SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	**R23**

III B.Tech. I Semester MODEL QUESTION PAPER

DATA ANALYTICS

For CSBS

Time: 3 Hrs.	Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

10 x 2 = 20 Marks

			CO	KL	M
1.	**a).**	Give the classification of data in Data management	1	2	2
	b).	State and explain Noise	1	1	2
	c).	Discuss the need of Data Analytics	2	2	2
	d).	Describe the characteristics of data relevant in the field of Data Analytics	2	2	2
	e).	Explain How do you validate a Regression model?	3	2	2
	f).	Discuss how you assess whether a Logistic Regression model is overfitting	3	2	2
	g).	Define Pruning	4	1	2
	h).	Describe STL approach	4	2	2
	i).	List out Data visualization tools	5	1	2
	j).	Describe complex data in the context of visualization	5	2	2

5 x 10 = 50 Marks

		UNIT-1			
2.	**a).**	Explain the process for designing Data Architecture	1	3	5
	b).	Illustrate the sources of data in the context of Data Analytics	1	3	5
		OR			
3.	**a).**	Discuss the process of handling missing values in organizational data	1	2	5
	b).	Explain data processing in data management	1	2	5
		UNIT-2			
4.	**a).**	Describe the application of modelling in business	2	2	5
	b).	Explain Data Analytic tools in detail	2	3	5
		OR			
5.	**a).**	Discuss data modelling techniques in Data Analytics	2	2	5
	b).	Demonstrate missing imputation methods in detail with examples	2	3	5
		UNIT-3			

6.	a).	What is Least Square Estimate? Illustrate its importance in regression modelling	3	2	5
	b).	Illustrate the variable rationalization in Regression Analysis	3	3	5
		OR			
7.	a).	Illustrate the steps involved in building a logistic regression model	3	3	5
	b).	Discuss the role played by Logistic regression in fraud detection	3	2	5
		UNIT-4			
8.	a).	Differentiate between Supervised and Unsupervised Learning	4	2	5
	b).	Explain the use and advantages of Decision trees	4	3	5
		OR			
9.	a).	Describe the steps involved in building an ARIMA model	4	2	5
	b).	Illustrate how can you extract features like height (peak value) or average energy from a time series model	4	3	5
		UNIT-5			
10.	a).	Discuss about Pixel oriented visualization techniques in data visualization	5	2	5
	b).	List and explain geometric projection visualization techniques	5	2	5
		OR			
11.	a).	Describe hierarchical data and why does it require special visualization techniques	5	2	5
	b).	Explain the challenges in visualizing complex data and Relations	5	3	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	R23

III B.Tech. I Semester MODEL QUESTION PAPER
COMPUTER NETWORKS
Common for CSBS,IT

Time: 3 Hrs.	Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

10 x 2 = 20 Marks

			CO	KL	M
1.	a).	Define a) Simple Analog Signal b) Composite analog signal	1	1	2
	b)	What do you mean by a) Layers b) Protocol	1	1	2
	c).	Explain the characteristics of twisted pair cable.	2	2	2
	d)	Calculate 4 bit checksum for the message 1010110101010100	2	2	2
	e).	What is the significance of variable length framing	3	2	2
	f).	Differences between FDMA and TDMA	3	2	2
	g)	What is CIDR addressing?	4	1	2
	h)	What is the purpose of TTL field in IPV4	4	1	2
	i).	Write uses of User Datagram Protocol(UDP)	5	2	2
	j).	What are the two main categories of DNS messages?	5	1	2
		UNIT-1			
2.	a).	Explain briefly about the TCP/IP Model.	1	2	5
	b)	Different types of networks	1	1	5
		OR			
3.	a).	Explain briefly about the ISO-OSI Model.	1	2	5
	b)	Discuss about Analog signals and digital signals	1	2	5
		UNIT-2			
4.	a).	Given 1101011011 data frame and generator polynomial G(x) = x4 + x + 1. Derive the transmitted frame	2	2	5
	b)	What are the Types of Wireless Transmission Media? Explain it.	2	1	5
		OR			
5.	a).	Discuss a) Packet Switching b) Circuit Switching	2	1	5
	b)	Discuss about error detection and correction code with example	2	2	5
		UNIT-3			
6.	a).	Explain CSMA/CD protocol and how does it detect collision?	3	2	5

	b)	Compare various sliding window protocols of data link layer	3	2	5
		OR			
7.	a).	How performance is improved in CSMA/CD protocol compared to CSMA protocol? Explain?	3	2	5
	b)	Explain modes and frames of HDLC	3	2	5
		UNIT-4			
8.	a).	Consider an address block 121.37.10.64 /26. Find the first and last addresses for each subnet, if 4 no of subnets required is as given in the input.	4	2	5
	b)	Describe the problem and solutions associated with distance vector routing.	4	2	5
		OR			
9.	a).	Given network address of 192.18.100.0 and a subnet mask of 255.255.255.192. a) How many subnets are created? b) How many hosts are there per subnet?	4	2	5
	b)	Discuss ICMP Messages.	4	1	5
		UNIT-5			
10	a).	Explain about Application layer and its services in detail?	5	2	5
	b)	Describe TCP connection management.	5	2	5
		OR			
11	a).	Discuss the features of HTTP and also discuss how HTTP works	5	2	5
	b)	Describe Avoidance of congestion in TCP	5	2	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

			Course Code:B23CB3103	
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				**R23**
III B.Tech. I Semester MODEL QUESTION PAPER				
BUSINESS INTELLIGENCE				
For CSBS				
Time: 3 Hrs.			**Max. Marks: 70 M**	
Answer Question No.1 compulsorily				
Answer **ONE** Question from **EACH UNIT**				
Assume suitable data if necessary				

			10 x 2 = 20 Marks		
			CO	**KL**	**M**
1.	**a).**	Define Business Intelligence.	1	1	2
	b).	Differentiate between Information and Intelligence.	1	2	2
	c).	What is OLAP? Mention any two of its applications.	2	2	2
	d).	List two major components of Business Intelligence architecture.	2	2	2
	e).	Define data warehouse and mention any one of its key features.	3	2	2
	f).	List two differences between OLAP and OLTP.	3	2	2
	g).	Mention any two data mining models and their purpose.	4	1	2
	h).	What is data preprocessing? Mention its need.	4	2	2
	i).	List any two clustering techniques used in Business Intelligence.	5	2	2
	j).	Define classification and mention two types of classification algorithms.	5	2	2

			5 x 10 = 50 Marks		
		UNIT-1			
2.	**a).**	Explain the Business Intelligence process with neat diagram.	1	3	5
	b).	Discuss the significance of Business Intelligence in modern enterprise systems.	1	3	5
		OR			
3.		Describe the architecture and major components of a Business Intelligence system with examples.	1	3	10
		UNIT-2			
4.	**a).**	Illustrate various user models used in BI and how user behavior is analyzed using them.	2	3	6
	b).	Explain how dashboards and KPIs are used in decision-making processes.	2	2	4
		OR			
5.		What is BI opportunity analysis? Explain its application and challenges in real-time business scenarios.	2	3	10

