PARSHWANATH CHARITABLE TRUST'S

A.P. SHAH INSTITUTE OF TECHNOLOGY

Department of Computer Science and Engineering
Data Science

UNIT TEST-I

Class: TE **Semester: V** **Subject: AI**

Date:06/09/2023 **Time:10:00am-11:30am** **Max marks: 40**

Note the following instructions

1. **Attempt all questions.**
2. **Draw neat diagrams wherever necessary.**
3. **Write everything in Black ink (no pencil) only.**
4. **Assume data, if missing, with justification.**

Q.N	Questions	MARKS	CO	Blooms Taxonomy Level	PO
Q.1.	**Attempt any two.**				
1.	Determine the role of the Turing test in AI.	[5]	CO1	L2	
2.	How can AI be used in Game Theory?	[5]	CO1	L2	
3.	Relate NLP with AI using examples.	[5]	CO1	L2	
4.	What is the need of ethics in AI?	[5]	CO1	L2	
Q.2.	**Attempt any two**				
1.	Apply alpha beta pruning on following tree shown in figure 1.	[10]	CO3	L3	PO1, PO12
2	Apply greedy best first search on a graph shown in figure 2 to find a path from initial state S to goal state L. Determine the path cost also.	[10]	CO3	L3	PO1, PO12
3	Apply Genetic Algorithm to maximize the function $f(x)=-x^2+2x$, where x=[14, 25, 9, 20]	[10]	CO3	L3	PO1, PO12

Q.3.	**Attempt any one.**				
1.	Draw and describe the architecture of utility based agent. How is it different from a model based agent?	[10]	CO2	L3	PO1, PO12
2.	Determine PEAS description for following agents: a. Self Driving Car b. Autonomous Mars Rover	[10]	CO2	L3	PO1, PO12

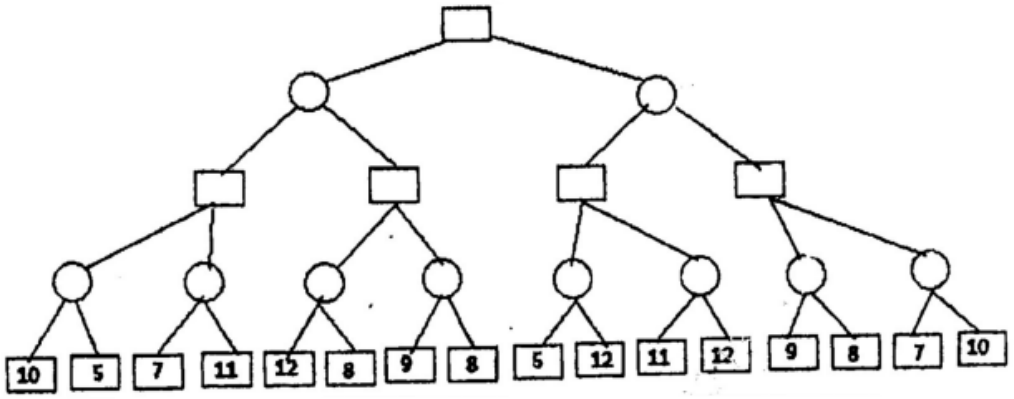

Figure:1

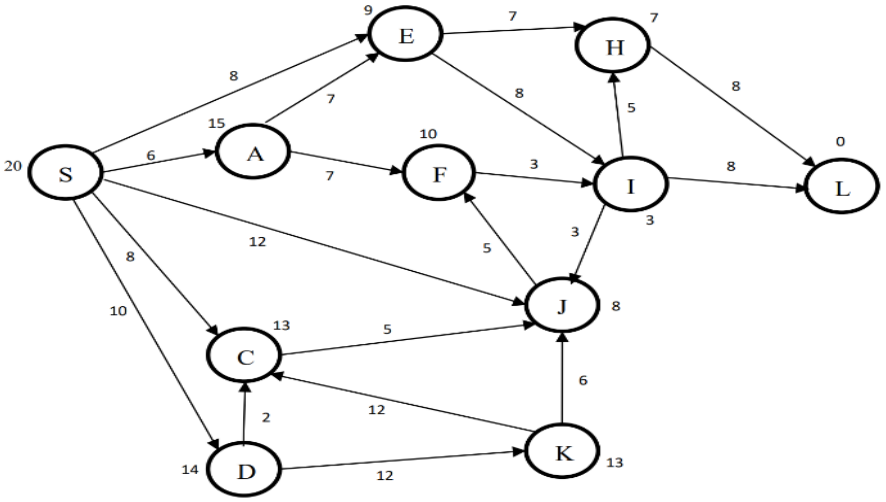

Figure:2