1. Which of the following best describes social network mining?

a) Extracting valuable minerals from social media platforms
b) Analyzing and extracting patterns and insights from social network data
c) Creating new social media platforms
d) Identifying trending hashtags on Twitter

Answer: b) Analyzing and extracting patterns and insights from social network data

Explanation: Social network mining involves the analysis and extraction of useful information, patterns, and insights from social network data to understand the dynamics of relationships, behavior, and interactions among individuals or entities within the network.

2. Social networks can be represented as:

a) Hierarchical structures
b) Sequential data
c) Graphs
d) Textual documents

Answer: c) Graphs

Explanation: Social networks can be represented as graphs where nodes represent individuals or entities, and edges represent relationships or interactions between them.

3. Which of the following is NOT a type of social network?

a) Friendship networks

b) Professional networks
c) Geographical networks
d) Food networks

Answer: d) Food networks

Explanation: While social networks can revolve around food-related activities, “food networks” aren’t typically recognized as a distinct type of social network in the context of social network analysis.

4. Clustering of social graphs involves:

a) Grouping similar individuals or entities together based on certain criteria
b) Deleting random nodes from the graph
c) Adding edges between random nodes
d) Rearranging the nodes alphabetically

Answer: a) Grouping similar individuals or entities together based on certain criteria

Explanation: Clustering of social graphs involves partitioning or grouping nodes (individuals or entities) into clusters based on similarities in their attributes or relationships within the network.

5. Which method is used for the direct discovery of communities in a social graph?

a) Random selection
b) Breadth-first search
c) Community detection algorithms

d) Sorting nodes alphabetically

Answer: c) Community detection algorithms

Explanation: Community detection algorithms are specifically designed methods used for the direct discovery of communities or clusters within a social graph based on various factors such as connectivity patterns, node attributes, or network structures.

6. Recommender systems aim to:

a) Identify influential users in a social network
b) Recommend connections between unrelated individuals
c) Predict future interactions in a social network
d) Recommend relevant items or content to users

Answer: d) Recommend relevant items or content to users

Explanation: Recommender systems are algorithms designed to suggest items, products, or content to users based on their preferences, past behavior, or similarities with other users.

7. What is the primary goal of mining social network graphs?

a) Extracting rare elements
b) Understanding the structure and dynamics of social relationships
c) Identifying the shortest path between any two individuals
d) Creating new social media platforms

Answer: b) Understanding the structure and dynamics of social relationships

Explanation: The primary goal of mining social network graphs is to gain insights into the structure, behavior, and dynamics of social relationships among individuals or entities within the network.

8. Which of the following is NOT a common application of social network mining?

a) Targeted advertising
b) Disease spread analysis
c) Weather prediction
d) Friend recommendation

Answer: c) Weather prediction

Explanation: While social network mining has numerous applications, weather prediction is not typically one of them. Social network mining is more commonly associated with applications like targeted advertising, disease spread analysis, and friend recommendation systems.

9. What does “community detection” refer to in the context of social networks?

a) Finding groups of users with similar interests
b) Identifying influential users
c) Predicting future interactions
d) Deleting inactive users

Answer: a) Finding groups of users with similar interests

Explanation: Community detection in social networks refers to the process of identifying

groups or communities of users who share common interests, behaviors, or attributes within the network.

10. Which algorithm is commonly used for community detection in social graphs?

a) Depth-first search
b) K-means clustering
c) PageRank
d) Louvain method

Answer: d) Louvain method

Explanation: The Louvain method is a popular algorithm used for community detection in social graphs, aiming to identify densely connected groups of nodes with high intra-community connections and low inter-community connections.

11. What information do nodes represent in a social graph?

a) Relationships between users
b) Groups of users
c) Individual users or entities
d) None of the above

Answer: c) Individual users or entities

Explanation: Nodes in a social graph typically represent individual users, entities, or objects within the network.

12. What is the purpose of clustering in social graph analysis?

a) To identify influential nodes
b) To group nodes with similar attributes or connections
c) To delete irrelevant nodes
d) To increase network density

Answer: b) To group nodes with similar attributes or connections

Explanation: Clustering in social graph analysis involves grouping nodes (users or entities) together based on similarities in their attributes or connections within the network.

13. Which technique is used for discovering communities in a social graph without prior knowledge of the communities?

a) Node labeling
b) Community detection algorithms
c) Random sampling
d) Breadth-first search

Answer: b) Community detection algorithms

Explanation: Community detection algorithms are specifically designed techniques used for discovering communities or clusters in a social graph without prior knowledge of the communities.

14. In social network mining, what does “recommendation” refer to?

a) Suggesting actions for users to take
b) Identifying key influencers
c) Predicting future network behavior
d) Suggesting relevant content or connections to users

Answer: d) Suggesting relevant content or connections to users

Explanation: Recommendation in social network mining involves suggesting relevant content, items, or connections to users based on their preferences, behaviors, or similarities with other users.

15. Which of the following is NOT a type of social network?

a) Online shopping networks
b) Academic collaboration networks
c) Transportation networks
d) Dating networks

Answer: c) Transportation networks

Explanation: While transportation networks may involve social interactions, they are not typically classified as social networks. Online shopping networks, academic collaboration networks, and dating networks are more commonly recognized as types of social networks.

16. What distinguishes social networks from other types of networks?

a) They always involve online interactions
b) They exclusively focus on professional connections

c) They revolve around social interactions and relationships
d) They are limited to a specific geographic region

Answer: c) They revolve around social interactions and relationships

Explanation: Social networks are characterized by social interactions and relationships among individuals or entities within the network, distinguishing them from other types of networks that may focus on different types of connections or interactions.

17. Which of the following is an example of a community detection algorithm?

a) Breadth-first search
b) Depth-first search
c) K-means clustering
d) Girvan-Newman algorithm

Answer: d) Girvan-Newman algorithm

Explanation: The Girvan-Newman algorithm is a community detection algorithm commonly used to identify communities or clusters within a social graph based on edge betweenness centrality.

18. What role do edges play in a social network graph?

a) They represent individual users
b) They represent relationships or connections between users
c) They determine node centrality
d) They are irrelevant in social network analysis

Answer: b) They represent relationships or connections between users

Explanation: Edges in a social network graph represent relationships or connections between individual users or entities, indicating interactions, friendships, collaborations, or other forms of relationships within the network.

19. Which factor is NOT typically considered when clustering social graphs?

a) Node attributes
b) Edge weights
c) Network density
d) Node names

Answer: d) Node names

Explanation: When clustering social graphs, factors such as node attributes, edge weights, and network density are commonly considered, but node names themselves are typically not a primary factor in clustering analysis.

20. What is the primary purpose of social network analysis?

a) To increase the number of connections between users
b) To understand the structure and dynamics of social relationships
c) To delete inactive users from the network
d) To create artificial social networks

Answer: b) To understand the structure and dynamics of social relationships

Explanation: The primary purpose of social network analysis is to gain insights into the structure, behavior, and dynamics of social relationships among individuals or entities within a network, rather than solely focusing on increasing connections or creating artificial networks.

Related posts:

1. Introduction to Information Security
2. Introduction to Information Security MCQ
3. Introduction to Information Security MCQ
4. Symmetric Key Cryptography MCQ
5. Asymmetric Key Cryptography MCQ
6. Authentication & Integrity MCQ
7. E-mail, IP and Web Security MCQ