

**B.TECH**  
**(SEM II) THEORY EXAMINATION 2022-23**  
**AI FOR ENGINEERING**

**Time: 3 Hours****Total Marks: 100****Note:** Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**

**1. Attempt all questions in brief.****2 x 10 = 20**

- (a) Explain AI. Give the evolution of AI to the present.
- (b) Explain clustering & recommender systems.
- (c) Explain data.
- (d) Narrate the advantages of data storage?
- (e) Give the main challenges in speech recognition.
- (f) Explain deep learning. What is biasing in it.
- (g) Explain Neural Network (NN).
- (h) Differentiate anomaly and binary classification problems.
- (i) Explain robot.
- (j) Discuss the possible applications of AI. Explain in brief.

**SECTION B**

**2. Attempt any three of the following:****10x3=30**

- (a) Discuss the different technologies which are developed in the light of AI. Explain in detail.
- (b) Explain data storage and process to acquire it using sensors.
- (c) Explain NLP. Give the generation of it.
- (d) Explain the universal approximation theorem.
- (e) How recognition of different objects is done through AI? List the challenges faced in the same.

**SECTION C**

**3. Attempt any one part of the following:****10x1=10**

- (a) Explain various approaches to AI.
- (b) Discuss the other emerging technologies developed besides AI. Explain in detail.

**4. Attempt any one part of the following:****10x1=10**

- (a) How to process the data through AI? Explain all the Stages of data processing.
- (b) Differentiate regression, prediction and classification problems.

**5. Attempt any one part of the following:****10x1=10**

- (a) Explain chatbots. Discuss its necessities in current scenario. Explain in detail.
- (b) Explain the concept of machine translation. How it is useful in data analysis. Is it subfield of computational linguistics?

**6. Attempt any *one* part of the following:**

**10x1=10**

- (a) Differentiate recurrent neural networks and convolutional neural networks.
- (b) Explain generative adversarial networks.

**7. Attempt any *one* part of the following:**

**10x1=10**

- (a) How image and face recognition problems are done with the help of AI? Explain with necessary mathematical analysis.
- (b) Explain computer vision. Explain speech recognition besides computer vision.

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