		UNIT-3			
6.	**a).**	Describe the stages in data warehouse development life cycle	**3**	**2**	**5**
	b).	Explain how star schema and snowflake schema differ in BI systems. Provide diagrams	**3**	**3**	**5**
		OR			
7.		Discuss the role of OLAP in BI systems. Explain various OLAP operations with examples.	**3**	**3**	**10**
		UNIT-4			
8.	**a).**	Define data mining. Explain any three major data mining tasks	**4**	**2**	**5**
	b)	Discuss various data preprocessing techniques used in data mining.	**4**	**2**	**5**
		OR			
9		Explain various data validation techniques used during data mining with examples.	**4**	**3**	**10**
		UNIT-5			
10.	**a).**	Explain different classification techniques in BI such as decision trees, k-nearest neighbors, and rule-based methods.	**5**	**2**	**6**
	b).	What is clustering? Discuss various types of clustering methods with suitable examples.	**5**	**3**	**4**
		OR			
11.		Discuss frequent itemset mining with Apriori algorithm. Explain how it helps in market basket analysis.	**5**	**3**	**10**

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

			Course Code:B23CB3104		
	SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				**R23**
	III B.Tech. I Semester MODEL QUESTION PAPER				
	OBJECT-ORIENTED ANALYSIS AND DESIGN				
	For CSBS				

Time: 3 Hrs				**Max. Marks: 70 M.**		

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

			CO	KL	M
			10 x 2 = 20 Marks		
1.	a).	Define object model.	**1**	**1**	**2**
	b).	Explain why an object oriented approach is preferable when compared to other approaches?	**1**	**2**	**2**
	c).	What is key abstraction?	**2**	**1**	**2**
	d).	List the relationships among classes.	**2**	**1**	**2**
	e).	What is the importance of modeling?	**3**	**1**	**2**
	f).	Explain annotational things.	**3**	**2**	**2**
	g).	What is an Usecase?	**4**	**1**	**2**
	h).	Define include and extend relationships used in use-case diagram.	**4**	**1**	**2**
	i).	What is the difference between node and device?	**5**	**1**	**2**
	j).	Define component diagram.	**5**	**1**	**2**
			5 x 10 = 50 Marks		
		UNIT-1			
2.	a).	Explain the structure of complex systems.	**1**	**2**	**5**
	b).	Interpret the evolution of object model.	**1**	**2**	**5**
		OR			
3.	a).	Interpret the attributes of complex systems.	**1**	**2**	**5**
	b).	Explain Organized and Disorganized Complexity.	**1**	**2**	**5**
		UNIT-2			
4.	a).	Illustrate the relationship among Classes	**2**	**2**	**5**
	b).	How to identify Classes and Objects? Give an example	**2**	**3**	**5**
		OR			
5.	a).	Define an object. Illustrate common uses of objects with an example	**2**	**2**	**5**
	b).	Explain key abstractions and mechanisms	**2**	**2**	**5**
		UNIT-3			
6.	a).	Demonstrate the basic blocks of the UML	**3**	**3**	**5**
	b).	Design class diagram f or "online job portal".	**3**	**3**	**5**
		OR			
7.	a).	Design object diagram for "online health care system".	**3**	**3**	**5**

	b)	Differentiate class diagram and object diagram with an example.	3	3	5
		UNIT-4			
8.	a).	Illustrate use-case diagram and its relationships with an example.	4	2	5
	b)	Compose the state chart diagram for "online pharmacy management system".	4	3	5
		OR			
9.	a).	Define an activity diagram. And explain its internal behaviour with an example.	4	2	5
	b)	Discuss Interaction diagrams with an example	4	2	5
		UNIT-5			
10.	a).	What are components? Show the stereotypes that apply to components	5	2	5
	b).	Describe deployment diagram. When will it be used in software life cycle	5	3	5
		OR			
11.	a).	Compose the component diagram for "unified library application".	5	3	5
	b).	Differentiate the component diagram and deployment diagram.	5	3	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

SRKR
ENGINEERING COLLEGE
AUTONOMOUS

Estd. 1980

	Course Code:B23CB3105
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	**R23**
III B.Tech. II Semester MODEL QUESTION PAPER	
SOFTWARE TESTING METHODOLOGIES	
For CSBS	

Time: 3 Hrs.	**Max. Marks: 70 M**

Answer Question No.1 compulsorily
Answer **ONE** Question from **EACH UNIT**
Assume suitable data if necessary

<p align="right">10 x 2 = 20 Marks</p>

			CO	KL	M
1.	**a).**	Differentiate between effective and exhaustive software testing.	1	2	2
	b).	Explain any two software testing methodologies.	1	2	2
	c).	Identify Boundary Value Analysis in black-box testing?	2	1	2
	d).	Define Logic Coverage criterion in white-box testing?	2	1	2
	e).	List some advantages of using Inspections in software testing?	3	1	2
	f).	Explain the purpose of Integration Testing.	3	2	2
	g).	Define test suite prioritization, and why is it important?	4	1	2
	h).	Describe any two debugging techniques.	4	2	2
	i).	List some key guidelines for effective automated testing.	5	1	2
	j).	Discuss the major challenges in testing web-based software?	5	2	2
		UNIT-1			
2.	**a).**	Explain the primary goals of software testing, and how does psychology play a role in the testing process?	1	2	5
	b).	Explain different validation techniques with examples.	1	2	5
		OR			
3.	**a).**	Discuss different software testing methodologies and their advantages and disadvantages.	1	2	5
	b).	Explain various verification activities performed during the software development life cycle.	1	2	5

		UNIT-2			
4.		Explain the concept of Black Box Testing and discuss its importance in software testing.	2	2	10
		OR			
5.		Explain Data Flow Testing and its significance in detecting software anomalies.	2	2	10
		UNIT-3			
6.	a).	Define regression testing. Explain different types of regression testing.	3	2	6
	b).	Discuss the objects of regression testing	3	2	4
		OR			
7.	a).	Define functional testing? How does it ensure that software meets user requirements?	3	2	5
	b).	Define unit testing? Explain its role in software quality assurance	3	2	5
		UNIT-4			
8.		Discuss the importance of minimizing a test suite. What are the key benefits of test suite minimization?	4	2	10
		OR			
9.		Explain software quality metrics? Discuss different types of metrics used to measure software quality.	4	2	10
		UNIT-5			
10.	a).	Explain the different categories of testing tools with examples.	5	2	6
	b).	Differentiate between testing object-oriented software and traditional procedural software?	5	2	4
		OR			
11.	a).	Summarize unique challenges faced in mobile application testing, and how can they be addressed?.	5	2	5
	b).	Distinguish between web-based and web-enabled applications?.	5	2	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

			Course Code:B23CB3106	
	SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)			R23
	II B.Tech. I Semester MODEL QUESTION PAPER			
	ARTIFICIAL INTELLIGENCE			
	For CSBS			
Time: 3 Hrs.				Max. Marks: 70 M
	Answer Question No.1 compulsorily			
	Answer **ONE** Question from **EACH UNIT**			
	Assume suitable data if necessary			

