C **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 59424

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Elective

Electronics and Communication Engineering

15UEC924- ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. What is the term used for describing the judgmental or commonsense part of problem solving? CO1- R

   (a) Heuristic (b) Value based (c) Critical (d) Analytical

2. How many types of informed search method are in artificial intelligence? CO2- R

   (a) 1 (b) 2 (c) 3 (d) 4

3. Which is not a property of representation of knowledge? CO3- R

   (a) Representational Verification (b) Representational Adequacy

   (c) Inferential Adequacy (d) Inferential Efficiency

4. Different learning methods does not include CO4- R

   (a) Memorization (b) Analogy (c) Deduction (d) Introduction

5. What is defined by set of strings? CO5- R

   (a) Signs (b) Formal language (c) Communication (d) None of the above

PART – B (5 x 3= 15 Marks)

6. Define Artificial Intelligence. CO1- R

7. How does the operation of an offline search differ from that of an online search? CO2- U

8. Write down the basic syntactic elements of first order logic. CO3- U

9. State the main characteristics of inductive logic programming. CO4- U

10. List out the types of machine translation systems. CO5- R

PART – C (5 x 16= 80 Marks)

11. (a) Outline the components and functions of any two of the basic kinds of agent programs. CO1- U (16)

Or

(b) Explain how searching is used to provide solutions and also describe some real world problems. CO1- U (16)

12. (a) Describe briefly the Alpha-Beta pruning and its effectiveness. CO2- U (16)

Or

(b) Describe an algorithm for determining optimal moves in an adversarial search. CO2- U (16)

13. (a) List the various steps associated with the knowledge engineering process and explain them CO3- U (16)

Or

(b) Discuss briefly the Forward and Backward chaining. CO3- U (16)

14. (a) Explain with proper example how EM algorithm can be used for learning with hidden variables. CO4- U (16)

Or

(b) Explain with example learning in decision tree. CO4- U (16)

15. (a) (i) Outline the main characteristic of the process of information retrieval which would help to meet the information needs of a user. CO5- Ana (16)

(ii) Explain the main points related to machine translation of text from one natural language to another. CO5- Ana (16)

Or

(b) Discuss in detail the Syntactic analysis. CO5- U (16)