Q. Code:907938

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

M.E / M.TECH. DEGREE EXAMINATIONS, MAY 2023

First 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	**3**
CO 2	Analyze the structure of Social Networks	**5**
CO 3	Explore the knowledge from disciplines as diverse as sociology, mathematics, computer science	**4**
CO 4	Discuss the Online interactive demonstrations and hands-on analysis of real-world data sets.	**4**
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.	Which will support a group to effectively achieve a common purpose using a set of resources?	**1**	**2**
5.	List down the characteristics that are involved in Social influence.	**2**	**2**
6.	How does the antagonism can influence in social network analysis?	**2**	**2**
7.	Describe the contribution of structural balance.	**2**	**2**
8.	Explain about the link formation in online data	**2**	**2**
9.	Compare the information network and world wide web	**3**	**3**
10.	Differentiate directed and undirected graph.	**3**	**2**
11.	Describe about the authorities update rule	**3**	**2**
12.	List down the components used in strongly connected directed graph.	**3**	**2**
13.	List out the graph partitioning methods.	**4**	**3**
14.	Write short notes on cliques.	**4**	**2**
15.	What is Girvan newman algorithm?	**4**	**2**

16.	List down the importance of betweenness in a social network graph.	**4**	**3**
17.	Compare the properties of cascades and clusters in a group.	**5**	**2**
18.	Elaborate the process of Modelling Diffusion in social networks.	**5**	**3**
19.	Write short notes on structure and randomness in a social network.	**5**	**2**
20.	Describe the mode of operation of decentralized search	**5**	**2**

PART- B (5 x 10 = 50 Marks)

		Marks	CO	RBT LEVEL
21. (a)	Briefly discuss about the contribution of graph theory in the social network analysis	**(10)**	**1**	**3**
	(OR)			
(b)	Describe the Girvan-Newman Method for Successively Deleting Edges of High Betweenness with suitable example	**(10)**	**1**	**3**
22. (a)	Analysis the effect of homophily and its underlying mechanisms.	**(10)**	**2**	**4**
	(OR)			
(b)	Apply the concept of the weaker form of structural balance in a social network.	**(10)**	**2**	**4**
23. (a)	Analyze the effect of the emergence of the web and its influence in the social network in detail.	**(10)**	**3**	**4**
	(OR)			
(b)	Explain about the bow tie structure of the web with suitable example.	**(10)**	**3**	**4**
24. (a)	Analyze the role of clustering in social network graphs work.	**(10)**	**4**	**4**
	(OR)			
(b)	Elaborate the contribution of Eigen values Simrank in identifying the characteristics of a group.	**(10)**	**4**	**4**
25. (a)	Analyze the effect of cascading behaviour in networks.	**(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.	Evaluate the role of spatial regression in fixing the relation.	**(10)**	**2**	**5**

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