

**S.D.E.**  
**M.C.A. SEM - V : WINTER - 2017**  
**SUBJECT: ARTIFICIAL INTELLIGENCE AND APPLICATIONS**

**Day: Wednesday**  
**Date: 13/12/2017**

**Time: 10.00 A.M. TO 1.00 P.M.**  
**Max. Marks: 80**

**W-2017-4438**

**N.B:**

- 1) Attempt **ANY FIVE** questions from Section-I and **ANY TWO** questions from Section-II.
- 2) Answer to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

**SECTION-I**

- Q.1** What is Artificial Intelligence? Discuss any four applications of A.I. with example. (10)
- Q.2** Explain the meaning of production system. What are the main components of production system? (10)
- Q.3** Explain Depth first and Breadth first search algorithm with example. (10)
- Q.4** Explain the following terms in the context of predicate logic when you convert wff into clause form. (10)
- a) Associative property      b) Distributive property  
c) De Morgan's law          d) Prenex normal form
- Q.5** Explain the roles of knowledge engineer, domain expert and an end user in an expert system. (10)
- Q.6** Explain travelling salesman problem with different techniques. (10)
- Q.7** Write short note on (**ANY TWO**): (10)
- a) Fuzzy logic  
b) Semantic net  
c) Frames

**SECTION-II**

- Q.8** a) Write a program to find given number is odd or even. (07)
- b) Write a program to find given number is prime or not. (08)
- Q.9** a) Write a program to display sum of numbers between 1 to 100. (07)
- b) Write a program to find square of a number. (08)
- Q.10** Write short notes on (**ANY THREE**): (15)
- a) MYCIN  
b) Natural Language Processing  
c) Vision and speech  
d) Conflict resolution