			10 x 2 = 20 Marks		
			CO	**KL**	**M**
1.	**a).**	Name two significant milestones in the history of AI.	1	1	2
	b).	What is the role of AI in autonomous vehicles?	1	2	2
	c).	What is backtracking in constraint satisfaction?	2	1	2
	d).	Define alpha and beta in the context of alpha-beta pruning.	2	1	2
	e).	What is a semantic tableau in propositional logic?	3	1	2
	f).	Explain resolution refutation in propositional logic.	3	2	2
	g).	Define extended semantic networks for knowledge	4	1	2
	h).	Define conditional probability, write its equation..	4	1	2
	i).	Name any three typical Expert Systems and their applications.	5	1	2
	j).	Define Hierarchical Planning.	5	1	2
			5 x 10 = 50 Marks		
		UNIT-1			
2.	**a).**	Describe the evolution of AI from its inception to the present day.	1	2	5
	b).	What are intelligent agents? Describe different types intelligent agents with examples.	1	2	5
		OR			
3.	**a).**	Describe the problem formulation and solution approach for Tic- Tac-Toe	1	2	5
	b).	Discuss the applications of AI in healthcare, education, and finance.	1	2	5
		UNIT-2			
4.	**a).**	Describe the iterative deepening A* algorithm and its advantages over A*.	2	2	5
	b).	Apply the principles of Constraint Satisfaction Problems (CSP) to solve the equation BASE+BALL=GAMES. Demonstrate the steps involved in finding the solution	2	3	5
		OR			
5.	**a).**	What is general problem solving? Explain its components with a suitable example	2	2	5

	b).	Justify the use of Alpha-Beta Pruning in optimizing the Minimax Algorithm for game playing.	2	2	5
		UNIT-3			
6.	a).	Describe the natural deduction system in propositional logic. Explain the rules of inference with examples.	3	3	5
	b).	Use resolution refutation to prove the following statement is unsatisfiable:(PvQ),(PvR),(Qv R)	3	3	5
		OR			
7.	a).	Describe fuzzy logic and its components, including fuzzy sets, membership functions, and linguistic variables.	3	3	5
	b)	Prove the validity of the following argument using natural deduction: Premises • Premises: $P \implies Q \implies R$, P • Conclusion: R	3	3	5
		UNIT-4			
8.	a).	Describe different approaches to Knowledge Representation, including Semantic Networks, Frames, and Logic-based Representation. Compare their advantages and disadvantages.	4	2	5
	b)	Write about Conceptual Dependency theory. How will it be used for Knowledge Representation?	4	3	5
		OR			
9.	a).	Represent the following knowledge using Frames: "John is a student. He studies Computer Science. He is 20 years old and lives in Hyderabad."	4	2	5
	b)	With an example, Explain Dempster-Shafer Theory in detail	4	2	5
		UNIT-5			
10.	a).	Describe the main components of any Planning System with a neat diagram.	5	2	5
	b).	Explain Reactive Systems in AI. How are they different from Deliberative Planning Systems?	5	3	5
		OR			
11.	a).	Explain the different phases involved in building an Expert system.	5	3	5
	b).	Illuminate the concept of Planning in Artificial Intelligence. Why W is it important in problem-solving?.	5	3	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

	Course Code:B23CB3107

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	R23

III B.Tech. I Semester MODEL QUESTION PAPER

AUTOMATA THEORY AND COMPILER DESIGN

For CSBS

Time: 3 Hrs.	Max. Marks: 70 M

Answer Question No.1 compulsorily
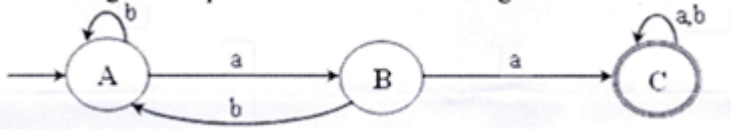
Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

10 x 2 = 20 Marks

			CO	KL	M
1.	**a).**	Explain the Chomsky Hierarchy of languages.	1	2	2
	b).	Explain the Kleen and Positive closures of a language.	1	2	2
	c).	List the applications of Pumping Lemma.	2	2	2
	d).	Write algebraic laws for Regular Expressions	2	2	2
	e).	Mathematical Representation of Push Down Automata.	3	2	2
	f).	Define Non deterministic Turning Machine	3	2	2
	g).	State Token, Lexeme, Pattern.	4	2	2
	h).	Explain the Top Down and Bottom Up Parsing.	4	2	2
	i).	Define Syntax Directed Definition	5	2	2
	j).	List the Issues in the Design of Code Generator	5	2	2

5 x 10 = 50 Marks

		UNIT-1			
2.	**a).**	Design DFA to accept set of binary strings of 0's and 1's only those that are divisible by 3.	1	2	5
	b).	Convert the following NFA to DFA 		0	1
---	---	---
→p	{p,q}	{p}
q	{r}	{r}
r	{s}	ø
*s	{s}	{s}		1	3	5

		OR			
3.	**a).**	Design a DFA to accept set of binary strings of 0's and 1's which do not contain substring 01.	1	3	7
	b).	List and explain the applications of finite automata.	1	2	3

		UNIT-2			
4.	a).	Find the Regular Expression for the following finite Automaton. 	2	3	5
	b).	Show that the grammar is ambiguous S→ a | abSb | aAb A→ bs | aAAb	2	3	5
		OR			
5.	a).	Obtain finite automata for regular expression denoted by (0*+1*+2*)*.	2	3	5
	b).	Define CFG. Consider the following CFG S→0B|1A A→0|0S|1AA B→1|1S|0BB Derive LMD and RMD for the string 00110101	2	3	5
		UNIT-3			
6.	a).	Explain the types of CFL Acceptance in PDA?	3	2	3
	b).	Design a Turing Machine to recognize the Language L={0n 1n |n ≥ 1}	3	3	7
		OR			
7.	a).	Design a PDA for the following CFG S→0A A→0AB|1 B→1	3	3	5
	b),	Differentiate between Turning Machine and Push Down Automata.	3	3	5
		UNIT-4			
8.	a).	Explain Phases of compiler with a neat Sketch.	4	2	5
	b).	Construct the LL(1) parsing table for the following grammar. E →T+E|T T→float|float*T|(E)	4	3	5
		OR			
9.	a).	Elaborate specification and recognition of tokens	4	2	5
	b)	Construct LALR(1) parser for the following grammar. S→L=R|R L→*R|id R→L	4	3	5
		UNIT-5			
10.	a).	Explain Peephole Optimization.	5	2	5
	b).	Design DAG for the following basic block: D:=B-C E:=A+B B:=B+C A:=E-C	5	3	5
		OR			
11.	a).	Write the quadruples, triples and indirect triples for the expression: (a+b)*(c+d)*(a+b+c)	5	3	5
	b).	Explain the simple code generation algorithm with example..	5	2	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

