

## IV B.Tech. I Semester MODEL QUESTION PAPER

## UNIVERSAL HUMAN VALUES-2: UNDERSTANDING HARMONY

(Common to AIDS, CSBS, CSE, IT &amp; ME)

Time: 3 Hrs

Max. Marks: 70 M

Answer ONE Question from EACH UNIT

All questions carry equal marks

			CO	KL	M
<b>UNIT-I</b>					
1.	a).	Discuss natural acceptance.	1	2	7
	b).	Differentiate prosperity and deprivation.	1	2	7
<b>OR</b>					
2.	a).	Write a note on physical facilities.	1	2	7
	b).	Deliberate the right understanding in perspective to self-exploration.	1	2	7
<b>UNIT-II</b>					
3.	a).	Illustrate coexistence of "I" and "Body".	2	2	7
	b).	Explain doer, seer and enjoyer.	2	2	7
<b>OR</b>					
4.	a).	Discuss Characteristic activities of Harmony with "I".	2	2	7
	b).	Explain Sanyam and Health.	2	2	7
<b>UNIT-III</b>					
5.	a).	Write a note on human-human relationship as regarding harmony.	3	2	7
	b).	Differentiate intention and competence.	3	2	7
<b>OR</b>					
6.	a).	Discuss salient values in relationship.	3	2	7
	b).	Illustrate universal Harmonious Society - an Undivided society.	3	2	7
<b>UNIT-IV</b>					
7		Discuss orders of life in nature and its significance self-regulation of individual.	4	2	14
<b>OR</b>					
8.		Illustrate existence of human being as coexistence with universe in perspective of space.	4	2	14
<b>UNIT-V</b>					
9.		Discuss importance of professional competence for augmenting universal human order.	5	3	14

<b>OR</b>					
<b>10.</b>	<b>a).</b>	Case study of typical holistic technologies.	<b>5</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Role of engineer in promoting harmony in society.	<b>5</b>	<b>3</b>	<b>7</b>
		<b>CO-COURSE OUTCOME</b>	<b>KL-KNOWLEDGE LEVEL</b>	<b>M-MARKS</b>	

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



<b>Course Code: B20AD4101</b>					
<b>SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)</b>				<b>R20</b>	
<b>IV B.Tech. I Semester MODEL QUESTION PAPER</b>					
<b>REINFORCEMENT LEARNING</b>					
<b>Artificial Intelligence &amp; Data Science</b>					
<b>Time: 3 Hrs.</b>		<b>Max. Marks: 70 M</b>			
<b>Answer ONE Question from EACH UNIT</b>					
All questions carry equal marks					
Assume suitable data if necessary					
			<b>CO</b>	<b>KL</b>	<b>M</b>
<b>UNIT-I</b>					
<b>1.</b>	<b>a).</b>	Discuss the limitations and Scope of reinforcement learning	<b>1</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	List out the elements of Reinforcement Learning	<b>1</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>2.</b>	<b>a).</b>	Explain in detail about Incremental Implementation	<b>1</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	How Upper-Confidence-Bound Action Selection is implemented	<b>1</b>	<b>2</b>	<b>7</b>
<b>UNIT-2</b>					
<b>3.</b>	<b>a).</b>	Discuss about Asynchronous Dynamic Programming in detail	<b>2</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain Agent-Environment Interface	<b>2</b>	<b>3</b>	<b>7</b>
<b>OR</b>					
<b>4.</b>	<b>a).</b>	Explain how generalized Policy Iteration is performed	<b>2</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Discuss about various Optimal Value Functions in detail	<b>2</b>	<b>3</b>	<b>7</b>
<b>UNIT-3</b>					
<b>5.</b>	<b>a).</b>	How Monte Carlo- Prediction is implemented	<b>3</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Discuss various advantages of TD Prediction Methods	<b>3</b>	<b>3</b>	<b>7</b>
<b>OR</b>					
<b>6.</b>	<b>a).</b>	Explain estimation of Action Values, Control without Exploring Start mechanisms	<b>3</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain how n-step Boots trapping implemented	<b>3</b>	<b>3</b>	<b>7</b>
<b>UNIT-4</b>					
<b>7.</b>	<b>a).</b>	Illustarte why the Bellman Error is not Learnable	<b>4</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain Online $\lambda$ -return Algorithm	<b>4</b>	<b>3</b>	<b>7</b>
<b>OR</b>					
<b>8.</b>	<b>a).</b>	Compare and contrast the saras( $\lambda$ ), Watkin's Q( $\lambda$ ),	<b>4</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	How Off-policy Eligibility Traces are used in Sampling.	<b>4</b>	<b>3</b>	<b>7</b>
<b>UNIT-5</b>					
<b>9.</b>	<b>a).</b>	Illustrate The Policy Gradient Theorem.	<b>5</b>	<b>3</b>	<b>7</b>

