

# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## September / October 2023 Supplementary Examinations

**Programme: B.E.**

**Branch: Artificial Intelligence and Machine Learning**

**Course Code: 22AM6PESMA**

**Course: Social Media Analytics**

**Semester: VI**

**Duration: 3 hrs.**

**Max Marks: 100**

**Date: 25.09.2023**

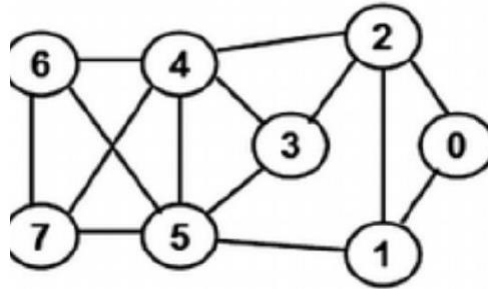
**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

### UNIT - I

- 1 a) With the help of suitable diagram, explain six general steps that involve science and art of achieving business insights from social media data. **10**
- b) Compare atleast three tools available in the market for each layer of social media analytics and explain their strengths and weakness. **10**

### UNIT - II

- 2 a) For the given network,
  - i. Calculate the clustering coefficient of all the nodes.
  - ii. Identify the density of the network



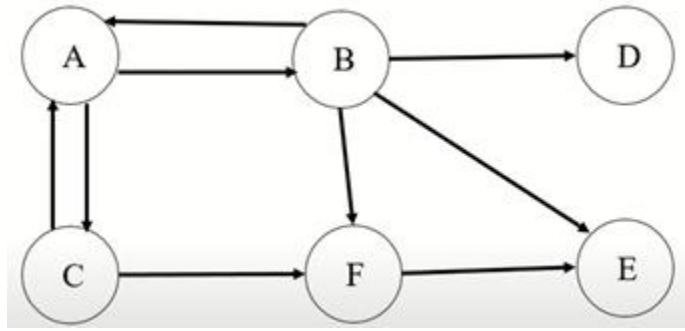
**8**

- b) Classify and explain Social Media Networks based on existence, direction of links, mode and weights with the help of the suitable diagram whenever applicable. **12**

### UNIT - III

- 3 a) Justify the need of social media action analytics and discuss atleast eight most prevalent social media actions. **10**
- b) Depict the steps involved in ranking webpages using random surfer model. Rank the webpages (nodes) in the network below after two iterations. Assume the damping factor as 0.85 and initial page rank of all pages=1. **10**

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.



**OR**

- 4 a) Explore five social media action analytics tools. **5**
- b) Infer the characteristics of mobile apps that distinguish them from desktop-based applications. **5**
- c) With the help of suitable diagram, explain the types of hyperlinks available for analytics and determine at least five tools for hyperlink analytics. **10**

#### **UNIT - IV**

- 5 a) Explain the different categories of Location Analytics. **10**
- b) Based on the mechanisms Search Engine operate on and scope determine the common types. **10**

#### **UNIT - V**

- 6 a) Explain the challenges faced by recommender systems in various domains such as temporal data, location-based data, and social data. **10**
- b) Elucidate the issues face in designing offline recommender systems. Analyse how Partitioning a ratings matrix for evaluation design is performed for Netflix Prize data set. **10**

**OR**

- 7 a) Analyse and explain the general goals in evaluating recommender systems. **10**
- b) Explain any five basic models of recommender systems. **10**

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