			Course Code:B23CB3201	
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				**R23**
III B.Tech. II Semester MODEL QUESTION PAPER				
CLOUD COMPUTING				
For CSBS				
Time: 3 Hrs.			**Max. Marks: 70 M**	
Answer Question No.1 compulsorily				
Answer **ONE** Question from **EACH UNIT**				
Assume suitable data if necessary				

			10 x 2 = 20 Marks		
			CO	**KL**	**M**
1.	**a).**	Compare different types of cloud.	**1**	**2**	**2**
	b).	List out the Major challenges of cloud computing.	**1**	**2**	**2**
	c).	Explain about Amazon simple storage service.	**2**	**2**	**2**
	d).	Define software licensing?	**2**	**2**	**2**
	e).	Define Virtualization.	**3**	**2**	**2**
	f).	Describe about the Virtual Machine Monitor.	**3**	**2**	**2**
	g).	State about Megastore.	**4**	**2**	**2**
	h).	Label VMM base security threats.	**4**	**2**	**2**
	i).	Explain Azure services platform.	**5**	**2**	**2**
	j).	Define Google App Engine.	**5**	**2**	**2**
			5 x 10 = 50 Marks		
		UNIT-1			
2.	**a).**	Describe network centric content and computing	**1**	**2**	**5**
	b).	Identify Desirable Properties of P2P Systems	**1**	**2**	**5**
		OR			
3.	**a).**	Discuss Cloud Computing delivery models and services with architecture.	**1**	**2**	**5**
	b).	Illustrate the concept of logical clocks with neat diagram	**1**	**2**	**5**
		UNIT-2			
4.	**a).**	Define the terms related to AWS: EBS, AMI, Cloud Watch, Auto Scaling.	**2**	**2**	**5**
	b).	Demonstrate about the energy use by data centres and its economic and ecological impact.	**2**	**2**	**5**
		OR			
5.	**a).**	Summarize the components of Azure cloud.	**2**	**2**	**5**
	b).	Discuss about Challenges for cloud, existing cloud applications and new opportunities.	**2**	**2**	**5**

		UNIT-3			
6.	a).	Virtualization simulates the interface to physical objects of any one of four means. Identify and define	3	2	5
	b).	Discuss about Fair Queueing process in cloud computing.	3	2	5
		OR			
7.	a).	Differentiate full and para-Virtualization.	3	2	5
	b).	Explain about the stability of two-level resource allocation architecture.	3	2	5
		UNIT-4			
8.	a).	Differentiate distributed file systems, general parallel file systems. Google file system.	4	4	5
	b).	Explain about Amazon Simple Storage Service.	4	2	5
		OR			
9.	a).	Explain about cloud security risks.	4	2	5
	b).	Discuss about trust in cloud security.	4	4	5
		UNIT-5			
10.	a).	Discuss about security rules of transport and application layers protocols in EC2.	5	3	5
	b).	Illustrate how to use S3 in Java.	5	3	5
		OR			
11.	a).	Summarize the features of Google web tool kit.	5	2	5
	b).	Elaborate on share point services and Exchange Online.	5	3	5

CO-COURSE OUTCOME   **KL-KNOWLEDGE LEVEL**   **M-MARKS**

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

	Course Code:B23CB3202

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	R23

III B.Tech. II Semester MODEL QUESTION PAPER
FINANCIAL AND COST ACCOUNTING
For CSBS

Time: 3 Hrs.	Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE Question** from **EACH UNIT**

Assume suitable data if necessary

				10 x 2 = 20 Marks	
			CO	KL	M
1.	a).	Explain the difference between concepts and conventions	1	2	2
	b).	Illustrate Accounting Cycle	1	2	2
	c).	Demonstrate Golden Rules of Accounting	2	3	2
	d).	Predict the importance of Trail Balance	2	3	2
	e).	Determine the difference between financial statements	3	3	2
	f).	Predict the major difference between cash and funds flow statement	3	3	2
	g).	Predict Marginal cost	4	3	2
	h).	Demonstrate CVP Analysis	4	3	2
	i).	Predict the use of company	5	3	2
	j).	Determine the differences between the Equity shares and Preference shares	5	3	2
				5 x 10 = 50 Marks	
		UNIT-1			
2.	a).	Define Accounting? Write about the Double Entry System	1	2	5
	b).	Illustrate the importance of Financial Accounting	1	2	5
		OR			
3.	a).	Explain about the GAAP	1	2	10
		UNIT-2			
4.	a).	Journalize the following Transactions January 2018 1 Commenced business with cash 80,000 2 Deposited cash with bank 40,000 3 Purchased goods worth Rs. 10000 by cash 4 Purchased goods from Mr. Revanth worth Rs. 30000 5 Returned goods worth Rs. 2000 to Mr. Revanth 6 Sold goods to Mr Sunil worth Rs. 25000 7 Received goods from Mr. Sunil worth Rs.2000	2	3	10

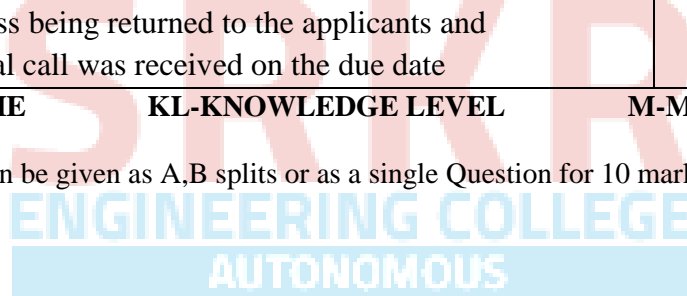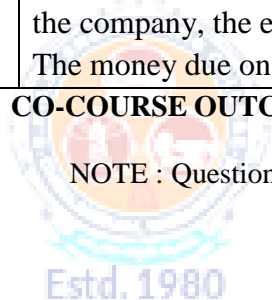|					
		8 Paid to Mr. Revanth Rs. 25000 in full settlement			
		OR			
5.	a).	From the following trial balance of Mr. Mahesh for the year ending 31.03. 2010, demonstrate how to prepare Trading A/c, Profit & Loss ac and Balance sheet 	Particulars	Debit (Rs.)	Credit (Rs)
---	---	---
Purchases , sales	125000	175000
Returns	1000	4700
Rent	2500	500
Stock	15000	
Debtors, Creditors	30000	25000
Salaries	22500	
Wages	10800	
Machinery	10000	
Furniture	10000	
Cash	29400	
Interest	2500	
Discount	5000	1000
Drawings, Capital	6300	63800
	270000	270000		2	3	10
		UNIT-3			
6.	a).	Demonstrate the preparation of Funds Flow statement	3	3	10
		OR			
7.	a).	Demonstrate the preparation of Cash Flow statement	3	3	10
		UNIT-4			
8.	a).	Demonstrate the difference between allocation and apportionment of overheads. Predict the bases of apportionment of expense	4	3	5
	b).	Demonstrate the importance of any five cost concepts	4	3	5
		OR			
9.	a).	Demonstrate the cost of sheet preparation	4	3	10
		UNIT-5			
10.	a).	Predict the differences between Preference Shares, Equity Shares and Debentures	5	3	5
	b).	Demonstrate the accounting entries while issuing shares	5	3	5
		OR			
11.	a).	Demonstrate the preparation of Journal of JHP Limited from the following information. JHP limited a company with an authorized share capital of Rs.10,00,000	5	3	10

in equity shares of Rs.10 each of which 6,00,000 shares had been issued and fully paid on 30th June, 2005. The company proposed to make a further issue of 100000 of these Rs.10 shares at a price of Rs.14 each, the arrangement for payment being:

A)   Rs. 2 per share payable on application, to be received by 1st July, 2005;

B)   Allotment to be made on 10th July, 2005 and a further Rs.5 per share (including the premium) to be payable;

C)   The final call for the balance to be made and the money received by 30th April, 2006.