	<b>b).</b>	Explain Monte Carlo Policy Gradient	<b>5</b>	<b>3</b>	<b>7</b>
		<b>OR</b>			
<b>10.</b>	<b>a).</b>	Discuss TD-Gammon and its Applications	<b>5</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain Actor-Critic Methods, Policy Gradient for Continuing Problems	<b>5</b>	<b>3</b>	<b>7</b>

**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: B20AD4102					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
IV B.Tech. I Semester MODEL QUESTION PAPER					
NATURE INSPIRED COMPUTING TECHNIQUES					
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
<b>UNIT-I</b>					
1.	a).	Discuss Simulated Annealing Algorithm	1	2	7
	b).	Discuss in detail about Hyper optimization	1	2	7
<b>OR</b>					
2.	a).	Explain Ant and Bee Algorithms	1	2	7
	b).	Discuss about Stochastic Tunneling	1	2	7
<b>UNIT-2</b>					
3.	a).	Explain the Role of Genetic Operators in detail.	2	2	7
	b).	Explain in detail about Swarm Intelligence.	2	2	7
<b>OR</b>					
4.	a).	Discuss PSO Algorithm	2	2	7
	b).	Discuss variants in Differential Evolution	2	2	7
<b>UNIT-3</b>					
5.	a).	Discuss Standard Firefly Algorithm	3	2	7
	b).	Discuss about Variants of Cuckoo Search	3	2	7
<b>OR</b>					
6.	a).	Discuss Variations of Light Intensity and Attractiveness in Firefly Algorithm	3	2	7
	b).	Discuss about Cuckoo Breeding Behavior	3	2	7
<b>UNIT-4</b>					
7.	a).	Discuss about Movement of Virtual Bats	4	2	7
	b).	Discuss the Variants of the Bat Algorithm	4	2	7
<b>OR</b>					
8.	a).	Discuss Loudness and Pulse Emission in Bat Algorithms.	4	2	7
	b).	Discuss any two applications of Bat Algorithms.	4	2	7
<b>UNIT-5</b>					
9.	a).	Discuss the various Characteristics of Flower Pollination	5	2	7

	<b>b).</b>	Discuss Single-Objective Design Benchmarks in the applications of Flower Pollination Algorithms	<b>5</b>	<b>2</b>	<b>7</b>
		<b>OR</b>			
<b>10.</b>	<b>a).</b>	Discuss Validation and Numerical Experiments on Flower Pollination Algorithms	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Discuss Multi-Objective Design Benchmarks in the applications of Flower Pollination Algorithms	<b>5</b>	<b>2</b>	<b>7</b>
		<b>CO-COURSE OUTCOME</b>	<b>KL-KNOWLEDGE LEVEL</b>		<b>M-MARKS</b>

