K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

	SUMMER-2023		
	Exam Seat No.:		
	Academic Year:2022-2023	Semester:II	
	Name of Programme:MCA	Pattern:2022	
	Name of Course:Elective I: A : Artificial Intelligence	Course Code:MCA222003A	
	Max. Marks:60	Duration:2.30	

	Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use. 1. This question paper contains __2__page(s). 2. Answer to each new question is to be started on a new page. 3. Assume suitable data wherever required, but justify it. 4. Draw the neat labelled diagrams, wherever necessary. 5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question	

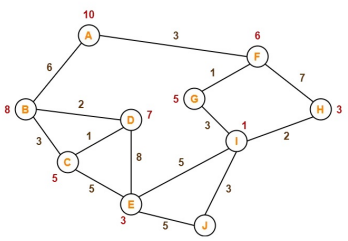
Question No. 1 Attempt following Question

1a) Describe Artificial Intelligence along with its application. (6) CO1

Question No. 2 Attempt following Question

2a) (6) CO2

Apply A* search algorithm to find most cost-effective path to reach from start state A to final state J



The numbers written on edges represent the distance between the nodes. The numbers written on nodes represent the heuristic value.

Question No. 3 Attempt following Question

3a)	Illustrate different types of knowledge in AI.	(8)	CO3
	OR		
3b)	Demonstrate logical expressions and quantifiers in predicate logic.	(8)	CO3
3c)	Illustrate roles of TMS (truth maintenance system.	(8)	CO3
	OR		
3d)	Demonstrate any two ways to solve problems with uncertain knowledge in probabilistic reasoning.	(8)	CO3

Question No. 4 Attempt following Question

4a)	Illustrate different types of learning methods.	(8)	CO4
	OR		
4b)	Write an algorithm for nonlinear planning. Discuss advantages and disadvantages for nonlinear planning.	(8)	CO4
4c)	Discuss various applications of Neural Network.	(8)	CO4
	OR		
4d)	Demonstrate working of Backpropagation Algorithm. Also discuss its importance.	(8)	CO4

Question No. 5 Attempt following Question

5a)	Illustrate components of expert system.	(8)	CO5
	OR		
5b)	Illustrate any four NLP phases.	(8)	CO5
5c)	Explain architecture of expert system.	(8)	CO5
	OR		
5d)	Illustrate types of language models in NLP.	(8)	CO5