1 point

1 point

Assignment 9 The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. 1) Which of the following is true for G(1000, 0.5) random network: The density of the network will be 0.5 The clustering coefficient will be 0.5 Each node will be added with probability 0.5. Each edge will be placed with probability 0.5.	3:59 IST. 1 point
As per our records you have not submitted this assignment. 1) Which of the following is true for G(1000, 0.5) random network: The density of the network will be 0.5 The clustering coefficient will be 0.5 Each node will be added with probability 0.5. Each edge will be placed with probability 0.5.	
The density of the network will be 0.5 The clustering coefficient will be 0.5 Each node will be added with probability 0.5. Each edge will be placed with probability 0.5.	1 point
The clustering coefficient will be 0.5 Each node will be added with probability 0.5. Each edge will be placed with probability 0.5.	
The clustering coefficient will be 0.5 Each node will be added with probability 0.5. Each edge will be placed with probability 0.5.	
Each edge will be placed with probability 0.5.	
No, the answer is incorrect.	
Score: 0	
Accepted Answers: Each edge will be placed with probability 0.5.	
2) Given set E = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}, we pick a value a_1 uniformly at random from this set E. Next, we pick another value a_2, again	1 point
uniformly at random from this set E. Similarly we pick 8 more values, a_3 , a_4 ,, a_10 . Look at the sum $S = a_1 + a_2 + + a_10$. Let $p(i)$ be the probability that $S = i$, i.e., the probability that the sum of these randomly chosen 10 elements is i. We plot i on the X-axis	
and p(i) on the Y axis. Choose the correct statement from the following:	
The plot has very high values in the beginning but then drops.	
The plot is a bell shaped curve.	
Score: 0	
The plot is a bell shaped curve.	
3) Power law degree distribution in real world networks generally follows the characteristic equation $v = 1/k^a$. What is the value of 'a' here?	1 point
	1 point
○ 3 <a< 4<="" td=""><td></td></a<>	
O None of the above	
No, the answer is incorrect.	
Accepted Answers: 2 <a 3<="" <="" td=""><td></td>	
4) How does the power law degree distribution come by in real world networks?:	1 point
By preferential attachment	
By random linking	
By uniform edge connection	
No hypothesis is found.	
No, the answer is incorrect. Score: 0	
Accepted Answers:	
by preferential attachment	
5) In the preferential attachment, a new coming node will prefer to make the connection with the node having:	1 point
Average number of friends	
O None of the above	
No, the answer is incorrect.	
Accepted Answers:	
6) Given a network being generated by 'rich get richer' phenomenon. The following Figure shows the snapshot of the network at time t. A new node 'u' enters the network at time t+1 and makes an edge with one of the existing nodes. The probability of 'u' making	1 point
an edge with an existing node 'w' is defined as p(w). Which of the following equations is correct?	
	uniformly at random from this set E. Smilarly we pick 8 more values, a, 3, a, 4,, a, 10. Look at the sum S = a, 1 + a, 2 + + a, 10. Lot (0) to be the probability that S = i.a, i. the probability that is usen of these randomly chosen 10 elements is i. We pict I on the X-axis and pii) on the Y axis. Choose the correct statement from the following: The plot is as very high values in the beginning but then drops. The plot is a bell shaped curve. The plot is a bell shaped curve. The plot is a bell shaped curve. Accepted Answers: The plot is a bell shaped curve. 3) Power law degree distribution in real world networks generally follows the characteristic equation y = 1/k² . What is the value of 'a' here? 1 <a 2="" <="" <<="" <a="" a="" td="">

b(c) < b(c) < b(c)

 \bigcirc p(F) < p(C) < p(B)

All of the above

No, the answer is incorrect. Score: 0

Accepted Answers: All of the above

7) Let G be a set of 5 graphs generated using Erdos-Renyi model with (n, p) parameters. Similarly, let H be a set of 5 graphs generated using Barabasi-Albert model with (n, m) parameters. Which of the following is true (Assume standard definitions for n, m and p): No. of edges in all the graphs in G is same, the no. of edges in all the graphs in H may vary.

No. of edges in all the graphs in H is same, the no. of edges in all the graphs in G may vary.

No. of edges in all the graphs in G is same, No. of edges in all the graphs in H is same

No. of edges in all the graphs in both, G and H, varies in each iteration

No, the answer is incorrect. Score: 0

Accepted Answers:

No. of edges in all the graphs in H is same, the no. of edges in all the graphs in G may vary.

8) Given set E = {1, 2, 3, ..., 19, 20}. We pick a value a_1 uniformly at random from this set E. Next, we pick another value a_2, again uniformly at random from this set E. Similarly we pick 18 more values, a_3, a_4,, a_20 (a total of 20 numbers are picked). Look at the $sum S = a_1 + a_2 + + a_{20}$. Which of the following sets define the range from which the sum S can have values from?

(1, 2, ..., 19, 20) **20, 11, ..., 19, 200**

(1, 2, ..., 9, 400)

{20, 11, ..., 399, 400}

No, the answer is incorrect. Score: 0 Accepted Answers:

{20, 11, ..., 399, 400}