G.R. No.	

DECEMBER 2021 - ENDSEM EXAM
T. Y. B. TECH. (INFORMATION TECHNOLOGY) (SEMESTER - I)
PROFESSIONAL ELECTIVE-I
COURSE NAME: (ARTIFICIAL INTELLIGENCE)
COURSE CODE: ITUA31185A
(PATTERN 2018)

Time: [1 Hour]

[Max. Marks: 30]

Instructions to candidates:
1) Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.
2) Figures to the right indicate full marks.
3) Use of scientific calculator is allowed.
4) Use suitable data where ever required.

Q.1 a	Elaborate the forward and backward chaining with suitable examples.	[4]
Q.1 b	Discuss the components of planning systems and illustrate the goal stack planning plan for the block world problem with suitable example.	[6]

OR

Q2 a	Discuss different categories of reasoning along with Inference Techniques in detail.	[4]
Q2 b	Propose a knowledge engineering system to perform Knowledge analysis and apply interviewing techniques.	[6]

Q.3 a	Justify with example that "the knowledge acquisition be considered as Expert System (ES) 'bottleneck'".	[4]
Q.3 b	Discuss the structure of an expert system with knowledge base, facts, rules, interpreter and inference engine?	[6]

OR

Q.4 a	Distinguish between the Intelligent System and Expert systems.	[4]
Q.4 b	Justify the role of inference engine of an expert system dealing with the strategy of ""What can happen next?". Give the example of application that have adopted this strategy	[6]

Q.5 a   Elaborate the components of NLP.   [4]

Q.5 b   Elaborate the following from applied perspective :   [6]
         i.   Role of AI in Speech Recognition
         ii.   Role of AI in Object Recognition

OR

Q.6 a   Consider the scenario of ROBOT ARM picking objects application   [4]
         and discuss the components of the same.

Q.6 b   Discuss one of the AI applications where image processing is   [6]
         applied and specify the challenges of using image processing for
         the same.