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

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Week 4: Assignment 4

The due date for submitting this assignment has passed.

Due on 2022-08-24, 23:59 IST.

Assignment submitted on 2022-08-24, 21:29 IST

1) Rahul became friends with Ram. Ram is an avid follower of Cricket. Ram repeatedly **1 point**
took Rahul to watch cricket matches with him and soon Rahul also started following Cricket.
Which of the following accurately represents the following phenomenon?

⭕ Selection

⭕ Triadic closure

🔘 Social influence

⭕ Focal Closure

Yes, the answer is correct.
Score: 1

Accepted Answers:
Social influence

2) Ram and Shyam were two new entrants in Kendriya Vidyalaya Ropar. Their   **1 point**
similarity measure then was 0.005. They became friends on day 5. What is the most likely
similarity measure right before they became friends?

⭕ 0.004

⭕ 1.1

⭕ 0.005

🔘 0.01

Yes, the answer is correct.
Score: 1

Accepted Answers:
0.01

3) On an IIT campus, we observe that the friendships among the 1st year and 2nd   **1 point**
year students are greater than the friendship within 1st year and 2nd year students combined.
What can we infer about the homophily of this network?

○ Homophily is 0

◉ Homophily is greater than 0.5

○ Homophily is 0.5

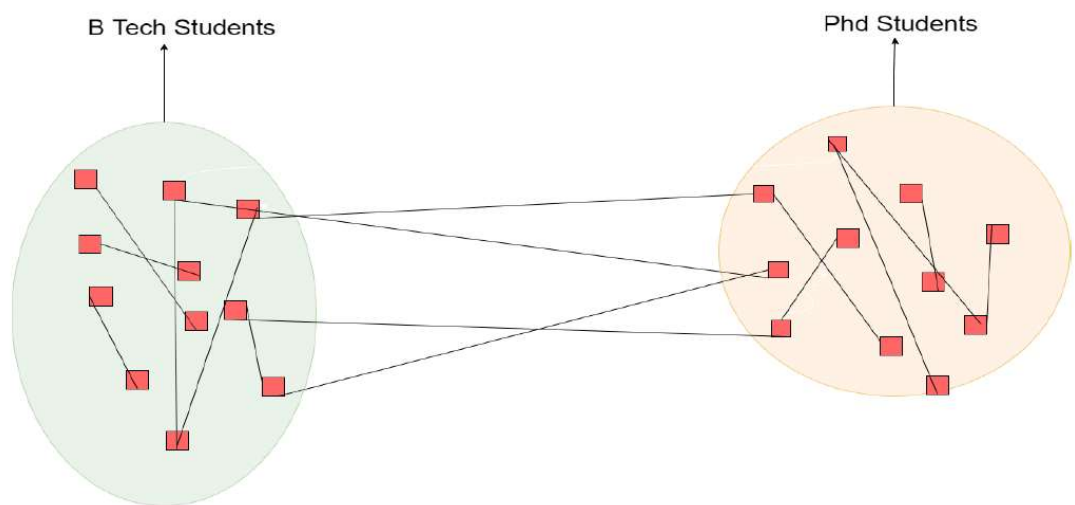○ Homophily is less than 0.5

No, the answer is incorrect.
Score: 0
Accepted Answers:
Homophily is less than 0.5

4) Raghavan is a warden in the Ganga hostel. He observes the following graph of the   **1 point**
friendship of B.tech and PhD students of Ganga hostel. What is the homophily of the network?