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<b>Course Code: B20AD4103</b>					
<b>SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)</b>				<b>R20</b>	
<b>IV B.Tech. I Semester MODEL QUESTION PAPER</b>					
<b>SOCIAL MEDIA ANALYTICS</b>					
<b>Artificial Intelligence &amp; Data Science</b>					
<b>Time: 3 Hrs.</b>			<b>Max. Marks: 70 M</b>		
Answer <b>ONE Question</b> from <b>EACH UNIT</b>					
All questions carry equal marks					
Assume suitable data if necessary					
			<b>CO</b>	<b>KL</b>	<b>M</b>
<b>UNIT-I</b>					
<b>1.</b>	<b>a).</b>	Explain in detail Application Programming Interface	<b>1</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain in detail about Web Crawling	<b>1</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>2.</b>	<b>a).</b>	Differentiate Estimated vs. Factual Data Sources	<b>1</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain Data Gathering in Social Media Analytics	<b>1</b>	<b>2</b>	<b>7</b>
<b>UNIT-2</b>					
<b>3.</b>	<b>a).</b>	Explain the Role of Analysis of a Social Media Post	<b>2</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain in detail about Planning Stage	<b>2</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>4.</b>	<b>a).</b>	Explain Projecting Possible Insights	<b>2</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain variants in Potential Challenges	<b>2</b>	<b>2</b>	<b>7</b>
<b>UNIT-3</b>					
<b>5.</b>	<b>a).</b>	Apply Different types of Analytics in social media	<b>3</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain in detail CMS Analytics	<b>3</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>6.</b>	<b>a).</b>	Illustrate Variations Focus on Conversions and ROI of Paid Social Media Campaigns	<b>3</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain in detail CRM Analytics	<b>3</b>	<b>2</b>	<b>7</b>
<b>UNIT-4</b>					
<b>7.</b>	<b>a).</b>	Illustrate the Benefits of Dedicated Tools	<b>4</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain the Disadvantages of Data Integration Tools	<b>4</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>8.</b>	<b>a).</b>	Illustrate the Benefits of Data Integration Tools	<b>4</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Discuss any two Dedicated Tools with Hybrid Features	<b>4</b>	<b>2</b>	<b>7</b>
<b>UNIT-5</b>					
<b>9.</b>	<b>a).</b>	Explain UX on Social Networks	<b>5</b>	<b>2</b>	<b>7</b>

	<b>b).</b>	Explain in detail Analyst Mindset	<b>5</b>	<b>2</b>	<b>7</b>
		<b>OR</b>			
<b>10.</b>	<b>a).</b>	Explain Content Flow on Social Network	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain Investigation beyond Social Analytics	<b>5</b>	<b>2</b>	<b>7</b>
		<b>CO-COURSE OUTCOME</b>	<b>KL-KNOWLEDGE LEVEL</b>	<b>M-MARKS</b>	

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Course Code: B20AD4104					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)				R20	
IV B.Tech. I Semester MODEL QUESTION PAPER					
BLOCKCHAIN TECHNOLOGIES					
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
<b>UNIT-I</b>					
1.	a).	What Is Blockchain Technology? Explain its Working?	1	2	7
	b).	Briefly explain block chain changing the digital marketing landscape?	1	2	7
<b>OR</b>					
2.	a).	Briefly explain distributed trust in blockchain?	1	2	7
	b).	What is cryptocurrency and how does it work?	1	2	7
<b>UNIT-II</b>					
3.	a).	Explain public key cryptography in Blockchain?	2	2	7
	b).	Explain the Key Concepts of Blockchain Development?	2	2	7
<b>OR</b>					
4.	a).	What is digital identity verification? How is blockchain used in digital identity management?	2	2	7
	b).	What Is Crypto Art and Explain how Does It Affect the Art World?	2	2	7
<b>UNIT-III</b>					
5.	a).	Explain bitcoin scripts?	3	2	7
	b).	Explain how Bit coin mining works along with the downside of Bitcoin mining?	3	2	7
<b>OR</b>					
6.	a).	Explain about blockchain Genomics?	3	2	7
	b).	What are micropayments? Explain how blockchain is improving micropayment capabilities?	3	2	7
<b>UNIT-IV</b>					
7.	a).	Relate how Ethereum is different from bitcoin along with the real-world use cases of Ethereum?	4	3	7
	b).	Explain about consensus problem in blockchain?	4	2	7
<b>OR</b>					

