

Roll No.																			
----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



Department of Research & Development
Mid - Term Examinations - SEPTEMBER 2024

Odd Semester: Ph.D. Course Work	Date: 27 /09/2024
Course Code: CSE908	Time: 10:00am – 11:30am
Course Name: Artificial Intelligence – Concepts and Application	Max Marks: 50
Department:	Weightage: 25%

Instructions:

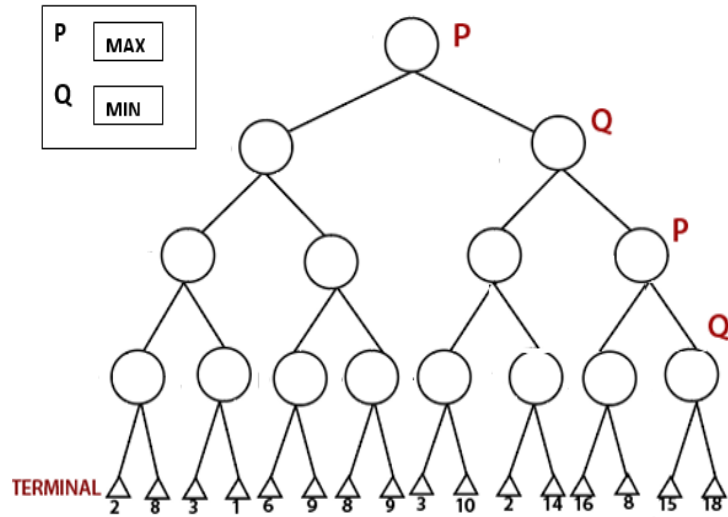
- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 5 marks.		4Qx5M=20M
1	Explain the Python program that demonstrates exception handling using a real-world example of a file reading operation and input validation.	5 Marks
2	Explain how utility-based agent differs from a goal-based agent with the help of an example.	5 Marks
3	Explain the four pillars of Object-Oriented Programming in Python with examples.	5 Marks
4	Discuss the limitations of uninformed search algorithms with respect to large or complex problem spaces.	5 Marks

Part B

Answer ALL Questions. Each question carries 15 marks.		2QX15M=30M
5	a. Explain the role of Alpha-Beta Pruning in modern AI-based game-playing systems.	06 Marks
	b. Apply the Alpha-Beta Pruning for the following diagram	09 Marks



Alpha-beta pruning

- 6 a. Each letter in this cryptarithmic puzzle represents a different digit, and none of the numbers use leading zeros. After finding the value of the digit that each letter represents in order to make this a correct sum, work out which number would be represented by the word STELLER.

$$\begin{array}{rcccccc}
 & & S & A & T & U & R & N \\
 + & & U & R & A & N & U & S \\
 \hline
 P & L & A & N & E & T & S
 \end{array}$$

- c. List the python libraries required for Data Visualization.

10 Marks

05 Marks