**Assignment 12**

**The due date for submitting this assignment has passed.**

**Due on 2018-10-27, 23:59 IST.**

**Assignment submitted on 2018-10-24, 16:08 IST**

***1 point***

Which one of the following graphs is required to calculate page rank?

 Simple graph

 Directed graph

 Any of the above

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*Directed graph*

***1 point***

How many steps would n=9 would take to converge according to Collatz conjecture? (Convergence in Collatz conjecture is when n becomes 1)  
(For Example: If n=4, number of steps it takes to converge is 2.)

 22

 25

 21

 19

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*19*

***1 point***

In the web graph, nodes are the web pages. What are the edges?

 Network Connections

 URLs

 Links to other web pages

 None of the above

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*Links to other web pages*

***1 point***

Consider the following statements: a) Google PageRank works by hiring experts from different domains who maintain a database of the rankings of all web pages. b) Google PageRank works by using web graph and random walk algorithm.

 Only Statement a is correct

 Only Statement b is correct

 None of the above

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*Only Statement b is correct*

***1 point***

In the point distribution method of page rank algorithm, at each iteration, each node shares it pagerank value by -

 Randomly choosing one of its outgoing link and sharing all its pagerank value to the node connected to that link.

 Dividing its pagerank value equally to all the outgoing links.

 Generating a random pagerank value and then dividing it equally among the outgoing links equally.

 None of the above.

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*Dividing its pagerank value equally to all the outgoing links.*

***1 point***

State True or False:  
A sink node is the one which has no incoming links.

 True

 False

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*False*

***1 point***

In random walk method, what is the next step when a sink node is encountered in the underlying graph?

 A random node is chosen out of all the given nodes.

 The node with maximum number of incoming links is chosen.

 The node with maximum number of outgoing links is chosen.

 None of the above.

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*A random node is chosen out of all the given nodes.*

***1 point***

State True or False:  
3m+1 problem is also called Collatz conjecture.

 True

 False

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*True*

***1 point***

What is the sequence obtained according 3m+1 algorithm for n=12?

 12, 6, 3, 10, 5, 16, 8, 4, 2, 1

 12, 6, 3, 2, 1

 12, 6, 5, 16, 8, 4, 2, 1

 None of the above.

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*12, 6, 3, 10, 5, 16, 8, 4, 2, 1*

***1 point***

Which of the following statements is true about Collatz conjecture?

 Bigger number corresponds to more number of steps for convergence.

 Smaller number corresponds to less number of steps for convergence.

 Both a & b

 None of the above

**Yes, the answer is correct.   
Score: 1**

**Accepted Answers:**

*None of the above*