<b>8.</b>	<b>a).</b>	Briefly explain about Hyperledger in blockchain?	<b>4</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain about Demurrage currency in blockchain?	<b>4</b>	<b>2</b>	<b>7</b>
<b>UNIT-V</b>					
<b>9.</b>	<b>a).</b>	Show how blockchain can be used in Medical Information Systems?	<b>5</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain business model challenges in blockchain?	<b>5</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>10.</b>	<b>a).</b>	Explain about the Technical challenges in blockchain?	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Show how blockchain can be used in e-governance?	<b>5</b>	<b>3</b>	<b>7</b>

**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: B20AD4105					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
IV B.Tech I Semester MODEL QUESTION PAPER					
COMPUTER VISION					
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
<b>UNIT-I</b>					
1.	a).	Discuss in brief about Geometric Primitives and Transformation	1	2	7
	b).	Explain the terms Point Operators and Linear Filtering	1	2	7
<b>OR</b>					
2.	a).	Illustrate Geometric Transformations and Global Optimization.	1	2	7
	b).	Explain Fourier Transforms in detail.	1	2	7
<b>UNIT-II</b>					
3.	a).	Demonstrate Active Contours and Normalized Cuts	2	2	7
	b).	Explain 2D and 3D Feature based Alignment	2	2	7
<b>OR</b>					
4.	a).	Describe in detail Mean Shift and Mode Finding with an example	2	2	7
	b).	Explain the terms Pose Estimation, Geometric Intrinsic Calibration	2	2	7
<b>UNIT-III</b>					
5.	a).	Define Spline-based Motion and discuss in detail.	3	2	7
	b).	Discuss in detail about Two-frame Structure from Motion	3	2	7
<b>OR</b>					
6.	a).	Demonstrate Layered motion in brief.	3	2	7
	b).	Describe Bundle Adjustment	3	2	7
<b>UNIT-IV</b>					
7.	a).	Define Image Stitching and Explain image Matting and Compositing	4	2	7
	b).	Describe in detail about Global Alignment, Photometric Calibration	4	2	7
<b>OR</b>					
8.	a).	Discuss about Texture Analysis and Synthesis	4	2	7
	b).	Explain about High Dynamic Range Imaging	4	2	7
<b>UNIT-V</b>					
9.	a).	Illustrate Point-based Representation	5	3	7
	b).	Demonstrate Light Fields and Lumigraphs in detail.	5	2	7
<b>OR</b>					

<b>10.</b>	<b>a).</b>	Discuss about Model-based Reconstruction	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain Recovering Texture Maps with an example.	<b>5</b>	<b>3</b>	<b>7</b>
		<b>CO-COURSE OUTCOME</b>	<b>KL-KNOWLEDGE LEVEL</b>		<b>M-MARKS</b>

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



Course Code: B20AD4106					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
IV B.Tech. I Semester MODEL QUESTION PAPER					
CLOUD COMPUTING					
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
<b>UNIT -1</b>					
1	a).	Explain network centric content and computing	1	3	7
	b).	Identify Desirable Properties of P2P Systems	1	3	7
<b>OR</b>					
2	a).	Define Cloud Computing. List and define the delivery models of Cloud Computing.	1	2	7
	b).	Illustrate the concept of logical clocks with meat diagram	1	3	7
<b>UNIT -II</b>					
3	a).	Define the terms related to AWS: EBS, AMI, Cloud Watch, Auto Scaling.	2	3	7
	b).	Discuss about the energy use by data centres and its economic and ecological impact.	2	3	7
<b>OR</b>					
4	a).	Summarize the components of Azure cloud.	2	2	7
	b).	Discuss about Challenges for cloud, existing cloud applications and new opportunities.	2	3	7
<b>UNIT -III</b>					
5	a).	Virtualization simulates the interface to physical objects of any one of four means. Identify and define	3	3	7
	b).	Explaining Fair Queue.	3	3	7
<b>OR</b>					
6	a).	Differentiate full and para-Virtualization.	3	3	7
	b).	Explain about stability of a two-level resource allocation architecture.	3	3	7
<b>UNIT -IV</b>					
7	a).	Differentiate distributed file systems, general parallel file systems. Google file system.	4	2	7
	b).	Explain about Amazon Simple Storage Service.	4	2	7
<b>OR</b>					
8	a).	Explain about security risks	4	3	7
	b).	Discuss about trust in cloud security.	4	3	7
<b>UNIT -V</b>					

