

Reg. No.



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL

A Constituent Institution of Manipal University

**VII SEMESTER B.TECH. (INFORMATION TECHNOLOGY/
COMPUTER AND COMMUNICATION ENGINEERING)**

END SEMESTER EXAMINATIONS, NOVEMBER 2017

SUBJECT: PROGRAM ELECTIVE-VI : SEMANTIC WEB [ICT 4008]

**REVISED CREDIT SYSTEM
(28/11/2017)**

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer ALL the questions.
- ❖ Missing data and URI's, if any, may be suitably assumed.

- 1A.** What is the vision for the Semantic Web? Explain in detail the design principles and Web architecture associated with Semantic web. 5
- 1B.** With an example, explain the following OWL2 syntaxes:
- i) Functional-Style Syntax
 - ii) OWL/XML 3
 - iii) Manchester Syntax
- 1C.** Whether Semantic Web is same as Artificial Intelligence? Justify your answer. 2
- 2A.** For the given sentence build RDF and RDFS graph, and express all triples in turtle syntax. 5
- “JeffMeyer owns KA2010Ford”
- 2B.** Explain the usage of the following with respect to SPARQL with an example for each.
- i) CONSTRUCT
 - ii) UNION 3
 - iii) LIMIT
- 2C.** Distinguish between OWL2DL and OWL2FULL. 2
- 3A.** A teenager is intersection of person class and another class which has age between 12 and 20. Represent the teenager class in OWL2 using turtle syntax 5
- 3B.** How is a rule represented in a rule system? What are the two intuitive ways of reading such a rule? 3
- 3C.** What are the two capacities in which RDF conversion tools are often used? 2
- 4A.** With a neat diagram, explain the Semantic Web knowledge management architecture. 5

- 4B. With a suitable example, explain Property chains in OWL2 along with the Turtle Syntax. 3
- 4C. What are the two kinds of dialects defined by Rule Interchange Format (RIF)? 2
- 5A. With an example in turtle, state how you denote the following restrictions in OWL2. 5
i) Existential ii) Universal
- 5B. With an example program, explain the GO programming structure. 3
- 5C. Express the given statement in RDF graph. 2
"The dwarf notices that someone has eaten from his plate"