Applications were received for 3,55,000 shares and were dealt with as follows:

i)   Applicants for 5000 shares received allotment in full

ii)   Applicants for 30,000 shares received on allotment one share for every two applied for; no money was returned to theses applicants, the surplus on application being used to reduce the amount due on allotment;

iii)   Applicants for 320000 shares received an allotment of one share for every four applied for the money due on allotment was retained by the company, the excess being returned to the applicants and

The money due on final call was received on the due date

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	**R23**

III B.Tech. II Semester MODEL QUESTION PAPER

MACHINE LEARNING

For CSBS

Time: 3 Hrs.	Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

			10 x 2 = 20 Marks		
			CO	**KL**	**M**
1.	**a).**	Compare AL,Ml,DL	1	2	2
	b).	Define Bias and Variance	1	2	2
	c).	List the types of regression	2	1	2
	d).	Define Binary classification	2	1	2
	e).	List the type of learners	3	1	2
	f).	Outline the limitations of KNN	3	2	2
	g).	Compare SVM with SVR	4	2	2
	h).	Outline the measures of similarity and dis-similarity in cluster analysis	4	2	2
	i).	Explain about partitioning methods	5	2	2
	j).	Outline the importance of perceptron	5	2	2
			5 x 10 = 50 Marks		
		UNIT-1			
2.	**a).**	Explain about different types of machine learning	1	2	5
	b).	Explain about feature selection and extraction	1	2	5
		OR			
3.	**a).**	Explain any 7 challenges of Machine learning	1	2	5
	b).	Contrast between Overfitting and Underfitting	1	2	5
		UNIT-2			
4.	**a).**	Differentiate between Linear and Non linear regression	2	3	10
		OR			
5.	**a).**	Explain about regularization and its types	2	3	5
	b).	Summarize the importance of logistic regression	2	3	5
		UNIT-3			
6.	**a).**	Outline Binary classifier,Multi class classifier,Multi label classification and imbalanced classification	3	3	10

		OR			
7.	**a).**	Illustrate about distance metrics	3	3	5
	b).	Explain the key assumptions of Naive Bayes and describe how it calculates the probability of a class given the feature values.	3	3	5
		UNIT-4			
8.	**a).**	Summarize Ensembling learning techniques	4	3	10
		OR			
9.	**a).**	Develop K-Means algorithm for the following data with 2 clusters	4	3	10
		UNIT-5			
10.	**a).**	Explain the working of the Random Forest algorithm and apply your understanding to show how it improves prediction accuracy compared to a single decision tree	5	3	10
		OR			
11.	**a).**	Analyze how the Back propagation algorithm updates the weights to minimize the error during the training process.	5	3	10

For question 9, the following table is given:

Entity	X1	X2
A	1.0	2.0
B	1.5	1.8
C	1.2	1.9
D	5.0	8.0
E	6.0	9.0
F	5.5	7.5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	R23

III B.Tech. II Semester MODEL QUESTION PAPER

CRYPTOGRAPHY AND NETWORK SECURITY

For CSBS

Time: 3 Hrs.	Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

10 x 2 = 20 Marks

			CO	KL	M
1.	a).	What is meant by cryptography and cryptanalysis?	1	2	2
	b).	What are the key principles of security?	1	2	2
	c).	Distinguish between passive attacks and active attacks?	1	2	2
	d).	Compare symmetric and asymmetric key cryptography.	2	2	2
	e).	What is the need for Diffie-Hellman key exchange?	1	2	2
	f).	What is a hash function?	3	1	2
	g).	Write the four SSL Protocols.	4	1	2
	h).	What are the services provided by IPSec?	5	1	2
	i).	Define – Virus	5	2	2
	j).	List out the design goals of firewalls.	5	2	2

5 x 10 = 50 Marks

		UNIT-1			
2.	a).	Outline the Principles of Security for Information Protection	1	2	5
	b).	What are the substitution techniques used in cryptography?	1	2	5
		OR			
3.	a).	How does the Playfair Cipher work? Provide an example	1	2	5
	b).	Explain the working of RC-4 algorithm	1	3	5
		UNIT-2			
4.	a).	Calculate the Cipher Text using RSA given P=17, Q=31, E=7, and PT=2.	2	3	5
	b).	Elaborate on the difference between Symmetric and Asymmetric Cryptography	2	3	5
		OR			
5.	a).	Describe the MD-5 Algorithm and its purpose.	2	2	5
	b).	How does the Digital Signature ensure message authenticity?	2	2	5

		UNIT-3			
6.	**a).**	What is an Authentication Token Mechanism, and how is it used	3	3	5
	b).	Explain the role of Kerberos in network security.	3	2	5
		OR			
7.	**a).**	Explain Digital Certificates and their usage.	3	2	5
		What is the PKIX Model for managing digital certificates?	3	2	5
		UNIT-4			
8.	**a).**	How does IP Security (IPsec) protect data during transmission?	4	3	5
	b).	Detail the security mechanisms employed in GSM networks	4	3	5
		OR			
9.	**a).**	Explain the purpose of a Secure Socket Layer (SSL) in online communication.	4	2	5
	b).	What is the SET Protocol, and how does it secure online transactions?	4	2	5
		UNIT-5			
	a).	Define a virus and discuss countermeasures to mitigate its impact	5	2	5
	b).	Enumerate different types of threats affecting digital security	5	2	5
		OR			
11.	**a).**	Define different types of Denial-of-Service attacks.	5	2	5
	b).	What are Honeypots and how are they handled	5	2	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

			Course Code:B23CB3205	
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				**R23**
III B.Tech. II Semester MODEL QUESTION PAPER				
PRINCIPLES OF CYBER SECURITY				
For CSBS				
Time: 3 Hrs.			**Max. Marks: 70 M**	
Answer Question No.1 compulsorily				
Answer **ONE** Question from **EACH UNIT**				
Assume suitable data if necessary				