<b>9</b>	<b>a).</b>	Discuss about security rules of transport and application layers protocols in EC2.	<b>5</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	How to use S3 in Java.	<b>5</b>	<b>3</b>	<b>7</b>
		<b>OR</b>			
<b>10</b>	<b>a).</b>	Summarize the features of Google web tool kit	<b>5</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Elaborate on share point services and Exchange Online.	<b>5</b>	<b>3</b>	<b>7</b>
		<b>CO-COURSE OUTCOME</b>	<b>KL-KNOWLEDGE LEVEL</b>	<b>M-MARKS</b>	

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



**SRKR**  
ENGINEERING COLLEGE  
AUTONOMOUS

<b>Course Code: B20AD4107</b>					
<b>SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)</b>				<b>R20</b>	
<b>IV B.Tech. I Semester MODEL QUESTION PAPER</b>					
<b>INFORMATION RETRIEVAL SYSTEMS</b>					
<b>Artificial Intelligence &amp; Data Science</b>					
<b>Time: 3 Hrs.</b>		<b>Max. Marks: 70 M</b>			
<b>Answer ONE Question from EACH UNIT</b>					
All questions carry equal marks					
Assume suitable data if necessary					
			<b>CO</b>	<b>KL</b>	<b>M</b>
<b>UNIT-I</b>					
<b>1.</b>	<b>a).</b>	Explain Functional View of Paradigm Information Retrieval System	<b>1</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain Objectives and Functions of IRS	<b>1</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>2.</b>	<b>a).</b>	Explain Information retrieval system Capabilities	<b>1</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain the role of Digital Libraries in IRS.	<b>1</b>	<b>2</b>	<b>7</b>
<b>UNIT-II</b>					
<b>3.</b>	<b>a).</b>	Discuss about stemming algorithms	<b>2</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain N-gram data structure.	<b>2</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>4.</b>	<b>a).</b>	Explain PAT data structure.	<b>2</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain Hypertext and XML data structures	<b>2</b>	<b>2</b>	<b>7</b>
<b>UNIT-III</b>					
<b>5.</b>	<b>a).</b>	Explain statical indexing.	<b>3</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain the type of clustering in IRS.	<b>3</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>6.</b>	<b>a).</b>	Discuss the guidelines on the characteristics of the classes in Clustering	<b>3</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain Thesaurus Generation in Clustering.	<b>3</b>	<b>2</b>	<b>7</b>
<b>UNIT-IV</b>					
<b>7.</b>	<b>a).</b>	Illustrate about search statement and Bindings	<b>4</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain about similarity and ranking.	<b>4</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>8.</b>	<b>a).</b>	Explain Relevance feedback.	<b>4</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Illustrate about Information Visualization Technologies	<b>4</b>	<b>3</b>	<b>7</b>
<b>UNIT-V</b>					
<b>9.</b>		Explain about Text Search Algorithms.	<b>5</b>	<b>2</b>	<b>14</b>
<b>OR</b>					

<b>10.</b>	Explain Multimedia information retrieval in IRS.	<b>5</b>	<b>2</b>	<b>14</b>
<b>CO-COURSE OUTCOME</b>		<b>KL-KNOWLEDGE LEVEL</b>		<b>M-MARKS</b>

