By Shweta Tiwari from IT Department

Question Bank(Theoretical Questions) and Assignment Bank(Theoretical Questions) of "Artificial Intelligence for Engineering/Engineers(KMC-101)"

March 1, 2022

Question Bank and Assignment Bank
MS. SHWETA TIWARI

Rajkiya Engineering College | Ambedkar Nagar, UP, India

Faculty Name: Miss. Shweta Tiwari, Subject: Artificial Intelligence for Engineering (KMC101)
Year- 1st Year, Semester- 1st Sem, Branch- EE and IT, Session- Odd Semester (2021-22)

Artificial Intelligence for Engineering

This is only an attempt to discover some questions that can be generated in the subject "Artificial Intelligence For Engineering". Questions have been distributed unit wise. If you find any errors, then please do write to us.

Academic Content File

Session	Semester	Branch	Name of Subject	Code(University)
2021-22	Odd	IT and EE	ARTIFICIAL INTELLIGENCE FOR ENGINEERS	KMC101/KMC201

Name of Faculty: Shweta Tiwari

Department: Information Technology

Designation: Guest Faculty

Syllabus of the Subject

Syllabus

Unit 1 : An overview to AI: The evolution of AI to the present, Various approaches to AI,What should all engineers know about AI?,Other emerging technologies, AI and ethical concerns

Unit 2: Data & Algorithms: History Of Data, Data Storage And Importance of Data and its Acquisition, The Stages of data processing, Data Visualization, Regression, Prediction & Classification, Clustering & Recommender Systems

Unit 3: Natural Language Processing: Speech recognition, Natural language understanding, Natural language generation, Chatbots, Machine Translation

Unit 4: Artificial Neural Networks: Deep Learning, Recurrent Neural Networks, Convolutional Neural Networks, The Universal Approximation Theorem, Generative Adversarial Networks

Unit 5: Applications: Image and face recognition,Object recognition, Speech Recognition besides Computer Vision, Robots, Applications

References:

Elaine **Rich**, Kevin **Knight**, & Shivashankar B Nair, **Artificial Intelligence**, McGraw Hill, 3rd

Lecture/Teaching Plan|| Artificial Intelligence for Engineers (KMC-101) || Odd Semester || 2021-22

Lecture Number	Content of Syllabus	Proposed Date of Lecture	Unit Number
CO1 Understand the evolution and various approaches of AI			
1	The evolution of AI to the present		Unit 1 An overview to AI
2	Various approaches to AI		
3	What should all engineers know about AI?		
4	Other emerging technologies		

5	AI and ethical concerns		
CO2	Understand data storage, processing, visualization, and its use in regression, clustering etc		
6	History Of Data		
7	Data Storage And Importance of Data and its Acquisition		
8	The Stages of data processing		Unit 2

9	Data Visualization		Data & Algorithms
10	Regression, Prediction & Classification		
11	Clustering & Recommender Systems		
CO3 Understand natural language processing and chatbots			
12	Speech recognition		Unit 3 Natural Language Processing
13	Natural language understanding		
14	Natural language generation		
15	Chatbots		
16	Machine Translation		
CO4 Understand the concepts of neural networks			
17	Deep Learning		Unit 4 Artificial Neural Networks
18	Recurrent Neural Networks		
19	Convolutional Neural Networks		
20	The Universal Approximation Theorem		
21	Generative Adversarial Networks		
CO5 Understand the concepts of face, object, speech recognition and robots			
22	Image and face recognition		Unit 5 Applications
23	Object recognition		
24	Speech Recognition besides Computer Vision		
25	Robots		
26	Applications		

QUESTION BANK

UNIT-1

1. What is Intelligence?
2. Describe the four categories under which AI is classified with examples.
3. Define Artificial Intelligence.
4. List the fields that form the basis for AI.
5. What are various approaches to AI?
6. What are emerging technologies? Give some examples.
7. What is the importance of ethical issues in AI?
8. Write the history of AI.
9. What are applications of AI?
10. What should all engineers know about AI?

UNIT-2

1. What is Data and Big Data?
2. What is an algorithm and its properties?
3. Explain data and its acquisition.
4. What are the stages involved in data processing?
5. Define data visualization.
6. How many types of data visualization.
7. What is data classification and Regression?
8. What is data clustering? Explain any one method in detail.
9. What are recommender systems? How is working in OTT?
10. How many types of data acquisition systems.

UNIT-3

1. What is Natural Language Processing? Discuss with some applications.
2. List any two real-life applications of Natural Language Processing.
3. What is Speech recognition
4. Explain the Natural language understanding and Natural language generation
5. Show the working of chatbots.
6. Analyze how statistical methods can be used in machine translation
7. Describe the different components of a typical conversational agent

UNIT-4

1. Define ANN and Neural computing.
2. List some applications of ANNs.
3. What are the design parameters of ANN?
4. Explain the three classifications of ANNs based on their functions. Explain them in brief.
5. Write the differences between conventional computers and ANN.
6. What are the applications of Machine Learning .When it is used.
7. What is deep learning , Explain its uses and application and history.
8. What Are the Applications of a Recurrent Neural Network (RNN)?
9. What Are the Different Layers on CNN?
10. Explain Generative Adversarial Network.

UNIT-5

1. What is the Working of Image Recognition and How it is Used?
2. What is facial recognition - and how sinister is it?
3. What is object recognition in image processing?
4. what is speech recognition in artificial intelligence
5. What's the Difference Between Robotics and Artificial Intelligence?
6. What is robotics?
7. What are applications of artificial intelligence?
8. What is the Working of Image Recognition and How it is Used?
9. What is facial recognition - and how sinister is it?
10. What is object recognition in image processing?
11. what is speech recognition in artificial intelligence
12. What's the Difference Between Robotics and Artificial Intelligence?
13. What is robotics?
14. What are applications of artificial intelligence?

ASSIGNMENT BANK

UNIT-1

1. Describe the four categories under which AI is classified with examples.

2. List the fields that form the basis for AI.

3. What are emerging technologies? Give some examples.

4. Write the history of AI.

5. What should all engineers know about AI?

UNIT-2

1. What is Data and Big Data?

2. Explain data and its acquisition.

3. How many types of data visualization.

4. What is data classification and Regression?

5. What are recommender systems? How is working in OTT?

UNIT-3

1. What is Natural Language Processing? Discuss with some applications.
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