

Roll No.: .....

## SGT UNIVERSITY

### END TERM THEORY EXAMINATION JULY-2022

Faculty/College of Study:	Engineering & Technology	Year/Semester:	6 <sup>th</sup> Semester
Program:	BCA	Duration:	03:00 Hrs
Course/Subject:	Artificial Intelligence	Maximum Marks:	60
Course/Subject Code:	13450601	Batch:	2019

**Instructions:-**

1. Write Your Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided correct question paper. Complaint(s) in this regard, if any should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. All Questions are compulsory. Marks are indicated against each question.
4. Illustrate your answer with diagram wherever required.

### SECTION-A

#### (Very Short Answer Type Questions)

Note: All Questions are compulsory: -

[12X1=12 Marks]

S. No.	Question	Marks Allotted
1	Define Heuristic function.	1
2	List some of the uninformed search techniques.	1
3	What do you by meta knowledge?	1
4	What do you mean state space search problem?	1
5	Explain the term facets.	1
6	What are the techniques that we use for the knowledge representation?	1
7	What is the advantage of AI in our day-to-day life?	1
8	State the advantages of breadth first search algorithm.	1
9	What is NLP?	1
10	Define the concept of structural knowledge.	1
11	Write the components of AI knowledge cycle.	1
12	How is knowledge and intelligence related to each other?	1

## SECTION-B

(Short Answer Type Questions)

Note: All Questions are compulsory: -

[4X2=8 Marks]

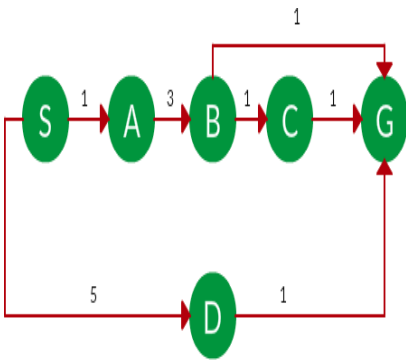
S. No.	Question	Marks Allotted
13	Define the term – Facts, Events.	2
14	Write the characteristics of expert system.	2
15	What do you mean by rote learning?	2
16	Explain informed search techniques with example.	2

## SECTION-C

(Descriptive Answer Type Questions)

Note: All Questions are compulsory: -

[4X4=16 Marks]

S. No.	Question	Marks Allotted
17	Write any six applications of expert system.	4
18	<p>Calculate the BFS, DFS and UCS for the following:</p> <div style="text-align: center;">  <pre> graph LR     S((S)) -- 1 --&gt; A((A))     A -- 3 --&gt; B((B))     B -- 1 --&gt; C((C))     C -- 1 --&gt; G((G))     S -- 5 --&gt; D((D))     D -- 1 --&gt; G     B -- 1 --&gt; G             </pre> </div> <p>Also mention the time and space complexity</p>	4
19	Explain the AI and its related areas.	4
20	Explain any 4 application areas of Artificial Intelligence.	4

## SECTION-D

### (Long Answer Type Questions)

Note: All Questions are compulsory: -

[4X6=24 Marks]

S. No.	Question	Marks Allotted
21	Explain the basic components of expert system	6
22	Describe the concept of semantic processing and syntacting processing in detail.	6
23	Explain the term knowledge representation and its types in details also give brief about components the AI knowledge cycle.	6
24	Consider the problem statement for the water jug problem Condition-one having the capacity to hold 3 gallons of water and the other has the capacity to hold 4 gallons of water. There is no other measuring equipment available and the jugs also do not have any kind of marking on them. So, the agent's task here is to fill the 4-gallon jug with 2 gallons of water by using only these two jugs and no other material. Initially, both our jugs are empty.	6