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





<b>Course Code: B20AD4108</b>					
<b>SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)</b>				<b>R20</b>	
<b>IV B. Tech. I Semester MODEL QUESTION PAPER</b>					
<b>NoSQL DATABASES</b>					
<b>Artificial Intelligence &amp; Data Science</b>					
<b>Time: 3 Hrs.</b>		<b>Max. Marks: 70 M</b>			
Answer <b>ONE Question</b> from <b>EACH UNIT</b>					
All questions carry equal marks					
Assume suitable data if necessary					
			<b>CO</b>	<b>KL</b>	<b>M</b>
<b>UNIT-I</b>					
<b>1.</b>	<b>a).</b>	Explain in detail about impedance mismatch in relational model.	<b>1</b>	<b>2</b>	<b>6</b>
	<b>b).</b>	Explain about key-value data model, document data model and column-family stores.	<b>1</b>	<b>2</b>	<b>8</b>
<b>OR</b>					
<b>2.</b>	<b>a).</b>	Explain about graph databases with an example.	<b>1</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain about materialized views with respect to relational and NoSQL databases.	<b>1</b>	<b>2</b>	<b>7</b>
<b>UNIT-II</b>					
<b>3.</b>	<b>a).</b>	Discuss briefly about various aspects of distributing different parts of data on multiple nodes.	<b>2</b>	<b>2</b>	<b>6</b>
	<b>b).</b>	Explain the two strategies of replicating database on multiple nodes.	<b>2</b>	<b>2</b>	<b>8</b>
<b>OR</b>					
<b>4.</b>	<b>a).</b>	Explain in detail about Update consistency and Read consistency.	<b>2</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain the need to relax consistency and discuss briefly on what CAP theorem says.	<b>2</b>	<b>2</b>	<b>7</b>
<b>UNIT-III</b>					
<b>5.</b>	<b>a).</b>	Describe three applications where key-value stores are a good fit.	<b>3</b>	<b>2</b>	<b>6</b>
	<b>b).</b>	Describe various features of a key-value data store.	<b>3</b>	<b>2</b>	<b>8</b>
<b>OR</b>					
<b>6.</b>	<b>a).</b>	Explain briefly about Basic Map-Reduce.	<b>3</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Describe the situation where key-value store is not a good fit. Explain why?	<b>3</b>	<b>2</b>	<b>7</b>
<b>UNIT-IV</b>					
<b>7.</b>	<b>a).</b>	Explain the features of document databases supported by MongoDB.	<b>4</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Describe some areas where document databases are preferred.	<b>4</b>	<b>2</b>	<b>7</b>
<b>OR</b>					

<b>8.</b>	<b>a).</b>	Describe the features of a column-family store.	<b>4</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Describe some use cases of column-family store.	<b>4</b>	<b>2</b>	<b>7</b>
		<b>UNIT-V</b>			
<b>9.</b>	<b>a).</b>	Describe the query features of a graph-database.	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Describe some use cases of graph databases.	<b>5</b>	<b>2</b>	<b>7</b>
		<b>OR</b>			
<b>10.</b>	<b>a).</b>	Explain about incremental migration.	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain about migrations in graph databases.	<b>5</b>	<b>2</b>	<b>7</b>
		<b>CO-COURSE OUTCOME</b>	<b>KL-KNOWLEDGE LEVEL</b>	<b>M-MARKS</b>	

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



<b>Course Code: B20AD4109</b>					
<b>SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)</b>					<b>R20</b>
<b>IV B. Tech. I Semester MODEL QUESTION PAPER</b>					
<b>SOCIAL NETWORK ANALYSIS</b>					
<b>Artificial Intelligence &amp; Data Science</b>					
<b>Time: 3 Hrs.</b>			<b>Max. Marks: 70 M</b>		
Answer <b>ONE Question</b> from <b>EACH UNIT</b>					
All questions carry equal marks					
Assume suitable data if necessary					
			<b>CO</b>	<b>KL</b>	<b>M</b>
<b>UNIT-I</b>					
<b>1.</b>	<b>a).</b>	Define centrality measure and any three measures of centrality?	<b>1</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain about Erdos Number Project.	<b>1</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>2.</b>	<b>a).</b>	Elaborate on various challenges for decentralized online social networks.	<b>1</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Discuss problems of causality in social network analysis.	<b>1</b>	<b>2</b>	<b>7</b>
<b>UNIT-II</b>					
<b>3.</b>	<b>a).</b>	What are the key terms associated with social network analysis?	<b>2</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	What are the approaches for finding cohesive subgroups?	<b>2</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>4.</b>	<b>a).</b>	Briefly explain multidimensional scaling.	<b>2</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	What is Random graph models of social networks?	<b>2</b>	<b>2</b>	<b>7</b>
<b>UNIT-III</b>					
<b>5.</b>	<b>a).</b>	Distinguish between structural and algorithmic aspects of navigation.	<b>3</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	What is percolation effect and Describe the basic models of information percolation?	<b>3</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>6.</b>	<b>a).</b>	What factors can make a contagion complex?	<b>3</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	What are the two aspects of Navigation and Explain about the Kleinberg's Model?	<b>3</b>	<b>2</b>	<b>7</b>
<b>UNIT-IV</b>					
<b>7.</b>	<b>a).</b>	What is the connectivity distribution of Erdos-Renyi random graphs?	<b>4</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain the significance of small-world effect in social network analysis?	<b>4</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>8.</b>	<b>a).</b>	What are the different clustering models?	<b>4</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Write short notes on clustering of connectivity?	<b>4</b>	<b>2</b>	<b>7</b>