			10 x 2 = 20 Marks		
			CO	**KL**	**M**
1.	**a).**	State any two examples for internal and external threats.	1	1	2
	b)	Summarize common HTTP exploits.	1	2	2
	c).	Identify four measures to ensure availability.	2	2	2
	d)	Name the three states of data with example for each.	2	2	2
	e).	Identify four examples of logical access controls.	3	2	2
	f).	Give an example for extended ACL.	3	2	2
	g)	Name any four threats to cloud computing.	4	1	2
	h)	Name any four security policies.	4	1	2
	i).	Define penetration testing.	5	1	2
	j).	Identify the four risk mitigation strategies.	5	2	2
			5 x 10 = 50 Marks		
		UNIT-1			
2.	**a).**	Discuss TCP and UDP Vulnerabilities and attacks.	1	2	5
	b)	Explain SQL injections with examples.	1	3	5
		OR			
3.	**a).**	Discuss various attacks targeting the IP vulnerabilities.	1	2	5
	b)	Summarize how can you mitigate common network attacks.	1	3	5
		UNIT-2			
4.	**a).**	Differentiate host-based and network-based protection.	2	3	5
	b)	Explain the Cyber Security cube.	2	2	5
		OR			
5.	**a).**	Explain the BYOD policy.	2	2	5
	b)	Suggest few physical security methods to be taken in an organization.	2	3	5
		UNIT-3			
6.	**a).**	Summarize the threats on Embedded and IoT devices.	3	3	5

			CO	KL	M
	b)	List and discuss various access control models.	3	2	5
		OR			
7.	**a).**	List and summarize various types of firewalls.	3	3	5
	b)	Explain ZPF.	3	2	5
		UNIT-4			
8.	**a).**	Discuss about the top threats on cloud computing.	4	3	5
	b)	Explain the types of security data.	4	2	5
		OR			
9.	**a).**	Identify any five types of security tests and give one example for each.	4	3	5
	b)	Summarize the phases of penetration testing.	4	2	5
		UNIT-5			
10	**a).**	Discuss with examples sources of threat intelligence.	5	2	5
	b)	Explain Common Vulnerability Scoring System (CVSS).	5	2	5
		OR			
11	**a).**	Explain weaponisation and delivery steps in the cyber kill chain.	5	2	5
	b)	Explain the diamond model of intrusion analysis.	5	2	5

CO-COURSE OUTCOME   **KL-KNOWLEDGE LEVEL**   **M-MARKS**

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks
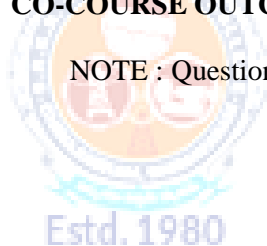
			Course Code:B23CB3206	
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				**R23**
III B.Tech. II Semester MODEL QUESTION PAPER				
DIGITAL MARKETING				
For CSBS				
Time: 3 Hrs.			**Max. Marks: 70 M**	
Answer Question No.1 compulsorily				
Answer **ONE** Question from **EACH UNIT**				
Assume suitable data if necessary				

			10 x 2 = 20 Marks		
			CO	**KL**	**M**
1.	**a).**	Describe the key features of digital marketing.	1	2	2
	b).	Explain the key traits of an online consumer	1	2	2
	c).	Explain the process of developing a content marketing strategy.	2	2	2
	d).	Compare content marketing and email marketing.	2	2	2
	e).	Explain the process of building a successful social media strategy.	3	2	2
	f).	Describe the steps involved in creating a display ad.	3	2	2
	g).	Interpret the role of site structure and technical mechanics in SEO.	4	2	2
	h).	Discuss the purpose of link building in off-page SEO.	4	2	2
	i).	Describe the benefits of paid search advertising.	5	2	2
	j).	Summarize the steps for setting campaign goals in PPC.	5	2	2
			5 x 10 = 50 Marks		
		UNIT-1			
2.	**a).**	Explain the key differences between traditional and digital marketing with examples.	1	2	5
	b).	Classify the different types of digital marketing channels with suitable examples.	1	2	5
		OR			
3.	**a).**	Compare brand-based and community-based digital marketing channels.	1	2	5
	b).	Describe the Ozone O3 concept and its application in consumer behavior.	1	2	5
		UNIT-2			
4.	**a).**	Explain the importance of content marketing in a digital strategy.	2	2	5
	b).	Describe the step-by-step process of creating a content marketing strategy.	2	2	5
		OR			
5.	**a).**	Classify the various types of emails used in email marketing campaigns.	2	2	5
	b).	Describe best practices in designing and executing successful email	2	2	5

		campaigns.			
		UNIT-3			
6.	a).	Describe the steps involved in building a successful social media strategy.	3	2	5
	b).	Compare the marketing approaches of Facebook, LinkedIn, and YouTube.	3	2	5
		OR			
7.	a).	Summarize the functioning of display advertising and its ecosystem.	3	2	5
	b).	Discuss the challenges faced in targeting and measuring display ad performance.	3	2	5
		UNIT-4			
8.	a).	Describe the importance of SERP positioning in SEM.	4	2	5
	b).	Describe the major components of the SEO process.	4	2	5
		OR			
9.	a).	Discuss the importance of technical SEO elements like sitemaps and structured data.	4	2	5
	b).	Explain how link building contributes to off-page optimization.	4	2	5
		UNIT-5			
10.	a).	Apply the PPC model to design a basic Google Search campaign for a local business.	5	3	5
	b).	Demonstrate the setup of ad scheduling in Google Ads for an e-commerce store targeting weekend shoppers.	5	3	5
		OR			
11.	a).	Perform the steps to create a Google Ads account and set up a new campaign.	5	3	5
	b).	Apply the concept of ad rotation to optimize the performance of two different ad copies.	5	3	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

			Course Code:B23CB3207

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)		**R23**
III B.Tech. II Semester MODEL QUESTION PAPER		
DEVOPS		
For CSBS		
Time: 3 Hrs.		**Max. Marks: 70 M**
Answer Question No.1 compulsorily		
Answer **ONE** Question from **EACH UNIT**		
Assume suitable data if necessary		

				10 x 2 = 20 Marks		
			CO	**KL**	**M**
1.	**a).**	Detail the DevOps lifecycle with a simple example.	1	2	2
	b).	Describe the key principles of DevOps?	1	2	2
	c).	Discuss Why is version control important in software development?	2	2	2
	d).	Explain how unit testing supports the CI/CD processes?	2	2	2
	e).	Describe the role of Jenkins in build automation?	3	2	2
	f).	Elaborate the purpose of scheduling builds in Jenkins?	3	2	2
	g).	Explain how DockerFile help in container creation?	4	2	2
	h).	Discuss the key features of Selenium for automated testing?	4	2	2
	i).	Discuss the purpose of Ansible in DevOps automation?	5	2	2
	j).	Compare Puppet and Chef in configuration management?	5	2	2
			5 x 10 = 50 Marks		
		UNIT-1			
2.	**a).**	Describe the DevOps architecture and its main components.	1	2	5
	b).	List common DevOps tools and explain their use across different stages of the DevOps lifecycle.	1	2	5
		OR			
3.	**a).**	Discuss about build automation and how does it benefit the development process?	1	2	5
	b).	Compare Scrum and Kanban models used in DevOps project management	1	2	5
		UNIT-2			
4.	**a).**	Discuss about version control? Explain its importance in modern software development.	2	2	5
	b).	Elaborate the basic Git workflow including commit, push, and pull operations.	2	2	5
		OR			
5.	**a).**	Justify the role of unit testing and its impact on software quality.	2	2	5
	b).	Describe how SonarQube helps in maintaining code quality?	2	2	5

