Roll No: 

# B TECH
## (SEM II) THEORY EXAMINATION 2021-22
## AI FOR ENGINEERING

*Time: 3 Hours*                                                                                     *Total Marks: 100*

**Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.

## SECTION A

**1.**      **Attempt *all* questions in brief.**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Define Artificial Intelligence and discuss its role. | 2 | 1 |
| b. | Explain the different domains of AI. | 2 | 1 |
| c. | Define data and its importance. | 2 | 2 |
| d. | Identify the challenges faced by speech recognition system. | 2 | 2 |
| e. | How NLP can be beneficial in real life situation? | 2 | 3 |
| f. | What are the limitations of machine translation? | 2 | 3 |
| g. | Explain how deep learning is different from machine learning. | 2 | 4 |
| h. | What is the meaning of learning in artificial neural network? | 2 | 4 |
| i. | What is the difference between speech recognition and voice recognition? | 2 | 5 |
| j. | Define computer vision. | 2 | 5 |

## SECTION B

**2.**      **Attempt any *three* of the following:**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | How artificial intelligence systems are different from traditional system? | 10 | 1 |
| b. | Discuss the importance of Data Visualization. List out various tools for Data Visualizations in detail. | 10 | 2 |
| c. | Compare regression, classification and clustering with example. | 10 | 3 |
| d. | Explain the working of Convolutional Neural Network. | 10 | 4 |
| e. | Describe the working of face recognition. | 10 | 5 |

## SECTION C

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

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | There are few ethical concerns related to AI. Discuss them is detail. | 10 | 1 |
| b. | Explain various skills required to become an AI Engineer. | 10 | 1 |

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

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Explain step by step working of speech recognition system. | 10 | 2 |
| b. | What are the different stages of Data Processing? | 10 | 2 |

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

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Draw a neat and clean diagram to represent the working of Chatbot. Differentiate between Chatbot and Virtual Assistant. | 10 | 3 |
| b. | Explain Natural Language Understanding and Natural Language Generation. | 10 | 3 |

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

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Compare biological and artificial neural network. What is Universal Approximation Theorem? | 10 | 4 |
| b. | Explain the working of Generative Adversarial Network. | 10 | 4 |

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

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Explain the difference between Robotics and Artificial Intelligence. | 10 | 5 |
| b. | How Image Recognition and Object Identification are used in Tesla, an autonomous Car? | 10 | 5 |