		<b>UNIT-V</b>			
<b>9.</b>	<b>a).</b>	Illustrate PageRank algorithm for weighted graph.	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	What is spatial agent-based model?	<b>5</b>	<b>2</b>	<b>7</b>
		<b>OR</b>			
<b>10.</b>	<b>a).</b>	Define game theory and what are the four elements of Game Theory?	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Illustrate how social networks can be used to bias votes.	<b>5</b>	<b>2</b>	<b>7</b>
		<b>CO-COURSE OUTCOME</b>	<b>KL-KNOWLEDGE LEVEL</b>	<b>M-MARKS</b>	

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



## MODEL QUESTION PAPER

## RECOMMENDER SYSTEMS

## Artificial Intelligence &amp; 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
<b>UNIT-I</b>					
1.	a).	What is Collaborative Filtering? Explain types of Collaborative Filtering.	1	2	7
	b).	Discuss a scenario in which location plays an important role in the recommendation process.	1	2	7
<b>OR</b>					
2.	a).	Explain Domain-Specific Challenges in Recommender Systems.	1	2	7
	b).	What is Content-based filtering? Advantages and Disadvantages of content-based filtering.	1	2	7
<b>UNIT-II</b>					
3.	a).	What are Neighborhood-Based Collaborative Filtering algorithms.	2	3	7
	b).	Implement the user-based and item-based collaborative filtering algorithms.	2	3	7
<b>OR</b>					
4.	a).	Discuss various ways in which graph clustering algorithms can be used to perform neighborhood-based collaborative filtering.	2	3	7
	b).	What are the Regression Modeling View of Neighborhood Methods	2	3	7
<b>UNIT-III</b>					
5.	a).	Implement the naive Bayes model for collaborative filtering.	3	2	7
	b).	Implement a decision tree-based predictor of ratings for an incomplete data sets	3	2	7
<b>OR</b>					
6.	a).	Explain the Latent Factor Models.	3	2	7
	b).	Explain briefly Integrating Factorization and Neighborhood Models.	3	2	7
<b>UNIT-IV</b>					
7.	a).	What are the various components of content-based systems.	4	2	7
	b).	Explain about Nearest Neighbor Classification.	4	2	7
<b>OR</b>					

<b>8.</b>	<b>a).</b>	Give an Overview of interactive process in knowledge-based recommenders.	<b>4</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain the Persistent Personalization in Knowledge-Based Systems.	<b>4</b>	<b>2</b>	<b>7</b>
<b>UNIT-V</b>					
<b>9.</b>	<b>a).</b>	Explain the Design Issues in Online Recommender Evaluation.	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	What are the General Goals of Evaluation Design.	<b>5</b>	<b>2</b>	<b>7</b>
<b>OR</b>					
<b>10.</b>	<b>a).</b>	Describe about Measuring the Accuracy of Ratings Prediction.	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain the Limitations of Evaluation Measures.	<b>5</b>	<b>2</b>	<b>7</b>
<b>CO-COURSE OUTCOME</b>			<b>KL-KNOWLEDGE LEVEL</b>		<b>M-MARKS</b>

