

December 2023

B.Tech.(EIC) - VII SEMESTER

AI and Expert System (EIEL-706)

Time: 3 Hours

Max. Marks:75

- Instructions:**
1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
 2. Answer any four questions from Part -B in detail.
 3. Different sub-parts of a question are to be attempted adjacent to each other.

PART -A

- Q1 (a) How an expert system differs from knowledge based systems. (1.5)
- (b) Name the types of problems solved by the existing expert systems. (1.5)
- (c) What are the general features of good expert systems? (1.5)
- (d) Write any two advantages of using an expert system development tool? (1.5)
- (e) Make a thematic role frame for the following statements (1.5)
- (i) Krishna is sitting on a wooden stool by a window near the bedroom.
- (f) What are the characteristics of an Expert System? (1.5)
- (g) Define Fuzzy Expert System. (1.5)
- (h) What is the area of expert for MYCIN Expert System? (1.5)
- (i) Describe Role of Cognitive system of any Expert System. (1.5)
- (j) Define knowledge acquisition. (1.5)

PART -B

- Q2 (a) What is predicate logic? Why it is preferred over propositional logic? Explain (10)
with the help of example how predicate logic is used as one of the technique for
representing knowledge in computer system.
- (b) What is knowledge Engineering? Explain with example. (5)
- Q3 (a) What are critical success factors for an Expert System. (5)
- (b) Explain Formalization, Evaluation and Testing phrase of ESDLC in detail? (10)
- Q4 Explain detail architecture of Rule Base Expert System. Also explain merits (15)
and demerits of Rule base Expert System.
- Q5 (a) What do you understand by Semantic Net. Draw the information about (7)
(i) Virat Kohli using semantic net.
- (b) Differentiate between Expert system and conventional programming. (8)

- Q6 (a) What are the limitations of 2nd generation Expert System. (5)
(b) Give the technical details of any real time expert system with its architecture. (10)
- Q7 What are the tools used in expert system development? how they reduce the effort and cost involved in developing an expert system to large extent. (15)
