

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.

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|--|---|
| 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.

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|--|---|
| 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 |

***** End *****