



R20 Regulation **Subject code: 3P7GE**
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)
B.Tech VII Semester Supplementary Examinations, April 2024

SEMANTIC WEB
(CSE (AI & ML))

Maximum Marks: 70

Date: 25.04.2024 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 What is solvable on the Web?
- 2 Give an overview of Web ontology language.
- 3 Define RDF.
- 4 Name two popular RDF syntaxes used to represent RDF data.
- 5 Define SPARQL filter?
- 6 Define triple store.
- 7 What is TAP?
- 8 Write the role of Permanent Node Ranker in RDF.
- 9 What is the Rule Interchange Format (RIF) and its role in the Semantic Web?
- 10 What is Horn rule system?

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 A. Discuss how the number of nodes on the Web creates computational complexity that limits the ability to develop logic proof systems. [5]
B. Describe the semantic Web Road map. [5]
OR
- 12 Discuss about ontology methods, matching and mapping. [10]
- 13 A. Explain basic elements of RDF language. [5]
B. Give examples of ontology and OWL. [5]
OR
- 14 A. Explain clearly about the Resource Description Framework (RDF) and RDF Schema. [5]
B. Compare and contrast OWL with UML. [5]
- 15 A. Explain the ASK and CONSTRUCT forms with example. [5]
B. Discuss the "Follow Your Nose" principle. [5]
OR
- 16 A. Describe the fundamental concept of matching patterns in SPARQL queries. [5]
B. Provide an example of a SPARQL Update query that adds information to an existing RDF dataset. [5]

- 17 A. Describe compatibility of OWL and RDF/RDFS. [5]
B. Explain about ontology "Spot" example. [5]
OR
- 18 Explain the OWL-S service profiles? Explain how OWL-S ontology is created for web services. [10]
- 19 Explain the Rule Markup Language with suitable example [10]
OR
- 20 Explain the necessity of non-monotonic rules for representing exceptions and uncertainties in brokered trade scenario. [10]