

QP CODE: 25047694



Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, NOVEMBER 2025

Third Semester

M Sc Artificial Intelligence

ELECTIVE - AI800301 - DATA SCIENCE - SOCIAL MEDIA MINING

2020 ADMISSION ONWARDS

61699A1A

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

Answer any **eight** questions.

Weight **1** each.

1. Explain Big Data Paradox.
2. What is an adjacency list?
3. What is Closeness Centrality?
4. How can we model small network with real world?
5. What you mean by analyzing communities in social data mining?
6. Define Dense community.
7. What is herding?
8. What is predictive models?
9. What is recommendation algorithm?
10. What is recommendation system? Why do we need them?

(8×1=8 weightage)

Part B (Short Essay/Problems)

Answer any **six** questions.

Weight **2** each.

11. Explain the theorem with a proof "The summation of degrees in an undirected graph is twice the number of edges", $\sum d_i = 2|E|$.
12. What is centrality ? Write about its types?
13. Write a short note on i) Node degree. ii) Node Reachability. iii) Node Similarity.
14. What are the steps involved in network segmentation?





15. Explain SIRS models.
16. Explain and write the equations of measuring assortativity for nominal attributes.
17. Explain content based recommendation algorithm.
18. Explain individual behavior modeling.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Explain shortest path algorithm with example.
20. Explain in detail about : a)Transitivity b). Reciprocity
21. Discuss about Hierarchical communities, Girvan – Newman Algorithm & Edge betweenness.
22. Explain the Bayesian modeling of herd behavior.

(2×5=10 weightage)