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



Course Code: B20AD4111					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
IV B. Tech I Semester MODEL QUESTION PAPER					
AI CHATBOTS					
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
<b>UNIT-I</b>					
1.	a).	What are the various benefits from chatbots for a business? Explain briefly.	1	2	7
	b).	Explain the importance of chatbots in the insurance industry.	1	2	7
<b>OR</b>					
2.	a).	Explain about different types of conversations in available in chatbots.	1	2	7
	b).	Discuss the term General Data Protection Regulation (GDPR)	1	2	7
<b>UNIT-II</b>					
3.		Discuss in detail about Chatbot development approaches.	2	2	14
<b>OR</b>					
4.		Explain various Key terms in chatbots.	2	2	14
<b>UNIT-III</b>					
5.	a).	Illustrate different business benefits of chatbots.	3	2	7
	b).	Discuss managing risks in chatbot services	3	2	7
<b>OR</b>					
6.		Explain in detail about Generic solution architecture for private chatbots.	3	2	14
<b>UNIT-IV</b>					
7.		Explain the architecture of chatbot with a neat sketch.	4	2	14
<b>OR</b>					
8.		Explain various applications of NLP.	4	2	14
<b>UNIT-V</b>					
9.		Demonstrate use case of Microsoft Bot Framework.	5	3	14
<b>OR</b>					
10.	a).	Illustrate integration of chatbot with Third-Party APIs.	5	3	7
	b).	Implement integration module for IRIS channel.	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: B20AD4112					
SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)					R20
IV B. Tech I Semester MODEL QUESTION PAPER					
DATA VISUALIZATION					
Artificial Intelligence & Data Science					
Time: 3 Hrs.Max.			Marks: 70 M		
Answer ONE Question from EACH UNIT					
All questions carry equal marks					
			CO	KL	M
<b>UNIT -1</b>					
1.	a).	How Data-Mapping Data onto Aesthetics	1	2	7
	b).	How Cartesian coordinates, and non linear axes used for Data Visualization	1	2	7
<b>OR</b>					
2.	a).	Explain how color can be used to represent data values and tool to highlight	1	3	7
	b).	Explain Visualizing amounts	1	2	7
<b>UNIT -II</b>					
3.	a).	How to visualize multiple distributions at the same time	2	3	7
	b).	Explain empirical and highly skewed distributions	2	2	7
<b>OR</b>					
4.	a).	Explain how visualizing distributions in vertical and horizontal axis	2	2	7
	b).	Explain visualization of distributions by Histograms and Density-plots	2	2	7
<b>UNIT -III</b>					
5.	a).	Explain the case where side-by-side Bars are suitable than pie charts	3	3	7
	b).	Explain Visualization of Nested Proportions- Mosaic Plots and Treemaps	3	2	7
<b>OR</b>					
6.	a).	Explain Nested Pies and parallel sets	3	2	7
	b).	Explain Visualization of Associations Among Two or More Quantitative Variables	3	2	7
<b>UNIT -IV</b>					
7.	a).	Explain how to framing probabilities as frequencies	4	3	7
	b).	Explain Visualizing the Uncertainty of Curve Fits	4	2	7
<b>OR</b>					



<b>8.</b>	<b>a).</b>	Define Detrending? Explain Time Series Decomposition	<b>4</b>	<b>3</b>	<b>7</b>
	<b>b).</b>	Explain how to visualize response curves	<b>4</b>	<b>2</b>	<b>7</b>
		<b>UNIT -V</b>			
<b>9.</b>	<b>a).</b>	What is principle of proportional ink? Explain Visualization along Linear Axes?	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	Explain visualization along Logarithmic Axes	<b>5</b>	<b>2</b>	<b>7</b>
		<b>OR</b>			
<b>10.</b>	<b>a).</b>	Explain Partial Transparency and Jittering	<b>5</b>	<b>2</b>	<b>7</b>
	<b>b).</b>	How to Use 2D Histograms, Contour Lines in visualization	<b>5</b>	<b>2</b>	<b>7</b>
		<b>CO-COURSE OUTCOME</b>	<b>KL-KNOWLEDGE LEVEL</b>	<b>M-MARKS</b>	

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