

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022
(Second Semester)

Branch – COMPUTER SCIENCE

SOCIAL NETWORK ANALYSIS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 The emergent _____ will lead to machine understanding of data and help exploit heterogeneous, multi-source digital media.
 - (i) semantic web
 - (ii) semantic network analysis
 - (iii) social network analysis
 - (iv) ontology based knowledge representation
- 2 _____ is the study of social relations among a set of actors.
 - (i) Web Ontology Language
 - (ii) Social Network Data
 - (iii) Ontology
 - (iv) Social Network Analysis
- 3 Modern _____ allow to easily comment and react to the comments of other bloggers, resulting in webs of communication among bloggers.
 - (i) XML tools
 - (ii) RDF Tool
 - (iii) Blogging tools
 - (iv) ontology-based tools
- 4 Many _____, such as advice seeking, information-sharing, and lending money to somebody are directed ties while co-memberships are examples of undirected ties.
 - (i) Human intelligence
 - (ii) Human behaviors
 - (iii) Artificial Intelligence
 - (iv) None of these
- 5 Social Web graphs by a 3-dimensional tensor T where each of its slices represents (a)an _____ for one relation type from L.
 - (i) network graph matrix
 - (ii) arbitrary matrix
 - (iii) unit matrix
 - (iv) adjacency matrix

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Justify the emergence of the social web.
OR
b Discuss Semantic Web Technology and Technology adoption.
- 7 a Evaluate two features of web pages that are considered as the basis of extracting social relations: links and co-occurrences.
OR
b Explain Web Ontology Language: OWL Lite, OWL DL and OWL Full.

Cont...

8 a Classify & Define Different Communities: Local definitions, Global definitions, Definitions based on vertex similarity.

OR

b Discuss the Challenges for (Decentralized Social Networks) DOSN.

9 a Organize Reality Mining.

OR

b Prepare Context-Awareness.

10 a Assume Visualization plays a crucial role of linking the human vision and computer and Discuss it.

OR

b Analyze social network graph consists of nodes connected with edges and Evaluate it.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11 a Analyze Web 2.0 + Semantic Web =Web 3.0.

OR

b Outline Social Network Analysis on a global view.

12 a Discuss Friend-of-a-Friend (FOAF) ontology.

OR

b Outline the Reasoning with instance equality.

13 a. Discuss on the methods for detecting communities:

(i) Divisive algorithms, (ii) modularity optimization, (iii) spectral algorithms.

OR

b Discuss Several Tools for Detecting Communities: detecting communities from large-scale networks, and interactively analyzing communities from small networks.

14 a Criticize the privacy in Online Social Networks.

OR

b Elucidate intuitively could affect the mutual trust between the two agents in Trust Derivation Based on Trust Comparisons.

15 a Assess on Visualizing Online Social Networks with Matrix-based representations.

OR

b Survey visualization of Co-Citation Relations.

Z-Z-Z

END