

Reg.No.:



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN

[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]

Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

**Question Paper Code: 50027**

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2024

Fifth Semester

Computer Science and Engineering

U19CSV25 - SOCIAL NETWORK ANALYSIS

(Regulation 2019)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels	K1 – Remembering	K3 – Applying	K5 - Evaluating
(KL)	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Identify the application layer protocol used to communicate between a web browser and server with its benefits.	2	K2	CO1
2.	Name two models used to represent metadata on the web.	2	K1	CO1
3.	List out the components of SOAP.	2	K1	CO2
4.	Infer the significance of OWL.	2	K2	CO2
5.	Show how to express the following statement in RDF: “This is an image file named test. jpeg”	2	K3	CO3
6.	Express the association between three different communities using graph.	2	K3	CO3
7.	Identify any two community detection method with their features.	2	K2	CO4
8.	What is cold start problem in online social network?	2	K1	CO4
9.	State two features of binomial Bayesian reputation system.	2	K1	CO5
10.	What do you mean by “Betweenness Centrality” in a graph?	2	K1	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	i. Name two electronic discussion networks. What are the advantages and disadvantages of those platform?	7	K1	CO1
	ii. What do you mean by affiliation network? Explain with an example.	6	K2	
	(OR)			
b)	i. Explain macro-structure of social networks with examples.	7	K2	CO1
	ii. Explain Degree Centrality, Closeness Centrality and core-periphery structure and their significance.	6	K2	
12. a)	i. Describe with an example how RDF is used to describe resources on the web.	9	K2	CO2
	ii. Differentiate the features of RDF/OWL and UML.	4		
	(OR)			
b)	i. How can you represent the following XML document in RDF/OWL?	7	K2	CO2
	<pre> &lt;book&gt;   &lt;author&gt;Ramakrishnan&lt;/author&gt;   &lt;author&gt;Gehrke&lt;/author&gt;   &lt;title&gt;Database Management Systems&lt;/title&gt;   &lt;publisher&gt; McGraw Hill   &lt;edition&gt;Third&lt;/edition&gt; &lt;/book&gt; &lt;book&gt;   &lt;author&gt;Garcia-Molina&lt;/author&gt;   &lt;author&gt;Ullman&lt;/author&gt;   &lt;author&gt;Widom&lt;/author&gt;   &lt;title&gt;Database Systems – The Complete Book&lt;/title&gt;   &lt;publisher&gt;Prentice Hall&lt;/publisher&gt; &lt;/book&gt; </pre>			
	ii. Represent the following graph G in graphML/XML: V = (A,B,C,D) E = (AB, BA, BC, CA, AD)	6	K2	
13. a)	i. Explain different changes for extracting evolution of web community from a series of web archive.	7	K2	CO3
	ii. State the significance of growth rate and stability rate.	6	K2	
	(OR)			
b)	i. Explain different changes for extracting evolution of web community from a series of web archive.	7	K2	CO3
	ii. State the significance of split rate and merge rate in communities.	6	K2	

14.	a)	Explain the architecture of human behavior understanding and prediction process. What do you mean by reality mining?	13	K2	CO4
		(OR)			
	b)	Explain the architecture of human behavior understanding and prediction process. Differentiate decision trust and evaluation trust.	13	K2	CO4
15.	a)	i. Describe different layouts of Node-Edge Diagram for visualizing social networks.	6	K3	CO5
		ii. Compare Node-link diagram and matrix representation for visualization of social networks.	7	K3	
		(OR)			
	b)	i. Apply importance of clustering in a social network graph representation with examples.	7	K3	CO5
		ii. Organize the significance of clustering coefficient, triad closure and connected triple.	6	K3	

PART – C

(1 x 15 = 15 Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	i. How do you represent social network relationship using ontology? Explain with an example.	8	K2	CO2
		ii. Demonstrate the aggregating and reasoning on social network data using RDF and OWL.	7	K2	CO3
		(OR)			
	b)	i. Describe trust models using subjective logic with examples.	8	K3	CO5
		ii. State and explain equivalence theorem for combining trust and reputation.	7	K3	