K. J. SOMAIYA INSTITUTE OF ENGINEERING AND INFORMATION TECHNOLOGY
(Permanently Affiliated to University of Mumbai, Approved by D.T.E. & A.I.C.T.E. (F. No. 740-89-038 (NDEG) / ET / 2001)
NBA Accredited 3 Programs - (Computer Engineering, Electronics & Telecommunication Engineering & Electronics Engineering)
NAAC Accredited Institute with "A" Grade and 3.21 CGPA from 2017 to 2022
Best College Award by University of Mumbai, Urban Region, AY 2018-2019

Candidate Roll No. 17 (In figures)

Name : Miti Sanghani

Date : 07/09/22

Examination : UT 1 Branch/Semester VIIth / ETRX

Subject : Artificial Intelligence.

Supervisor Signature with Date

Question No.	1 a	1 b	2 a	2 b	3 a	3 b		Total with Sign.
Maximum Marks	5	5	5		5		28/30	
Marks Obtained	05	05	08	10	08			

(Q I] a)

Ans). Turing Test Approach.

(1) The Turing Test was designed by Alan Turing in the year 1950.

(2) Turing Test was designed in such a way that computers identity would not be revelaed to the interpretor.

(3) The Turing Test had an interpretor who's task is to recognize which answers was given by machine and human.

(4) The machine / computers prerequisites are:-

(i) It should know NLP, and able to convert fluent English.

(ii) It shou have the knowledge of the would.

(iii) It should be agile to learn and adopt to the dynamic environment.

(iv) It should know an Machine learning and can easily respond.

(5) Thus, the computers is not allowed or physically present as physicall presense

is not necessary for intelligence.

(6) Though, video signal are sent so that the input of the test are Keyboard & screen.

(7) Thus, the interpertor should be able to Judge whose answer is human & machine.

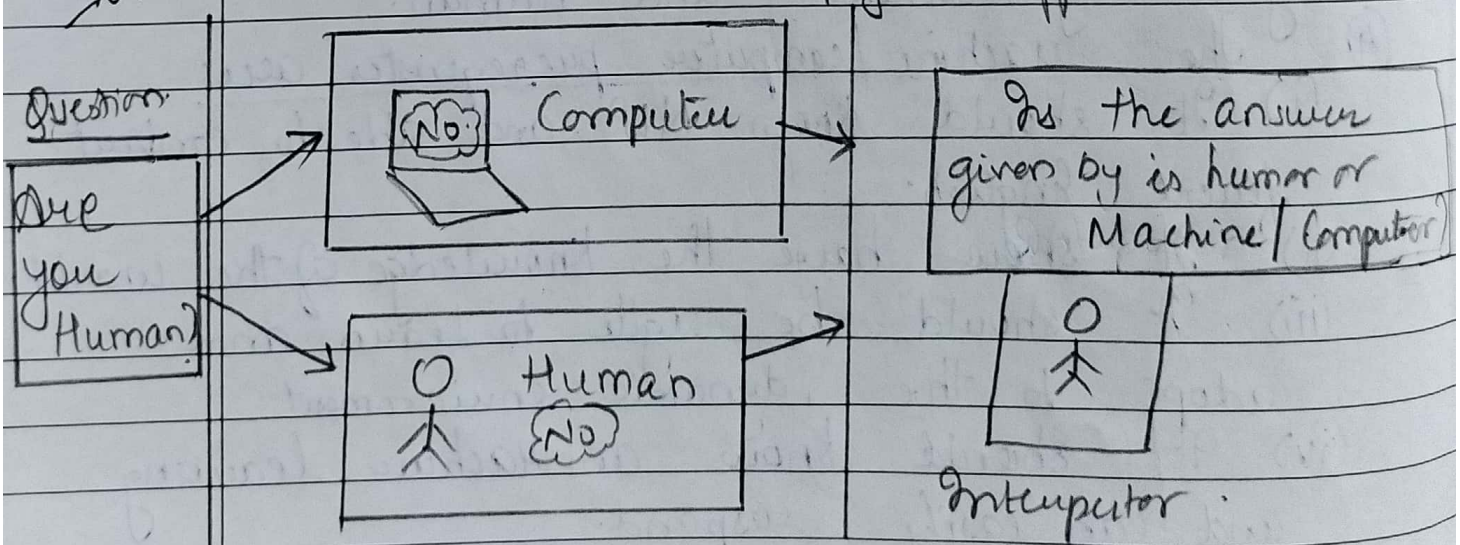
(8) The aim here is not to give right or wrong answer but to which extant the answer is like humanly.

