Department of CSE (AI & ML)

B.Tech Mid Question Bank (R22 Regulation)

Academic Year: 2025-26 **Semester: VI**

Subject Name: Knowledge Representation and Reasoning

Faculty Name: B. Prashanth

PART-A

Q. No	Questions	BL	CO	Unit No
1	Define Knowledge, Knowledge Representation and Reasoning.	L1	CO1	I
2	List the varieties of logic used in KRR.	L1	CO1	I
3	What are Knowledge Based Systems?	L2	CO1	I
4	State the need for Knowledge Representation in AI.	L2	CO1	I
5	Define Ontology.	L1	CO2	II
6	What is Mereology?	L1	CO2	II
7	Define Continuants and Occurrents.	L2	CO2	II
8	What is Granularity in ontology?	L2	CO2	II
9	What is Knowledge Engineering?	L1	CO3	III
10	Define Frame in KRR.	L2	CO3	III

PART-B

Q. No	Questions	BL	CO	Unit No
1	Discuss the role of Logic in Knowledge Representation and Reasoning.	L2	CO1	I
2	Explain the need of KRR in Artificial Intelligence.	L3	CO1	I
3	Illustrate syllogism with a suitable example.	L3	CO1	I
4	Explain Propositional Logic with an example.	L4	CO1	I
5	Describe Predicate Logic with suitable examples.	L2	CO1	I
6	Discuss key features of a good logic	L3	CO1	I

	system.			
7	Explain different ontological categories.	L2	CO2	II
8	Discuss Immanuel Kant’s categories.	L3	CO2	II
9	Explain the relation between space and time.	L4	CO2	II
10	Describe top-level categories in ontology.	L5	CO2	II
11	Explain Mereology in detail.	L2	CO2	II
12	Describe Triadic Structure with an example.	L3	CO2	II
13	Explain the structure of a frame with an example.	L2	CO3	III
14	Discuss different approaches to formalism.	L2	CO3	III
15	Explain translation from informal to formal specification.	L3	CO3	III
16	Discuss natural language semantics.	L3	CO3	III

Department of CSE(AI&ML)

B. Tech Mid Question Bank (R22 Regulation)

Academic Year:2025-26 Semester: VI

Subject Name: Data Analytics(22AM602PC)

Faculty Name:Dr.Md.Shareef,M.Balaji,V.Srinu,Sk.Sharif

PART-A

Q.No	Questions	Marks	BL	CO	Unit No
1	Define Data Management.	2	L1	CO1	1
2	Define different types of data	2	L1	CO1	1
3	What is ETL & EDA?	2	L2	CO1	1
4	What is an outlier, missing values and Quality?	2	L2	CO1	1
5	What is Data Analytics and List the tools used for data analytics?	2	L1	CO2	2
6	List the data modelling techniques and list the applications of Data Analytics.	2	L1	CO2	2
7	Define the Sampling and What is Missing Imputations?	2	L2	CO2	2
8	What is Missing Imputations and List the different types of variables.	2	L2	CO2	2
9	What is regressionand logistic regression?	2	L1	CO3	3
10	Explain about Root Mean Squared Error?.	2	L1	CO3	3

PART-B

Q.No	Questions	Marks	BL	CO	Unit No
1	Explain in detail about data processing needs ?	4	L2	CO1	1
2	Discuss in detail about the various sources of data and Explain survey methods and experimental method	4	L3	CO1	1
3	Discuss briefly about different Data formats and data quality?	4	L3	CO1	1
4	Explain the following with an example A) Data cleaning B) Duplicate Data	4	L4	CO1	1
5	Explain the following: A)How to design Data Architecture? What are the factors that influences the data architecture? B) What is Data management? Explain about various sources of Data management in detail?	8	L2	CO1	1
6	Explain in detail about the data pre-processing with an example.	8	L3	CO1	1

7	Explain in detail about Data Analytics life cycle?	4	L2	CO2	2
8	Discuss about various kinds of business modelling Applications and Data modelling Techniques.	4	L3	CO2	2
9	Discuss about Missing Imputations.	4	L3	CO2	2
10	Explain databases and types of data and variables involved in data analytics.	4	L4	CO2	2
11	Explain the following: A) What is Data Analytics? Discuss about different types of Data Analytics. B) Differentiate Nominal data and Ordinal data.	8	L2	CO2	2
12	Explain about different tools used for Data analytics with an example.	8	L3	CO2	2
13	Explain about linear Regression with an example?	4	L2	CO3	3
14	Explain about the logistic regression with an example	4	L2	CO3	3
15	Explain about Evaluation metrics for Linear Regression.	4	L2	CO3	3
16	Discuss in detail about model building?	4	L2	CO3	3

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B.Tech Mid Question Bank (R22 Regulation)

Academic Year: 2025-26 **Semester: VI**

Subject Name: Natural Language Processing

Faculty Name: G. Parvathi Devi

PART-A

Q.No	Questions	BL	CO	Unit No
1	What is Natural Language Processing	L1	CO1	1
2	What is Domain Specific Language (DSL)?	L1	CO1	1
3	What is Tokenization and What are the types of Tokenization?	L1	CO1	1
4	What is the difference between stemming and lemmatization?	L1	CO1	1
5	What is the use of Treebank?	L1	CO2	2
6	Explain syntax analysis using in phrase structure tree.	L1	CO2	2
7	What is Constituency Parsing?	L1	CO2	2
8	What is Dependency Parsing?	L1	CO2	2
9	What is semantic parsing?	L1	CO3	3
10	What is Word Sence Disambiguation?	L1	CO3	3

