Artificial Intelligence
T1

Ans- 6 (a) Medical diagnosis system.

Performance measure: Healthy patient, minimize costs, lawsuits.

Environment: Patient, hospital, staff

Actuators: Screen display (questions, tests, diagnosis, treatments, referrals)

Sensors: Keyboard (entry of symptoms, findings, patients answers)

(b) Satellite image analysis system.

Performance measure: correct image categorization

Environment: downlink from orbiting satellite

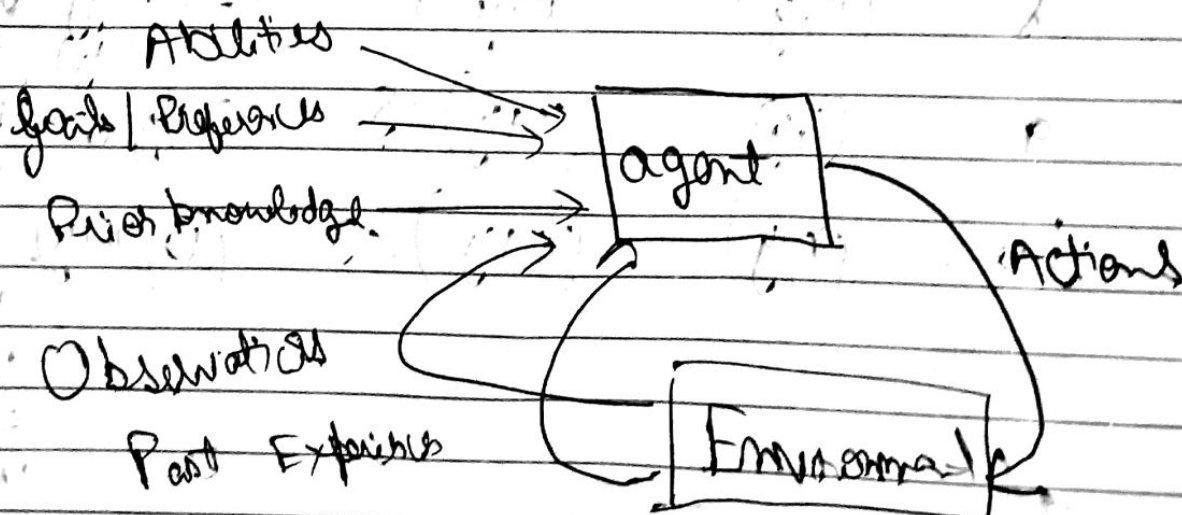Actuators: display categorization of scene

Sensors: color pixel arrays.

Ans-7 Intelligent agent is an agent which perceives its environment via sensors and acts in that environment with effectors hence, an agent gets percepts one at a time.

② It is autonomous.

③ It interacts with other agents as well as with environment.

④ It is goal directed.

⑤ It is reactive to the environment.

Rules for an AI agent:

① An AI agent must have the ability to perceive the environment.

② The observation must be used to make decisions

③ Decision should result in an action.

④ The action taken by an agent must be rational action.

Abilities

Goals / Preferences

Prior Knowledge

Observations

Past Experiences

agent

Actions

Environment

Ans 8 then let x denote the 5 gallon jug and y denote 4 gallon jug using product rule.

S.No.	initial state	condition	final state	Description of action
1	(x,y)	$x < 5$	$(5,y)$	Fill the 5 gallon Jug Completely
2	(x,y)	$y < 4$	$(x,4)$	Fill the 4 gallon jug completely
3	(x,y)	$x > 0$	$(x-d, y)$	Pour some part from 4 gallon
4	(x,y)	$y > 0$	$(x, y-d)$	Empty the 5 gallon jug
5	(x,y)	$x \geq 0$	$(0, y)$	Empty the 4 gallon jug
6	(x,y)	$y > 0$	$(x, 0)$	Pour some while 4 to 5
7	(x,y)	$x + y < 4$	$(4, y-(y-x))$	Pour some water from 5 to 4
8	(x,y)	$x + y < 9$	$(x-(4-y), y)$	Pour some water from 5 gallon to 5 fill 4 gallon
9	(x,y)	$(x+y) < 5$	$(x+y, 0)$	Pour all water from 4g. to 5 jug
10	(x,y)	$(x+y) < 3$	$(0, x+y)$	Pour all water from 5 gallon to 4 gallon

Hank Initial

Ans 5   Types of Intelligence.

- Natural Intelligence:

Capacity of the mind to understand principle, truths, facts or meanings, acquire knowledge and apply it to practice, using the ability to learn and comprehend.

- Artificial Intelligence or Machine intelligence:

Study of how to make computers do things which at the moment people do better.

Difference between Human and Artificial Intelligence :-

While human intelligence aims to adapt to new environments by utilizing a combination of different cognitive process. AI aims to build machines that can mimic human behavior and perform human-like actions. The human brain is analogous, but machine are digital.

Humans use the brain's computing power, memory and ability to think, whereas AI- powered machines rely on data and specific instructions fed into the system.

Ans-4   State space search :-

It is a process used in the field of CS,
including AI. in which successive configurations
or states of an instant are considered with the
intention of finding a goal state with a
desired property.

Problems are often modelled as state space,
a set of states that a problem can be
in. The set of states forms a graph where
two states are connected if there is an
operation that can be performed to transform a
first state into the second.

Move disk 1 from A to B
Move disk 2 from A to C
Move disk 1 from B to C
Move disk 3 from A to B
Move disk 1 from C to A
Move disk 2 from C to B
Move disk 1 from A to B
Move disk 4 from A to C
Move disk 1 from B to C
Move disk 2 from B to A
Move disk 1 from B to A
Move disk 3 from B to C
Move disk 1 from A to B
Move disk 2 from A to C
Move disk 1 from B to C

Math Metal

A+B   # Last Part

gallos in 5 gall yy	in 4 gall yo	Pub gph
0	4	2
0	0	0
4	4	2
4		7
5	2	5
2	2	0
	0	gal achro