(9) for that the machine/computer has access to manipulate or any means to not reveal the identity of machine.

(10) The Turing test was passed by a chatbot called 'Eugene Bootsman' in 2012.

(11) The interpretor was unable to judge the answer came from computer or human.

05/



The Turing Test.

Q1.

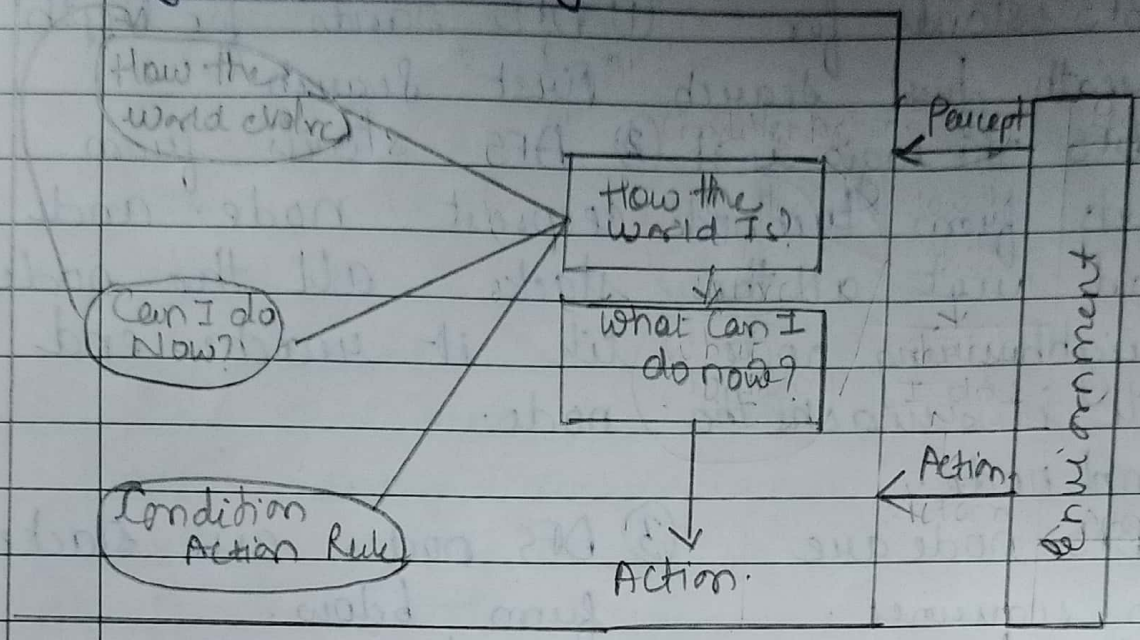
Ans).

BFS	DFS
① BFS stands for Breath first search	① DFS stands for Depth First Search.
② BFS the logic is it starts from tree node and visit all the neighbouring node till it reaches the end node.	② DFS starts from deepest node and stacks all the node till it reaches end node.
③ BFS node are in sequence.	③ DFS nodes are stacked from below.
④ It has more space complexity	④ It has less space complexity.
⑤ It requires more memory	⑤ It requires less memory.
⑥ It visits siblings and than children nodes.	⑥ It visits children node first than sibling node.
⑦ It is slower as compared to DFS	⑦ It is faster compared to BFS.
⑧ No backtracking possible for BFS	⑧ Backtracking is possible for BFS.
⑨ It is better for closest node.	⑨ It is better for far away nodes.
⑩ It is best for shortest nodes	⑩ It is best for nodes that are far away.
⑪ It follows FIFO (First In First Out)	⑪ It follows LIFO (Last In First Out).

-05-

Q2).

a Ans). Goal Based Agent



(1) The Goal Based Agent acts on the prior knowledge and current action.
(2) It works on previous knowledge of the agent and takes decision for the goal completion.
(3) Goal Based Agent set an Agenda. Agenda on the number of step to be taken to reach the goal.
(4) Goal Based Agent is better suitable for achieving any kind of goal.
(5) It enhances performance and best suitable for goal oriented task.
(6) It will calculate the risk and steps involved to achieve goal and gives excellent prediction.

