

G. Narayanamma Institute of Technology & Science**(Autonomous)****(for Women)**

Shaikpet, Hyderabad- 500 104

IV-B.Tech I-Semester Regular/Supplementary Examinations, December -2022.**ARTIFICIAL INTELLIGENCE****(Electronics and Communications Engineering)****Max. Marks: 70****Time: 03 Hours****Note:**

1. Question paper comprises of **Part A** and **Part B**.
2. **Part A** is compulsory which carries 10 marks. Answer all questions in Part A.
3. **Part B** (for 60 marks) consists of **five questions** with **“either” “or”** pattern. Each question carries 12 marks and may have a,b,c as sub questions. The student has to answer any one full question.

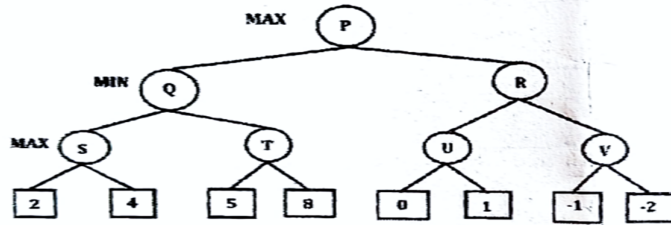
PART-A*(Answer 05 questions. Each question carries 2 marks)*

Q.No	Question	Marks	CO	Bloom's Level
<i>Q.1</i>	a) Mention any six subareas of AI.	[02]	CO1	[L2]
	b) List the steps involved in simple problem solving technique.	[02]	CO2	[L1]
	c) Mention the various intelligent agents.	[02]	CO1	[L2]
	d) Define conditional probability.	[02]	CO4	[L1]
	e) Define Parsing. What are the types of parsing?	[02]	CO6	[L1]

END OF PART A**PART-B***(Answer 05 full questions. Each question carries 12 marks)*

Q.No	Question	Marks	CO	Bloom's Level
<i>Q.2(a)</i>	Illustrate the following uninformed search strategies with example. i) Breadth First Search. ii) Uniform Cost Search iii) Depth First Search	[06]	CO2	[L3]
<i>(b)</i>	With neat diagram brief on Goal based agent.	[06]	CO1	[L2]
OR				
<i>Q.3(a)</i>	What is A* search? Explain various stages of A* search with an example	[06]	CO2	[L2]
<i>(b)</i>	List out features of Hill Climbing. Analyze the steps in simple Hill Climbing.	[06]	CO2	[L2]

- Q.4(a)** Differentiate between propositional logic and First Order Logic. List the inference rules along with suitable examples for First Order Logic [06] CO4 [L4]
 (b) Solve the below tree with min-max procedure. [06] CO2 [L3]



OR

- Q.5(a)** Analyze Unification Algorithm with suitable example. [06] CO3 [L4]
 (b) Illustrate Resolution Refutation in Propositional Logic. [06] CO3 [L3]

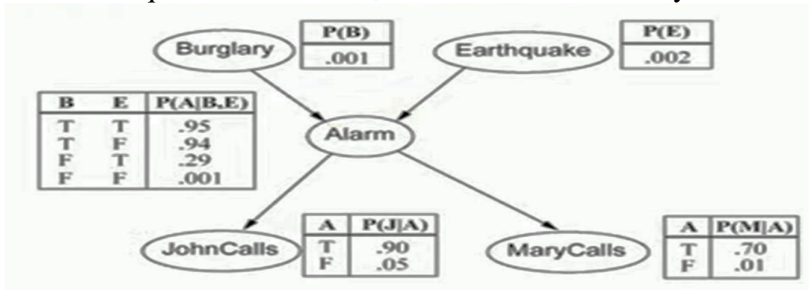
- Q.6(a)** Represent the following clauses in ESNet and do forward reasoning to derive John is living_thing. [08] CO3 [L5]
 $isa(X, living_thing) \dashrightarrow isa(X, animate)$
 $isa(X, animate) \dashrightarrow isa(X, human)$
 $isa(X, human) \dashrightarrow isa(X, man)$
 $isa(John, man)$

- (b) List out the characteristics of expert system. [04] CO3 [L2]

OR

- Q.7(a)** Describe about types of Knowledge representation? [06] CO1 [L1]
 (b) Analyze the Phases in Building Expert Systems. [06] CO3 [L4]

- Q.8(a)** State the Baye’s theorem. How it is useful for decision making under uncertainty about knowledge? [06] CO4 [L2]
 (b) What is the Probability that the alarm has sounded, but neither a burglary nor an earthquake has occurred, and both John and merry call.? [06] CO4 [L6]



OR

- Q.9** What is Supervised Learning? List and explain the types of supervised, un-supervised, reinforcement learning with an example. [12] CO5 [L2]

- Q.10(a)** List the Design Issues of Artificial Neural Networks. [06] CO5 [L2]
 (b) Explain Recurrent Networks with an example. [06] CO5 [L2]

OR

- Q.11(a)** List out Sentence Analysis Phases. Explain it. [06] CO6 [L2]
 (b) Explain Case Grammars with an example. [06] CO6 [L2]

END OF PART B
END OF THE QUESTION PAPER