Assignment Week 0

(Course: Social Networks)

1. Which of the following is not a social networking site:

A. Google+
B. Instagram
C. Bing
D. Twitter

Ans: C

(Bing is a search engine owned by Microsoft.)

2. Social Networking involves communication between _____ ?

A. Two computers
B. A computer and a router
C. A human and a computer
D. Two or more people

Ans: D

3. An Internet meme is (*Choose the best answer*):

A. A social networking website
B. Any Website
C. A computer virus
D. Any kind of digital artefact traversing through the Internet, be it an image, audio, video or a file in some other format.

Ans: D

4. Which of the following is useful in traversing a given graph by breadth first search?

A. Set
B. List
C. Stacks
D. Queue

Ans: D

5. What is the maximum number of possible non-zero values in an adjacency matrix of a simple graph with n vertices?

A. (n*(n-1))/2
B. (n*(n+1))/2
C. n*(n-1)
D. n*(n+1)

Ans: C

(Out of n*n possible values for a simple graph the diagonal values will always be zero.)

6. On which of the following statements does the time complexity of checking if an edge exists between two particular vertices or not depends?

A. Depends on the number of edges
B. Depends on the number of vertices
C. Is independent of both the number of edges and vertices
D. It depends on both the number of edges and vertices

Ans: C

(To check if there is an edge between two vertices i and j, it is enough to see if the value of A[i][j] is 1 or 0. Here A is the adjacency matrix.)

7. Which type of graph has all the vertices of the first set connected to all the vertices of the second set?

A. Bipartite
B. Complete Bipartite
C. Cartesian
D. Pie

Ans: B

(The graph is known as Bipartite if the graph does not contain any odd length cycle in it. The complete bipartite graph has all the vertices of first set connected to all the vertices of the second set.)

8. In a complete graph with n nodes, how many different triangles are present?

A. 3n
B. n^3
C. (n^3−3n^2+2n)/6
D. None of the above

Ans: C

(In a complete graph having n nodes, there will be ‘n Choose 3’ triangles.)

9. In an undirected graph G with n vertices and e edges, the sum of the degrees of each vertex is:

A. n*e
B. 2n
C. 2e
D. e^n

Ans: C

10. The number of edges in a regular graph of degree d and n vertices is (Assume n and d to be even):

A. nd
B. n+d
C. (nd)/2

D. Maximum of n,d

Ans: (nd)/2