(7) It will automatically calculate the distance or steps required.
(8) It has ability to adopt in constantly stochastic enviornment
(9) It will easily reconfigure for the new percept which it continuisly takes from dynamic enviornment.

(10) The self learning Taxis are goal Based Agent. The Agent continously percepts from the enviornment what happen if the taxis take sudden left, it will learn how the enviornment interacts, signals, traffic etc. An gives the precise predictions to reach the goal.

(11) Other example for goal Based Agent is say, we need to go to Pune from Mumbai, the GPS works and goal Based Agent it will route and guide the steps to reach Mumbai.
If there is road blockage or road closure it will reroute.

08 So basically, goal Based Agent gives Best outcomes to reach the goal or to achieve the goal.

(Q2).

b&ns).

	System	Performance Measure	Environment	Actuators	Sensor
(1)	Satellite Image analysis	Downlink the earth orbit	Stochastic, Dynamic, Continous	Wheel Motor, Pixel Array	Camera, Pixel array.
(2)	Refinery Controller	Safety, Refining, Controlling, Temperature	Known, Static, Deterministic	Furnance, switches, Generator	Thermal Sensor, IR sensor Heat Sensor
(3)	E commerce System	Sales, Quantity, Quality, Sense, discounts	Dynamic, Multiple Agents, Continous	Weblinks, social media trends,	Publishing Approval.
(4)	Blood Testing System.	Health, Happiness, Testing, advice	Static, Known, Single agent	Hospital patients	Blood Test Reports.
(5)	An automated face recognizer	Detection of correct face, Reporting, Analysing in huge crowd	Dynamic Multiple Agent, Continous	Fingerprint slot, face slot	Sensor, Heat, Biometric Sensor

-10/

(Q3).

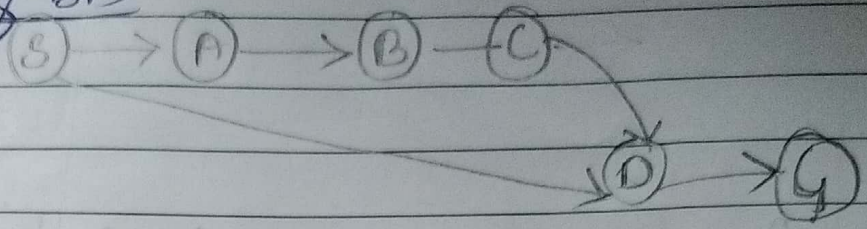
a

(Ans). Breadth First Search (BFS).

(1) BFS is finding the shortest Job first.
(2) It starts from root nodes, checks the distance from root node to destination node and checks all neighbouring nodes
(3) Thus, checking the shortest distance from root node to destination node it will go to the end node.
(4) BFS happens in sequential manner.
(5) No Backtracking is possible as it starts from root node.
(6) Once the sequence is selected it is possible to delete or alter it later.
(7) BFS works best for finding the shortest node.
(8) BFS first visits sibling node and then child node.
(9) BFS has FIFO concept (First In First out). which makes it suitable for shortest Job.
(10) BFS is used in plotting Bipirate Plots and Graphs.

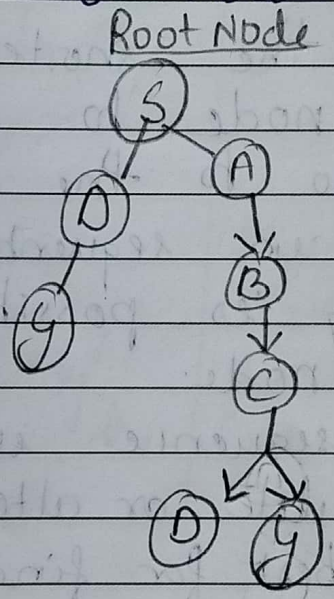
Eg:-

⇒ Example of BFS



The root node is S
The destination node is G

The BFS will first check all the neighbouring nodes and then decide the shortest node.



Thus, the BFS would select the closet path from Rootnode S to G
That is it will select,
S → D → G.

08