DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular End Semester Examination – Summer 2022

Course: B. Tech.   **Branch : Computer**   **Semester : VIII**

Subject Code & Name: BTCOE801B - Social Networks

Max Marks: 60   **Date:04/07/2022**   **Duration: 3.45 Hr.**

Instructions to the Students:
1. *All the questions are compulsory.*
2. *The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

		Marks
Q. 1	**Solve Any Two of the following.**	
A)	Explain Collaboration Graph and Who-talks-to-Whom Graphs.	**6**
B)	What do you mean by Technological Networks also Explain which Networks are present in the Natural World	**6**
C)	Define Graphs, Nodes and Edges. Also Explain Graphs as Models of Networks	**6**
Q.2	**Solve Any Two of the following.**	
A)	What is Triadic Closure? What are the Reasons for Triadic Closure?	**6**
B)	Explain Structural Balance and how to define Structural Balance for Networks?	**6**
C)	What do you mean by Bridges and Local Bridges?	**6**
Q. 3	**Solve Any Two of the following.**	
A)	Explain Page Rank .What is Equilibrium value of page rank.	**6**
B)	Explain Spectral Analysis of Hubs and Authorities	**6**
C)	What are Cascades and Clusters .Explain Relationship between them	**6**
Q.4	**Solve Any Two of the following.**	
A)	How does the branching process works	**6**
B)	Explain SIR Epidemic model	**6**
C)	Explain Rich-Get -Richer Model	**6**
Q. 5	**Solve Any Two of the following.**	
A)	Explain The Watts-Strogatz model	**6**
B)	What is decentralized Search. Explain Model of Decentralized Search.	**6**
C)	The core-periphery structure of social networks	**6**

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