



**R20 Regulation** **Subject code: 3P7GE**  
**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**  
(Autonomous, Accredited by NAAC with 'A+' Grade)

**B.Tech VII Semester Supplementary Examinations, December 2024**

**SEMANTIC WEB**  
(CSE(AI&ML))

**Maximum Marks: 70**

**Date:04.01.2025**

**Duration: 3 hours**

- Note:**
- 1.This question paper contains two parts A and B.
  2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
  3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
  4. Each question carries 10 marks and may have a, b, c, d as sub questions.

**Part-A**

All the following questions carry equal marks (10x2M=20 Marks)

- |    |   |
|----|---|
| 1  | Write about ontology.                             |
| 2  | What are the ontology libraries.                  |
| 3  | What is RDF schema in Semantic Web?               |
| 4  | Write the unique features of RDF/OWL.             |
| 5  | What are bindings in SPARQL theory?               |
| 6  | What are the functions of SPARQL filter?          |
| 7  | What is the significance of profiles in OWL2?     |
| 8  | How the Evaluation is performed through analysis? |
| 9  | Give an example Monotonic Rules.                  |
| 10 | What is the rule markup language?                 |

**Part-B**

Answer All the following questions. (10MX 5=50Marks)

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|----|--|
| 11 | a) Discuss about logic on the semantic Web.<br>b) Explain about reasoning with semantic networks. <span style="float: right;">[5+5]</span>   |
| OR |  |
| 12 | a) List the possible uses for small devices that may develop within the next 5 years.<br>b) Explain about the World Wide Web. <span style="float: right;">[5+5]</span>                   |
| 13 | a) Explain basic elements of RDF language.<br>b) Give examples of ontology and OWL. <span style="float: right;">[5+5]</span>   |
| OR |  |
| 14 | a) Explain RDF role in the Semantic Web.<br>b) Compare and contrast ant two RDF syntaxes. <span style="float: right;">[5+5]</span>   |
| 15 | Describe the fundamental concept of matching patterns in SPARQL queries, including triple and binding patterns. <span style="float: right;">[10]</span>                                  |
| OR |  |
| 16 | a) Discuss the other forms of SPARQL queries with example.<br>b) Explain the "Follow Your Nose" principle and their importance in Semantic Web. <span style="float: right;">[5+5]</span> |

17	Describe the primary constructs and features of the OWL language, such as classes, individuals, properties, and axioms. [10]
OR	
18	Explain the OWL-S service profiles? Explain how OWL-S ontology is created for web services. [10]
19	a) Describe the Rule Markup Language (RuleML) with an example b) What are the different kinds of rule languages? Discuss. [6+4]
OR	
20	a) Explain the role of rules in Semantic Web and their significance in knowledge representation. b) Explain the semantics of monotonic rules. [5+5]