Q6) a) Explain FOL inference for following Quantifiers : **[8]**

- Universal Generalization
- Uhiversal Instantiation
- Existential Instantiation
- Existential introduction

b) Define and Explain Ontological Engineering indetails, with Definition Categories and Objects Models. **[9]**

Q7) a) Explain : **[5]**

i) Classical planning

ii) Hierarchal planning

b) Explain with example, how planning is different from problem solving. **[5]**

c) Explain AI components and AI architecture. **[8]**

OR

Q8) a) Explain Planning in non-deterministic domain. **[5]**

b) Explain **[8]**

i) Importance of planning

ii) Algorithm for classical planning

c) What is AI Explain Scope of AI in all walks of Life also explain Future opportunities with AI. **[5]**

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Total No. of Questions : 8]

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PC1736

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[6353]-53

T.E. (Artificial Intelligence and Data Science Engg.)
EMBEDDED SYSTEMS AND SECURITY
(2019 Pattern) (Semester - I) (Elective - I) (317522A)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) Explain the firmware embedding process for OS based embedded products. **[9]**

b) Draw and Explain High Level Language to Machine Language conversion process along with its limitations. **[9]**

OR

Q2) a) What are the different types of preprocessor directives available in embedded C? Explain them in detail. **[9]**

b) Draw and Explain typical embedded system and development environment. **[9]**

Q3) a) Explain ucos-II along with its features and applications. **[9]**

b) Explain the concept of Multithreading. What are the advantages of Multithreading? **[9]**

OR

Q4) a) Explain the dynamic memory management under MicroC/OS-II Kernel. **[9]**

b) What is Process? Explain process structure and process life cycle with suitable diagram. **[9]**

Q5) a) Explain the Linux Kernel Architecture with suitable diagram. **[8]**

b) Discuss Embedded Linux development environment. **[9]**

OR

P.T.O.