Register No.	R	A	1	5	1	1	0	0	8	0	1	0	3	7	0

FACULTY OF ENGINEERING & TECHNOLOGY, SRM UNIVERSITY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CYCLE TEST-II
Academic Year: 2017-2018

Set-B

Program offered: B.Tech **Year / Semester: VII**
Max. Marks: 100 **Duration: 3 Periods**
Date of Exam: 26/10/2017
Course Code and Title: 15CS424E & SEMANTIC WEB

PART-A Answer all the Questions **20 x 1 = 20**

(MCQ sheet to be handed over to the invigilator at the 45th minute after the commencement of the exam)

1. In OWL ontology, properties equality and inequality can be stated between _____
a) Arbitrary things b) Classes c) Arbitrary Values d) Resources

2. _____ logics have been used for formulating semantics in OWL
a) Propositional & discovery b) Predicate & Description
c) Predicate & Discovery d) Propositional & Description

3. In the properties of OWL _____ that satisfies some attached conditions
a) class equivalence b) extensions c) restrictions d) OWL: UnionOf

4. _____ is a pre-requisite for reasoning support in Ontologies
a) Syntax b) Classification c) membership d) Semantics

5. Every valid OWL lite conclusion is a valid _____ conclusion
a) OWL DL b) OWL Full c) OWL DLP d) WSMO

6. _____query language is based on matching graph patterns
a) HTML b) SPARQL c) XML d) OWL

7. Which of the following is not a query language?
a) OWL b) SPARQL c) RDF d) RDFS

8. Laddering and grid analysis can be productively used to _____ in ontology engineering
a) Define taxonomy b) define properties c) check for anomalies d) enumerate terms

9. WSDL-S is an _____
a) Extension of WSDL b) Ontology c) Extension of ontology d) Extension of SWSO

10. Ontology design in WSMO demands and supports _____
a) Encapsulation b) decoupling c) abstraction d) cohesion

11. _____ in webservice provides keyword search
a) Light semantic level b) Semantic level c) Syntactical level d) detailed level

12. The matching between two services inspite of description with different keywords is called _____
a) indirect matching b) exact matching c) direct matching d) inexact matching

13. _____ architecture eliminates the need for installing the matchmaking infrastructure either on the registry or requestor's side
a) centralized discovery architecture b) P2P discovery architecture
c) client server discovery architecture d) distributed discovery architecture

14. _____ addresses the handling of heterogeneities that naturally arise in open environments like the web
a) Description b) mediation c) implementation d) conceptualization

15. In WSMO _____ describes the interface for service consumption by a client.
a) non-functional properties b) orchestration c) choreography d) capability

16. _____ inherits the open-world assumption & non-unique name assumption

a) OWL-DL b) OWL- Lite c) OWL-Full d) OWL-DLP

17. OWL: ObjectProperty & OWL: Datatype-Property are the subclasses of _____ property
a) RDF b) XML c) OWL d) RDF-S

18. Semantic web service ontology = _____
a) FLOWS+COLUMNS b) FLOWS+ROWS c) OWL+ROWS d) OWL-S+COLUMNS

19. Detailed semantic level in web service provides _____

a) Keywords b) atomic services c) complex services d) implicit services

20. OWL stands for

a) Ontology web language b) Opensource Web language

c) Web Opensource Language d) Web Ontology Language

Part – B Answer any 5 questions **5 x 4=20**

Sl. No	Question	Course Outcome	Bloom's Taxonomy	Marks
21	Enumerate the shortcomings of traditional web service discovery	a	Knowledge	4
22	State why mediators are needed in WSMO.	b	Infer	4
23	Define the axiomatic semantics of "inverseOf".	b	Apply	4
24	What are the strict notions of upward compatibility between the OWL sub languages?	a	Knowledge	4
25	Differentiate web services Vs Service in internet.	a	Knowledge	4
26	List the functional requirements for SWSL.	a	Knowledge	4
27	Write the architectural difference between the Centralized and P2P discovery architecture	b	Infer	4

PART CAnswer either (a) or (b) of the following questions 5x12=60

Sl.No	Question	Course Outcome	Bloom's Taxonomy	Marks
28. a)	i) What problem would emerge if OWL:allValuesFrom is replaced by OWL:someValuesFrom. Illustrate it with suitable axiomatic semantics with reference to African Wildlife	b	Apply	8
(b)	ii) Explain why it is necessary to declare owl:class as a subclass of rdfs:class			4
	(OR)			
	Mention the pros and cons of the following i) OWLDL ii) OWL FULL iii) OWL LITE iv) OWL DLP	a	Knowledge	12
29. a)	Tabulate the comparative analysis of web programming languages for providing and representing the semantics in web services	a	Knowledge	6+6
	(OR)			
b)	Evaluate the design principles of Web Services Modeling Ontology	a	Knowledge	12
30. a)	Describe the P2P Discovery architecture in detail with a neat sketch	a	Knowledge	12
	(OR)			
b)	Elaborate the conceptual model for service discovery with a neat sketch	a	Knowledge	12
31. a)	Formulate the axiomatic semantics for creating optional patterns in SPARQL	a, b	Knowledge & Apply	12
	(OR)			
b)	Discuss the top level elements of WSMO	a	Knowledge	12
32. a)	Explain the different levels of abstraction in Web Services	a	Knowledge	12
	(OR)			
b)	Elaborate the discovery based on Semantic description	a	Knowledge	12