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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Social Networks (course)

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Week 7: Assignment 7

The due date for submitting this assignment has passed.
Due on 2022-09-14, 23:59 IST.

Assignment submitted on 2022-09-14, 19:43 IST

1) Factors which influence diffusion are -   **1 point**

I. Payoff
II. Key people
III. Cascade formation

○ Only I

○ Only II

⦿ Only I, II

○ I, II and III

No, the answer is incorrect.
Score: 0
Accepted Answers:
I, II and III

2) When is it easy to convince a community to adopt new ideas?   **1 point**

⦿ When the density of the community is high.

○ When the density of the community is low.

No, the answer is incorrect.
Score: 0
Accepted Answers:
When the density of the community is low.

3)   If in a social network, an idea starts from one person and slowly reaches other parts **1 point** of the network. This phenomenon is known as _____.

○ Randomness

◉ Diffusion

Yes, the answer is correct.
Score: 1

Accepted Answers:
Diffusion

4) The density of a cluster is d if -   **1 point**

○ The average friends of all nodes inside the cluster is d.

◉ d fraction of the nodes friends are present inside the cluster.

○ d fraction of the nodes friends are present outside the cluster.

Yes, the answer is correct.
Score: 1

Accepted Answers:
d fraction of the nodes friends are present inside the cluster.

5) If the payoff of watching a documentary & listening to songs is 0.5 and 0.4   **1 point**
respectively. 4 of your friends decides to watch documentary and 6 of them listens to songs.
Which one should you pick?

○ Watch the documentary
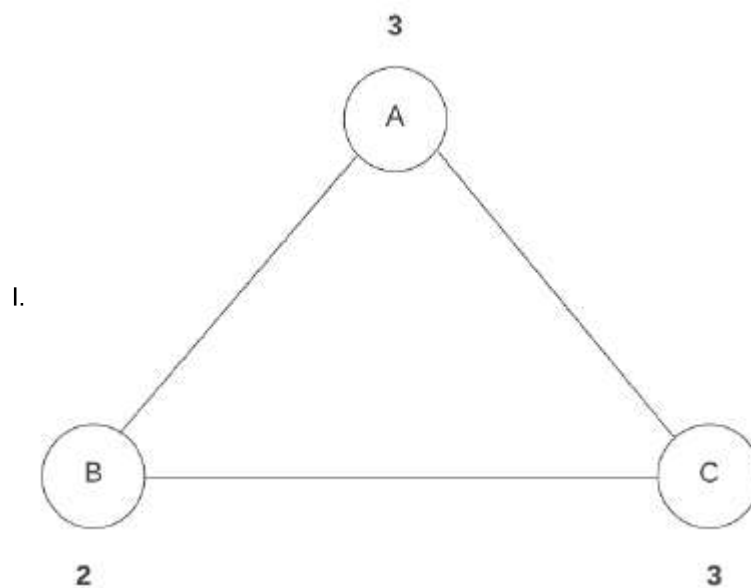
◉ Listen to songs

