SEM VI | CO | ECE / EIE / IT / ET / AI / ETMAC601

31 MAY 2024

D Y PATIL DEEMED TO BE UNIVERSITY RAMRAO ADIK INSTITUTE OF TECHNOLOGY NAVI MUMBAI

RAMRAO ADIK INSTITUTE OF TECHNOLOGY, NERUL

(D Y Patil Deemed to be University)

Program: B.Tech.
End Semester Examination: Semester VI
Course Code: ETMAC601 **Course Name:** Artificial Intelligence
Time: 2 hour
Max. Marks: 60

Instructions: 1. Allthree questions are compulsory

Que. No.	Question	Max. Marks	CO	BT
Q1	Solve any **Four**			
i)	Describe the key developments in the history of Artificial Intelligence and their impact on the field.	5	CO1	BT2
ii)	Define uninformed search methods and explain their basic principles.	5	CO2	BT3
iii)	What are Ethical issues in AI?	5	CO5	BT2
iv)	Discuss the difference between feedforward and recurrent neural networks.	5	CO4	BT2
v)	Formulate the route-finding problem with all components and diagram.	5	CO3	BT4
vi)	Write sentimental and behavioral application of AI with suitable example.	5	CO6	BT3

Que. No.	Question	Max. Marks	CO	BT
Q2 A	Solve any **Two**			
i)	Provide examples of optimization problems in real-world applications and discuss the challenges involved in solving them.	5	CO2	BT3
ii)	Describe the challenges involved in developing and maintaining expert systems.	5	CO1	BT4
iii)	Explain the concepts of chromosomes, genes, and fitness functions in genetic algorithms.	5	CO4	BT3
iv)	What possible transformations can we expect to happen in the near future?	5	CO6	BT4
Q 2 B	Solve any **One**			

i)	Provide an explanation of the syntax and semantics of first-order logic as it pertains to knowledge-based agents.	10	CO3	BT3
ii)	What are major AI transformation for near future? Explain with suitable example.	10	CO5	BT4

Que. No.	Question	Max. Marks	CO	BT
Q3	Solve any Two			
i)	Compare and contrast narrow AI and general AI, providing examples to illustrate the differences.	10	CO1	BT3
ii)	Explain fuzzy set operations (Union, Intersection, and Complement) with a detailed understanding of the underlying principles. Subsequently, compute these operations for the following fuzzy sets: $\tilde{A} = \{(x1, 0.2), (x2, 0.5), (x3, 0.6), (x4, 0.8), (x5, 1.0)\}$ $\tilde{B} = \{(x1, 0.8), (x2, 0.6), (x3, 0.4), (x4, 0.2), (x5, 0.1)\}$	10	CO4	BT5
iii)	Describe Knowledge-Based Agentsand briefly explain First Order Logic.	10	CO3	BT5

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Course Outcomes (CO) -Learner will be able to:

CO1: Understand history and evolution of AI.
CO2: Build problem formulation and solving abilities.
CO3: Create and analyze the performance of agents in AI.
CO4: Understand and apply various tools in AI.
CO5: Understand ethical issues in application of AI.
CO6: Create and analyze basic AI applications.

BT1- Remembering, BT2- Understanding, BT3- Applying, BT4- Analyzing, BT5- Evaluating, BT6- Creating