

**B.TECH SEM – VII (2007 COURSE) (BIOMEDICAL ENGG.) :**  
**WINTER - 2017**  
**SUBJECT: ARTIFICIAL INTELLIGENCE**

Day : **Monday**  
Date : **22/01/2018**

**W-2017-2626**

Time **02.30 PM TO 05.30 PM**  
Max. Marks : **80**

**N.B.**

- 1) Q.1 and Q.5 are **COMPULSORY**. Out of the remaining attempt any **TWO** questions from each Section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.
- 4) Assume suitable data if necessary.

**SECTION – I**

- Q.1** a) Discuss AI applications in the field of Biomedical Engineering. **(05)**  
b) State operation of minimize search procedure. **(05)**  
c) Discuss statistical and probabilistic reasoning. **(04)**
- Q.2** Discuss A\* and AO\* algorithm with suitable example. **(13)**
- Q.3** a) Explain Alpha-beta derivation and its need. **(07)**  
b) Discuss min-max search with suitable example. **(06)**
- Q.4** a) Explain Dempster-Shafter theory with example. **(07)**  
b) Explain JTMS in brief. **(06)**

**SECTION – II**

- Q.5** a) What is conceptual dependency? Give one example. **(05)**  
b) Explain robot architecture. **(05)**  
c) State the limitations of semantic nets. **(04)**
- Q.6** a) Explain hierarchical planning and least commitment strategy. **(06)**  
b) Explain NLP with goal stack in detail. **(07)**
- Q.7** a) Illustrate trihedral and non-trihedral vertices. **(07)**  
b) Discuss Walt's algorithm. **(06)**
- Q.8** a) Explain Neural net architecture and applications. **(07)**  
b) Explain role of learning and expert system in AI. **(06)**

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