		UNIT-3			
6.	a).	Apply the concept of Jenkins pipelines to automate the build and test process of a Java project. Explain the steps.	3	3	5
	b).	Create a Jenkins freestyle project that includes Git integration and test execution using JUnit.	3	3	5
		OR			
7.	a).	Write a simple pipeline using Jenkins file that includes stages: build, test, and deploy.	3	3	5
	b).	Apply the concept of user roles in Jenkins to set up user management and access control in a CI pipeline.	3	3	5
		UNIT-4			
8.	a).	Apply the concept of Continuous Delivery to automate deployment of a web application after successful testing.	4	3	5
	b).	Illustrate the steps to push a Docker image to Docker Hub after successful build and test.	4	3	5
		OR			
9.	a).	Apply Docker commands to manage containers, such as creating, listing, and removing them. Provide an example.	4	3	5
	b).	Write a Selenium script in Java to test login functionality of a sample website.	4	3	5
		UNIT-5			
10.	a).	Demonstrate writing a basic Ansible playbook to install and start Apache web server on a remote server.	5	3	5
	b).	Demonstrate the use of ConfigMaps in Kubernetes to manage configuration data separately from code.	5	3	5
		OR			
11.	a).	Demonstrate the deployment of a simple application on OpenShift using DeploymentConfig (DC) and ConfigMaps	5	3	5
	b).	Apply Puppet or Chef to automate configuration of a multi-node system. Explain with an example.	5	3	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

	Course Code:B23CB3209	
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)		**R23**
III B.Tech. II Semester MODEL QUESTION PAPER		
SOFTWARE PROJECT MANAGEMENT		
For CSBS		

Time: 3 Hrs.		Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

					10 x 2 = 20 Marks
			CO	**KL**	**M**
1.	**a).**	Define software economics in the context of software development	1	1	2
	b).	List two ways to improve team effectiveness in software projects.	1	1	2
	c).	Give one example each of a management artifact and an engineering artifact.	2	1	2
	d).	Outline the objective of the inception phase in the software life cycle?	2	2	2
	e).	Explain the purpose of software process workflow.	3	2	2
	f).	Relate pragmatic planning importance in iterative software development?	3	2	2
	g).	Define Line of business(LOB)	4	1	2
	h).	List two key responsibilities of a Project Manager.	4	1	2
	i).	Define Scrum in the context of Agile.	5	1	2
	j).	List any 2 technological aspects important for DevOps adoption	5	1	2

					5 x 10 = 50 Marks
		UNIT-1			
2.	**a).**	Outline the activities of software project management with an example.	1	2	5
	b).	Explain the limitations of the Waterfall model and discuss how it affects the performance of conventional software management.	1	2	5
		OR			
3.	**a).**	Compare the principles of conventional software engineering with those of modern software management	1	2	5
	b).	Identify the factors influencing software economics and explain how pragmatic cost estimation methods improve project planning..	1	3	5
		UNIT-2			
4.	**a).**	Illustrate software Life cycle phases.	2	2	10
		OR			
5.	**a).**	Differentiate between management artifacts, engineering artifacts, and programmatic artifacts with suitable examples for each.	2	2	10

		UNIT-3			
6.	**a).**	Compare between the management perspective and the technical perspective of model-based software architecture.	3	2	6
	b).	Demonstrate about iteration workflow.	3	2	4
		OR			
7.	**a).**	Identify the different types of checkpoints in the software development process.	3	3	10
		UNIT-4			
8.	**a).**	Identify the key building blocks of process automation in software development.	4	3	5
	b).	Explain the components of the project environment.	4	2	5
		OR			
9.	**a).**	Outline the seven core metrics used in software project control.	4	2	10
		UNIT-5			
10.	**a).**	Describe the Scrum framework and explain how organizations can adopt Scrum using different patterns.	5	2	10
		OR			
11.	**a).**	Utilize the DevOps ecosystem and explain how its different elements interact to support agile software delivery.	5	3	10

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

	Course Code:B23CB3210

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	R23
III B.Tech. II Semester MODEL QUESTION PAPER	
AD HOC AND SENSOR NETWORKS	
For CSBS	

Time: 3 Hrs.	Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

			10 x 2 = 20 Marks		
			CO	KL	M
1.	a).	Compare a MANET with a cellular network.	1	2	2
	b).	List any four applications of Ad Hoc Networks.	1	2	2
	c).	Explain the reasons for poor performance of conventional TCP in Ad Hoc networks.	2	2	2
	d).	Discuss the factors that make routing more difficult in Ad Hoc networks compared to wired networks.	2	2	2
	e).	Explain the importance of key management in wireless security.	3	2	2
	f).	Discuss about secure routing and why is it needed in MANETs?	3	2	2
	g).	Explain the importance of low energy usage in sensor networks?	4	2	2
	h).	Describe the process of data collection and transmission in sensor networks.	4	2	2
	i).	Describe the role of TinyOS in a sensor network.	5	2	2
	j).	Explain the role of NS-2 in simulating sensor networks.	5	2	2

			5 x 10 = 50 Marks		
		UNIT-1			
2.	a).	Explain the characteristics of Ad Hoc Networks with suitable examples.	1	2	5
	b).	Explain issues and challenges faced by MANETs.	1	2	5
		OR			
3.	a).	Discuss the major issues to consider while designing MAC protocols for Ad Hoc networks?	1	2	5
	b)	Describe the classification of MAC protocols used in AdHoc wireless networks	1	2	5
		UNIT-2			
4.	a).	Demonstrate the application of different types of transport layer protocols in mobile Ad Hoc networks.	2	3	5
	b).	Demonstrate the operational differences between topology-based and position-based routing protocols.	2	3	5

		OR			
5.	a).	Apply the classification of TCP protocols in MANETs to explain how each type helps to solve problems like mobility or packet loss.	2	3	5
	b).	Use suitable strategies to solve the challenges faced by TCP in Ad Hoc wireless networks.	2	3	5
		UNIT-3			
6.	a).	Explain the importance of security in Ad Hoc Wireless Networks.	3	2	5
	b).	Discuss the main issues and challenges involved in providing security for Ad Hoc Wireless Networks.	3	2	5
		OR			
7.	a).	Explain the different types of network security attacks in MANETs.	3	2	5
	b).	Describe the role of Intrusion Detection Systems in securing Ad Hoc Wireless Networks.	3	2	5
		UNIT-4			
8.	a).	Demonstrate the use of the Mica Mote to enhance the efficiency of a wireless sensor network.	4	3	5
	b).	Implement a data retrieval strategy for a WSN with limited power and bandwidth resources.	4	3	5
		OR			
9.	a).	Demonstrate the impact of design issues such as power, size, and cost on sensor network deployment.	4	3	5
	b).	Apply dynamic routing techniques in WSNs to handle frequent topology changes.	4	3	5
		UNIT-5			
10.	a).	Summarize the key management techniques used in WSNs.	5	2	5
	b).	Discuss the ways in which LA-TinyOS improves upon standard TinyOS.	5	2	5
		OR			
11.	a).	Explain the role of secure data aggregation in protecting data in WSNs.	5	2	5
	b).	Discuss the working of TOSSIM as a simulator for WSN applications.	5	2	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)	R23