PART-B

Q.No	Questions	BL	CO	Unit No
1	Explain the issues and challenges of NLP System in detail.	L2	CO1	1
2	Explain the applications of Natural Language processing	L2	CO1	1
3	Describe the morphological models with illustrations	L3	CO1	1
4	Discuss the structure and components of words in detail.	L3	CO1	1
5	Why document structure is important in NLP? Explain with examples	L2	CO1	1
6	Explain the issues and challenges of morphological models	L2	CO1	1
7	Explain Parsing Algorithms with the help of an example	L2	CO2	2

8	What is a Treebank, and how is it used in syntactic analysis of natural language?	L2	CO2	2
9	What are the issues in multilingual syntactic analysis?	L2	CO2	2
10	Explain various approaches for Representation of Syntactic Structure.	L2	CO2	2
11	Explain the use of probabilistic context free grammars for ambiguity resolution in parsing	L3	CO2	2
12	Explain various Models for Ambiguity Resolution in Parsing	L2	CO2	2
13	Describe in detail about word sense disambiguation with an example	L3	CO3	3
14	Illustrate the methods for resolving entity and event in natural language.	L2	CO3	3
15	Explain the concept of predicate argument structure and give example	L2	CO3	3
16	Explain the Systems and software for meaning representation.	L3	CO3	3

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B. Tech Mid Question Bank (R22 Regulation)

Academic Year:2025-26 Semester: VI

Subject Name: FUNDAMENTALS OF INTERNET OF THINGS [20EC612OE]

PART-A

Q.No	Questions	Marks	BL	CO	Unit No
1	Define the Internet of Things (IoT).list out its characteristics	2	L1	CO1	1
2	List the functional blocks of an IoT system	2	L1	CO1	1
3	What is the role of a gateway in IoT networking?.	2	L1	CO1	1
4	List out the communication protocols used in IoT	2	L1	CO1	1
5	State one similarity between IoT and M2M.	2	L1	CO2	2
6	Why is interoperability important in IoT systems?	2	L2	CO2	2
7	What is Arduino? List out any four features.	2	L1	CO2	2
8	What is the function of the void setup() function in Arduino?	2	L1	CO2	2
9	What does the print() function do in Python?	2	L1	CO3	3
10	State use case of Raspberry Pi in IoT applications.	2	L1	CO3	3

PART-B

Q.No	Questions	Marks	BL	CO	Unit No
1	Explain the physical design of IoT systems	4	L2	CO1	1
2	Discuss the functional blocks of IoT	4	L3	CO1	1
3	Evaluate how the integration of functional blocks in a smart agriculture IoT solution	4	L3	CO1	1
4	Explain the basics of networking in IoT systems	4	L4	CO1	1
5	Analyze the impact of networking in the context of IoT in healthcare applications.	8	L3	CO1	1
6	Discuss the role of communication protocols in IoT.	8	L3	CO1	1
7	Explain the concept of M2M communication and its applications in the energy and healthcare industries.	4	L2	CO2	2
8	Analyze how M2M communication differs from traditional human-to-machine communication.	4	L3	CO2	2
9	Compare and contrast IoT and M2M communication.	4	L3	CO2	2
10	Evaluate how the integration of IoT capabilities extends the functionality of traditional M2M systems in smart cities.	4	L4	CO2	2
11	Explain the structure of an Arduino program with examples of basic functions like setup() and loop(). Develop a basic Arduino program to blink an LED	8	L2	CO2	2
12	Explain Integration of Sensors and Actuators with Arduino	8	L2	CO2	2

13	Explain the key features of Python programming and how they make it suitable for IoT applications.	4	L2	CO3	3
14	Discuss the hardware and software features of Raspberry Pi in IoT development	4	L2	CO3	3
15	Analyze how Raspberry Pi can be used to create a low-cost IoT system.	4	L3	CO3	3
16	Explain the process of interfacing basic peripherals with Raspberry Pi.	4	L2	CO3	3

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B.Tech Mid Question Bank (R22 Regulation)

Academic Year: 2025-2026 Semester: VI

Subject Name: Computer Vision and Robotics

Faculty Name: Ravindran M

PART-A

Q.No	Questions	BL	CO	Unit No
1	Define Photometric Stereo.	L1	CO1	1
2	Define radiance and irradiance.	L1	CO1	1
3	Define qualitative radiometry.	L1	CO1	1
4	Define albedo.	L1	CO1	1
5	Define convolution in image processing.	L1	CO2	2
6	Define spatial frequency.	L1	CO2	2
7	Define aliasing.	L1	CO2	2
8	Define an edge in an image.	L1	CO2	2
9	Define clustering.	L1	CO3	3
10	Define stereopsis.	L1	CO3	3

PART-B

Q.No	Questions	BL	CO	Unit No
1	Explain the geometry of a pinhole camera with a neat diagram.	L2	CO1	1
2	Describe different types of light sources and their effects on image formation.	L2	CO1	1
3	Explain local shading models used in computer vision.	L2	CO1	1
4	Explain the process of human color perception.	L2	CO1	1
5	Demonstrate radiometric concepts and discuss light–surface interaction.	L3	CO1	1
6	Demonstrate color representation models and surface color formation.	L3	CO1	1
7	Explain shift-invariant linear systems.	L2	CO2	2
8	Explain sampling and aliasing effects in images.	L2	CO2	2
9	Apply gradient-based methods for edge detection.	L3	CO2	2
10	Explain oriented pyramids in texture analysis.	L2	CO2	2
11	Demonstrate Fourier Transform and its application in image filtering.	L3	CO2	2
12	Demonstrate texture representation and synthesis models.	L3	CO2	2
13	Explain epipolar geometry in two-view systems.	L2	CO3	3
14	Illustrate background subtraction techniques.	L3	CO3	3

15	Demonstrate segmentation using clustering.	L3	CO3	3
16	Explain Gestalt principles in vision.	L2	CO3	3