

University of Mumbai
Examination 2020

Program: Computer Engineering
Curriculum Scheme: Rev2016
Examination: BE Semester VII

Course Code: CSC703 and Course Name: AISC

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which one of the following is not a NN activation function.
Option A:	Binary Unipolar
Option B:	Binary Bipolar
Option C:	MinMax
Option D:	Sigmoid
2.	In Membership function graph x-axis represent?
Option A:	universe of discourse.
Option B:	degrees of membership in the [0, 1] interval
Option C:	degrees of discourse
Option D:	Fuzzy Base Module
3.	Three main basic features involved in characterizing membership function are
Option A:	Intution, Inference, Rank Ordering
Option B:	Fuzzy Algorithm, Neural network, Genetic Algorithm
Option C:	Core, Support , Boundary
Option D:	Weighted Average, center of Sums, Median
4.	Which of the following is not a defuzzification method
Option A:	Centroid Method
Option B:	Weighted Average Method
Option C:	Maxima Method
Option D:	Fuzzy Extention Principal
5.	In which agent does the problem generator is present?
Option A:	Learning agent
Option B:	Observing agent
Option C:	Reflex agent
Option D:	None of the mentioned
6.	Which search strategy is also called as blind search?
Option A:	Uninformed search
Option B:	Informed search
Option C:	Simple reflex search
Option D:	All of the mentioned
7.	In which ANN, loops are allowed?
Option A:	FeedForward ANN
Option B:	FeedBack ANN

Option C:	Both A and B
Option D:	None of the Above
8.	Why is the XOR problem exceptionally interesting to neural network researchers?
Option A:	Because it can be expressed in a way that allows you to use a neural network
Option B:	Because it is complex binary operation that cannot be solved using neural networks
Option C:	Because it can be solved by a single layer perceptron
Option D:	Because it is the simplest linearly inseparable problem that exists.
9.	Which one is not Supervised Learning Algorithm
Option A:	Perceptron Learning
Option B:	Kohonen Self organizing map
Option C:	Delta Learning
Option D:	Feedback Network
10.	In feature maps, when weights are updated for winning unit and its neighbour, which type learning it is known as?
Option A:	Karnaugt learning
Option B:	Boltzman learning
Option C:	Kohonen's learning
Option D:	Perceptron learning
11.	Which of the following is not the style of inference?
Option A:	Forward Chaining
Option B:	Backward Chaining
Option C:	Resolution Refutation
Option D:	Modus Ponens
12.	Which among the following could the Existential instantiation of $\exists x \text{Crown}(x) \wedge \text{OnHead}(x, \text{Johnny})$?
Option A:	$\text{Crown}(\text{John}) \wedge \text{OnHead}(\text{John}, \text{Jonny})$
Option B:	$\text{Crown}(y) \wedge \text{OnHead}(y, y, x)$
Option C:	$\text{Crown}(x) \wedge \text{OnHead}(x, \text{Jonny})$
Option D:	$\text{Crown}(x) \wedge \text{OnHead}(x, y)$
13.	Forward chaining systems are _____ where as backward chaining systems are _____
Option A:	Goal-driven, goal-driven
Option B:	Goal-driven, data-driven
Option C:	Data-driven, goal-driven
Option D:	Data-driven, data-driven
14.	A search algorithm takes _____ as an input and returns _____ as an output.
Option A:	Input, output
Option B:	Problem, solution
Option C:	Solution, problem
Option D:	Parameters, sequence of actions

15.	Which search is implemented with an empty first-in-first-out queue?
Option A:	Depth-first search
Option B:	Breadth-first search
Option C:	Bidirectional search
Option D:	Adversarial search
16.	Hill-Climbing approach does not stuck for which of the following reasons?
Option A:	Local maxima
Option B:	Ridges
Option C:	Plateaux
Option D:	uphill
17.	In Expert system, _____ tries to derive answers from a knowledgebase.
Option A:	Interface engine
Option B:	User
Option C:	Expert
Option D:	Engineer
18.	Who is not involve in expert system?
Option A:	Domain Expert
Option B:	Knowledge Engineer
Option C:	Knowledge User
Option D:	Business Manager
19.	What is the rule of a simple reflex agent?
Option A:	Simple-action rule
Option B:	Condition-action rule
Option C:	Simple & Condition-action rule
Option D:	Action-ondition Rule
20.	Which of the following is not the style of inference?
Option A:	Forward Chaining
Option B:	Backward Chaining
Option C:	Resolution Refutation
Option D:	Modus Ponem

Q2 (5 Marks Each)	Solve any Four Questions out of Six.
A	Differentiate between forward chaining and backward chaining.
B	Give Local and Global heuristic function block world problem
C	Determine alpha α -level set and strong α level sets for following fuzzy sets Plain A={ (1,0.5),(2,0.5),(3,0.8),(4,1),(5,0.7)(6,0.3) }
D	Explain defuzzification techniques
E	PEAS description for Robot Soccer Player. Characterize its environment.
F	Draw and explain architecture of Expert system

Q3. (10 Marks Each)	Solve any Two Questions out of Three
A	Explain planning problem in AI. What are the different problems in planning? Consider problem of changing flat tire. A goal is to have good spare tire properly mounted on car's axel, where initial state has flat tire on the axel and good spare tire in chunk. Give ADDL description for the problem.
B	Design McCulloh pits model for XOR gate
C	Explain Fuzzy controller system for tipping example. Consider service and food quality rated between 0 to10. Use this leave to tip of 25%