Yes, the answer is correct.
Score: 1

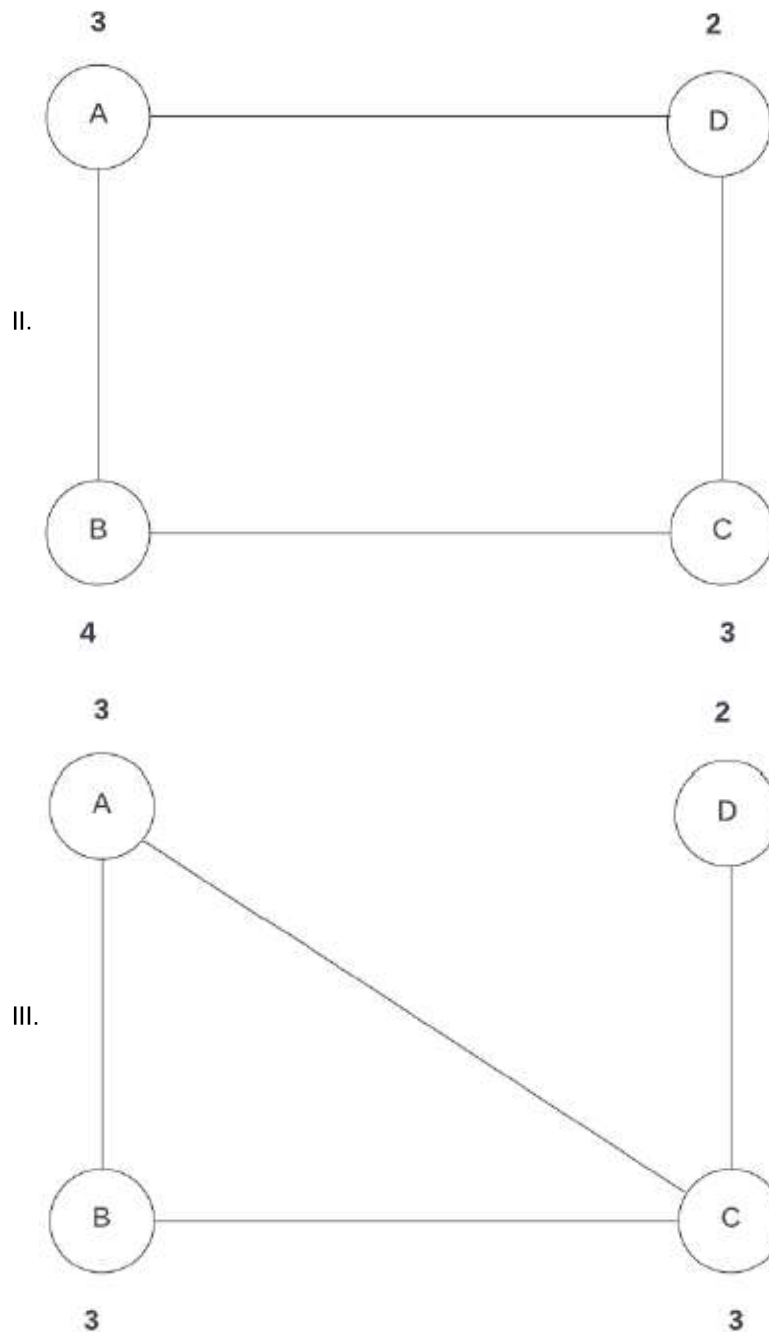Accepted Answers:
Listen to songs

6) If the value above the node is its threshold value to join the protest then, in which of **1 point**
the following graphs, protest is likely to happen?

I.

3   **2**

A ────────────────────────── D

II.

B ────────────────────────── C

4   **3**

3   **2**

A   D

III.

B ────────────────────────── C

3   **3**

○ Only I
○ Only II
○ I and II
◉ I and III

Yes, the answer is correct.
Score: 1

Accepted Answers:
I and III

7) _____ is the technique in which we identify key people in the network using which **1 point** the idea gets spread very fast.

◉ Diffusion
○ Viral marketing

○ Randomness

○ Clustering

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

8) The payoff for watching movie and studying for Ram is $p\&q$ respectively. He has 20 **1 point**
friends out of which 8 decides to study and remaining decides to watch movie. If he decides to
study, which of the following option is correct?

○ $2p > 3q$

◉ $3p < 2q$

○ $2p < 3q$

○ $3p > 2q$

Yes, the answer is correct.
Score: 1
Accepted Answers:
$3p < 2q$

9) A cascade cannot be complete in a network with threshold of adoption = q, if there **1 point**
exist a cluster with density _____.

○ Greater than q

○ Less than q

○ Less than $1 - q$

◉ Greater than $1 - q$

Yes, the answer is correct.
Score: 1
Accepted Answers:
Greater than $1 - q$

10) Which of the following factors cause problems in the adoption of a new idea in a **1 point**
network?

I. High payoff
II. High threshold value
III. Cluster of density greater than (1 - threshold value)
IV. Cluster of density less than (1 - threshold value)

◉ Only I

○ Only II

○ II and III

○ II and IV

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