Q. Code: 662757

Reg. No. | | | | | | | | | | | | | |

M.E / M.TECH. DEGREE EXAMINATIONS, MAY 2024

Second Semester

CP22008 – SOCIAL NETWORK ANALYSIS

(Computer Science and Engineering)

(Regulation 2022)

TIME: 3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Understand the Evolution of Social Networks.	**1**
CO 2	Analyze the structure of Social Networks.	**4**
CO 3	Explore the knowledge from disciplines as diverse as sociology, mathematics, computer science.	**3**
CO 4	Discuss the Online interactive demonstrations and hands-on analysis of real-world data sets.	**3**
CO 5	Understand the Cascading Behavior in Social Networks.	**3**

PART- A (20 x 2 = 40 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	How do you define the situation when the contacts do not interact closely though they may be aware of one another?	**1**	**2**
2.	How do the strong ties differ from the weak ties?	**1**	**2**
3.	Define the term Triadic closure.	**1**	**2**
4.	What are terminologies node and edge with respect to graph?	**1**	**2**
5.	Define the affiliation in social network analysis.	**2**	**2**
6.	How does the antagonism influences the social network analysis?	**2**	**2**
7.	List the contribution of structural balance.	**2**	**2**
8.	Discuss about the link formation in online data.	**2**	**2**
9.	Compare the information network and world wide web.	**3**	**3**

10.	Differentiate the path and strong connectivity in social network.	**3**	**2**	
11.	Write a short note on hypertext.	**3**	**2**	
12.	List down the authorities update rule.	**3**	**2**	
13.	Enlist the features of a social network graph.	**4**	**3**	
14.	List down the importance of betweenness in a social network graph.	**4**	**2**	
15.	Elaborate the role of the bipartite graphs in Social network analysis.	**4**	**2**	
16.	Give the salient features of Girvan newman algorithm.	**4**	**3**	
17.	Elaborate the process of Modelling Diffusion in social networks.	**5**	**2**	
18.	Compare the properties of cascades and clusters in a group.	**5**	**3**	
19.	List down the importance of six degree of separation.	**5**	**2**	
20.	How does threshold contribute to identify the leadership quality in a group?	**5**	**2**	

PART- B (5 x 10 = 50 Marks)

		Marks	CO	RBT LEVEL
21. (a)	Develop a graph to depict a social network with each edge labelled as either a strong or weak tie. Demonstrate the Triadic Closure Property from the network. Provide an explanation for your answer.	**(10)**	**1**	**3**
	(OR)			
(b)	Briefly discuss about the contribution of graph theory in the social network analysis	**(10)**	**1**	**3**
22. (a)	Apply the concept of the weaker form of structural balance in a social network.	**(10)**	**2**	**4**
	(OR)			
(b)	Demonstrate the role of spatial regression in fixing the relation.	**(10)**	**2**	**4**

		Marks	CO	RBT LEVEL
23. (a)	Analyze the page rank mechanism and its contribution to Social network analysis.	**(10)**	**3**	**4**
	(OR)			
(b)	Analyze the effect of the emergence of the web and its influence in the social network in detail.	**(10)**	**3**	**4**
24. (a)	Analyze the graph partitioning methods supporting social network analysis for dealing mutually exclusive groups.	**(10)**	**4**	**4**
	(OR)			
(b)	Analyze the role of clustering in social network graphs work.	**(10)**	**4**	**4**
25. (a)	List down the effect and contribution of decentralized search.	**(10)**	**5**	**3**
	(OR)			
(b)	Elaborate the concept of Six Degrees of Separation in locating an entity.	**(10)**	**5**	**3**

PART- C (1 x 10 = 10 Marks)

(Q.No.26 is compulsory)

		Marks	CO	RBT LEVEL
26.	Estimate the relationship among spatial units using a weight matrix that represents the spatial structure and the spatial interaction pattern.	**(10)**	**3**	**5**

****