III B.Tech. II Semester MODEL QUESTION PAPER

NATURAL LANGUAGE PROCESSING

For CSBS

Time: 3 Hrs.	Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

					10 x 2 = 20 Marks
			CO	**KL**	**M**
1.	**a).**	Define tokenization in NLP.	1	2	2
	b).	What is the role of regular expressions in text processing?	1	2	2
	c).	Define Part-of-Speech (PoS) tagging.	2	2	2
	d).	What is the significance of word classes in NLP?	2	2	2
	e).	What is a Treebank?	3	2	2
	f).	Define shallow parsing.	3	2	2
	g).	What are semantic attachments in syntax trees?	4	2	2
	h).	Define word sense in the context of NLP.	4	2	2
	i).	What is the purpose of Porter Stemmer in NLP?	5	2	2
	j).	Define Coreference Resolution.	5	2	2
					5 x 10 = 50 Marks
		UNIT-1			
2.	**a).**	Explain the challenges in Natural Language Processing (NLP).	1	2	5
	b).	Describe the concept of Minimum Edit Distance and explain how it is calculated.	1	2	5
		(**OR**)			
3.	**a).**	Describe statistical language modeling and compare it with grammar-based language modeling.	1	2	5
	b).	Explain the use of Finite-State Automata in NLP with relevant examples.	1	2	5
		UNIT-2			
4.	**a).**	Apply the Hidden Markov Model to demonstrate the functioning of a PoS tagger using a sample sentence.	2	3	5
	b).	Implement and compare different smoothing techniques in N-gram models.	2	3	5
		(**OR**)			
5.	**a).**	Analyze and contrast Rule-based, Stochastic, and Transformation-based	2	3	5

			CO	KL	M
		PoS tagging methods through an example.			
	b).	Apply interpolation and backoff techniques to a given N-gram language modeling task.	2	3	5
		UNIT-3			
6.	**a).**	What is a Context-Free Grammar (CFG)? Explain its use in syntactic parsing.	3	2	5
	b).	Explain the purpose of probabilistic CFGs in syntactic parsing with the help of an example.	3	2	5
		(OR)			
7.	**a).**	Describe the concept of dynamic programming in syntactic parsing.	3	2	5
	b).	Discuss the role of feature structures and unification in NLP.	3	2	5
		UNIT-4			
8.	**a).**	Analyze and compare supervised and dictionary-based Word Sense Disambiguation (WSD) techniques.	4	3	5
	b).	Apply the concepts of thematic roles and selectional restrictions to identify semantic roles in a sentence.	4	3	5
		(OR)			
9.	**a).**	Implement Syntax-Driven Semantic Analysis using an example sentence.	4	3	5
	b).	Measure and compare word similarity using thesaurus-based and distributional methods.	4	3	5
		UNIT-5			
10.	**a).**	What is Anaphora Resolution? Describe Hobbs and Centering Algorithms.	5	2	5
	b).	Describe the role of WordNet and FrameNet in NLP.	5	2	5
		(OR)			
11.	**a).**	What is discourse segmentation? Explain reference phenomena and coherence with examples.	5	2	5
	b).	Write short notes on: (i) Penn Treebank (ii) Brill's Tagger (iii) British National Corpus	5	2	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks

	SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				**R23**

III B.Tech.II Semester MODEL QUESTION PAPER

FINANCIAL ANALYTICS

For CSBS

Time: 3 Hrs.   Max. Marks: 70 M

Answer Question No.1 compulsorily

Answer **ONE** Question from **EACH UNIT**

Assume suitable data if necessary

10 x 2 = 20 Marks

			CO	KL	M
1.	**a).**	Explain the role of predictive modeling in corporate finance.	1	2	2
	b).	Describe how IRR is used to evaluate investment decisions.	1	2	2
	c).	Explain the process of risk estimation in bond investments.	2	2	2
	d).	Summarize the steps involved in importing financial data from a web portal.	2	2	2
	e).	Describe the use of the Sharpe ratio in portfolio evaluation.	3	2	2
	f).	Explain the use of cluster analysis in portfolio categorization.	3	2	2
	g).	Describe the use of MACD in predicting market trends.	4	2	2
	h).	Summarize the interpretation of candlestick chart patterns.	4	2	2
	i).	Explain the concept of credit risk in financial institutions.	5	2	2
	j).	Describe the use of historical data in credit modeling.	5	2	2

5 x 10 = 50 Marks

		UNIT-1			
2.	**a).**	Explain the process of cash flow analysis in project evaluation.	1	2	5
	b).	Describe the concept of financial break-even point with an example.	1	2	5
		OR			
3.	**a).**	Compare the Payback Period and NPV method in project appraisal.	1	2	5
	b).	Summarize the Ohlson logistic regression model and its applications in predicting financial distress.	1	2	5
		UNIT-2			
4.	**a).**	Explain the importance of adjusting for stock splits in return estimation.	2	2	5
	b).	Interpret the volatility pattern of a stock using ARCH models.	2	2	5
		OR			
5.	**a).**	Describe the prediction of bond returns using risk measures.	2	2	5
	b).	Illustrate the impact of mergers on stock price analysis.	2	2	5

		UNIT-3			
6.	**a).**	Explain the assumptions behind the Capital Asset Pricing Model (CAPM).	3	2	5
	b).	Illustrate the working of Markowitz's mean-variance optimization.	3	2	5
		OR			
7.	**a).**	Summarize the steps involved in constructing an efficient portfolio.	3	2	5
	b).	Compare the binomial and Black-Scholes models for option pricing.	3	2	5
		UNIT-4			
8.	**a).**	Explain the working of the Relative Strength Index.	4	2	5
	b).	Analyze a candlestick chart and forecast the next price trend based on pattern recognition.	4	2	5
		OR			
9.	**a).**	Summarize the process of simulating a basic trading strategy.	4	2	5
	b).	Compare the performance of SVM and ANN in stock price prediction.	4	2	5
		UNIT-5			
10.	**a).**	Apply the principles of data preprocessing to improve credit model quality.	5	3	5
	b).	Demonstrate the construction of a decision tree model for credit approval decisions.	5	3	5
		OR			
11.	**a).**	Construct a confusion matrix and explain how it evaluates the performance of a credit risk model.	5	3	5
	b).	Apply the concept of logistic regression to explain how it can be used in credit risk classification.	5	3	5

CO-COURSE OUTCOME   KL-KNOWLEDGE LEVEL   M-MARKS

NOTE : Questions can be given as A,B splits or as a single Question for 10 marks