14
		UNIT-III			
5.	a).	Sketch the activity diagram for the following scenario. Booking a ticket on the movies	3	3	7
	b).	Differentiate aggregation and composition with examples	3	2	7
		OR			
6.		Sketch and explain the use case diagram and Interaction diagram for an online purchase system	3	3	14
		UNIT-IV			
7.		List and construct of the state diagram. Use the same to Sketch the state diagram for a software that controls an elevator in a building with seven floors and write the merits and demerits of state diagram.	4	3	14
		OR			
8.		What is the purpose of deployment diagrams? Explain the basic elements of a deployment diagram through an example	4	3	14

UNIT-V					
9.		Write the case study for Library Application with all diagrams	5	4	14
		OR			
10.		Write the case study for college management with all diagrams	5	4	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



III B.Tech. II Semester MODEL QUESTION PAPER

NETWORK PROGRAMMING

Computer Science & Engineering

TIME: 3Hrs.

Max.Marks:70M

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 steps involved in creating raw socket	1	2	7
	b).	Explain the fundamental differences between the operation of TCP and UDP protocols.	1	2	7
OR					
2.	a).	Explain SCTP Network architecture	1	2	7
	b).	Write a note on differences between IPv4 and IPv6	1	2	7
UNIT-II					
3.	a).	Describe elementary TCP socket functions with an example.	2	2	7
	b).	Illustrate the concept of server host crashes with a suitable example.	2	3	7
OR					
4.	a).	Illustrate Concurrent Servers and write close, read & Write functions	2	3	7
	b).	Explain socket functions for TCP client server model	2	2	7
UNIT-III					
5.	a).	Write briefly POSIX Signal Handling and Termination of Server Process.	3	3	7
	b).	Explain the functionality provided by select function. List the differences between Poll and Select functions	3	2	7
OR					
6.		What is I/O Multiplexing? Explain different types of Synchronous and asynchronous I/O models.	3	2	14
UNIT- IV					
7.	a).	Describe the UDP Echo server functions and lost datagram with an example.	4	2	7
	b).	Describe the getaddr info function as applicable to IPV6. Write briefly about IPV4 socket options.	4	2	7
OR					

8.		Write briefly about lack of flow control with UDP. List the differences between TCP and UDP.	4	3	14
UNIT-V					
9.	a).	Explain in detail how the IPC functionality is provided by message queues.	5	2	7
	b).	What are the advantages of shared memory over pipes, FIFO and message queues? Explain the process of Copying file data from server to client using shared memory	5	2	7
OR					
10.	a).	Write a short notes on a) FTP b) SMTP c) TELNET	5	2	7
	b).	Explain the differences among the exec family of functions of Unix.	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

