

R15**Code No: 128EQ****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year II Semester Examinations, May - 2019****SEMANTIC WEB AND SOCIAL NETWORKS****(Computer Science and Engineering)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- 1.a) Define artificial intelligence. [2]
- b) What are the objectives of semantic web architecture? [3]
- c) List the famous ontology development tools. [2]
- d) What is the purpose of visual modeling? [3]
- e) Quote an example for Modus Ponens argument. [2]
- f) An Expert system has three levels of organization. What are those levels? [3]
- g) Give the four functions to be automated by OWL-S. [2]
- h) What is the relationship between a service and profile? [3]
- i) What is the drawback of links feature of web based network? [2]
- j) What is the use of referral chaining in social network analysis? [3]

PART - B**(50 Marks)**

2. Discuss the development of information age and how the Web contributes. [10]
- OR**
- 3.a) Illustrate reasoning with semantic net.
 - b) What is meant by adaptive software? What is the need of soft computing for this? [10]
4. Explain the advantages of XML over HTML and also its limitations. How does RDF address these limitations? [10]
- OR**
- 5.a) What are the requirements for web ontology language? What is its relationship with RDF schema?
 - b) Differentiate between OWL-DL and OWL-Lite. [10]
6. "Non-monotonic rules are useful where information is unavailable." Substantiate this statement with illustrative examples. [10]
- OR**
- 7.a) Trade-off between finding the minimum necessary expressive power and the maximum possible reasoning capability for the semantic web.
 - b) What is the vision of educational semantic web? [10]

8. Explain in detail the building blocks for the next generation of web services- Semantic web services. [10]

OR

- 9.a) What is social network? How is social network analysis a different approach to social phenomenon?
b) Discuss the role played by relational data in social network analysis. [10]
- 10.a) Is Jaccard coefficient a relative measure of co-occurrence? Justify your answer.
b) How to handle disambiguation of person names in social network mining? [10]

OR

11. Demonstrate a semantic web application development using Sesame, the RDF data repository. [10]

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