



**BTECH**  
**(SEM I) THEORY EXAMINATION 2023-24**  
**AI FOR ENGINEERING**

**TIME: 3HRS****M.MARKS: 25**

**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.	2	1
b.	Explain the term Big Data.	2	2
c.	Explain the concept of K- Mean clustering algorithm.	2	2
d.	What is machine translation?	2	3
e.	Define speech recognition and provide an example of a real-life application where speech recognition technology is utilized.	2	3
f.	What are some limitations of RNNs.	2	4
g.	What is deep learning, and how does it differ from traditional machine learning approaches?	2	4
h.	Discuss future prospects and opportunities for the integration of AI technologies in healthcare.	2	1
i.	Explain the concept of feature extraction in object recognition.	2	5
j.	What are the common image file formats used for storing images on computers?	2	5

**SECTION B**

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

Q no.	Question	Marks	CO
a.	Explain the relationship between AI, Machine Learning, and Deep learning.	10	1
b.	Explain the need for data processing, Explain various stages in data processing.	10	2
c.	What are chatbots? Explain its advantage	10	3
d.	Discuss the architecture of a convolutional neural network (CNN), highlighting its applications and advantages.	10	4
e.	Define a robot and explain its fundamental characteristics.	10	5

**SECTION C**

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

Q no.	Question	Marks	CO
a.	I n x h z x x % y m j % u w { f h ~ % h t s h j w s x % w j { y j i % y t % F N x ~ x y j r x % h t o j h y s l % f s i % f s f q ; i s l % f w l j % r t z s y x t k a i j w k t s f q i f y f 3	10	1
b.	How artificial intelligent systems are different from traditional systems? Explain with example	10	1

Roll No: 

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**TIME: 3HRS****M.MARKS: 25****4. Attempt any *one* part of the following:**

Q no.	Question	Marks	CO
a.	Explain Linear regression with an example.	10	2
b.	Explain in detail various data visualization techniques used in data science.	10	2

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

Q no.	Question	Marks	CO
a.	Explain the role of natural language processing in enhancing the accessibility of differently abled persons.	10	3
b.	What are Large Language Models (LLMs), J}uqfn%ymjn%uwr fw-%uzwutxj%es%mj%rj q%k% fyzwf%ofslzflj%wthjxxns13	10	3

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

Q no.	Question	Marks	CO
a.	Describe the architecture and training process of a Generative Adversarial Network	10	4
b.	Explain the Universal Approximation Theorem (UAT) in the context of neural networks.	10	4

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

Q no.	Question	Marks	CO
a.	Discuss the advantages and challenges of face recognition systems in real life.	10	5
b.	Define computer vision, Describe the key components of a computer vision system	10	5