○ $\frac{1}{2}$

◉ $\frac{3}{4}$

○ $\frac{1}{4}$

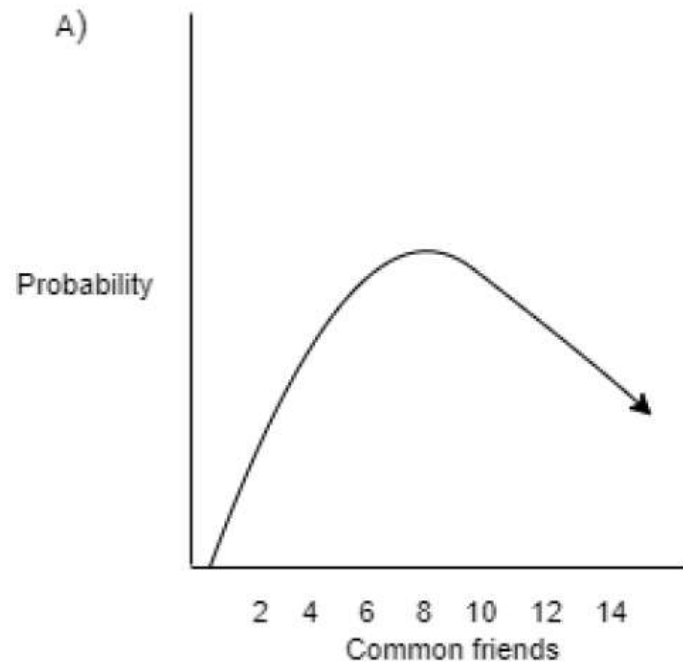○ 1

No, the answer is incorrect.
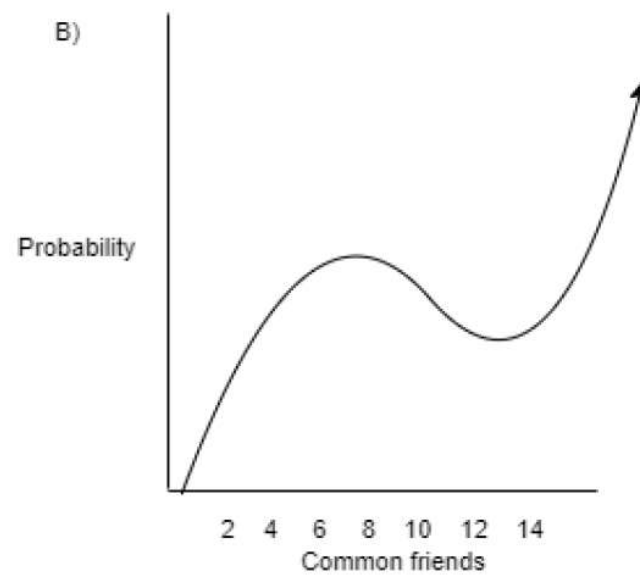Score: 0
Accepted Answers:
$\frac{1}{2}$

5) Which of the following correctly depicts the probability of any two persons(A and B)   **1 point**
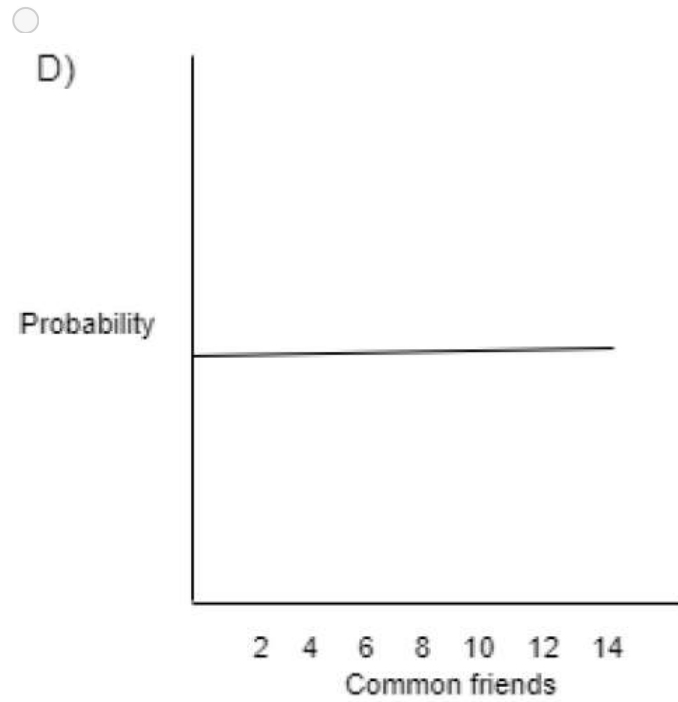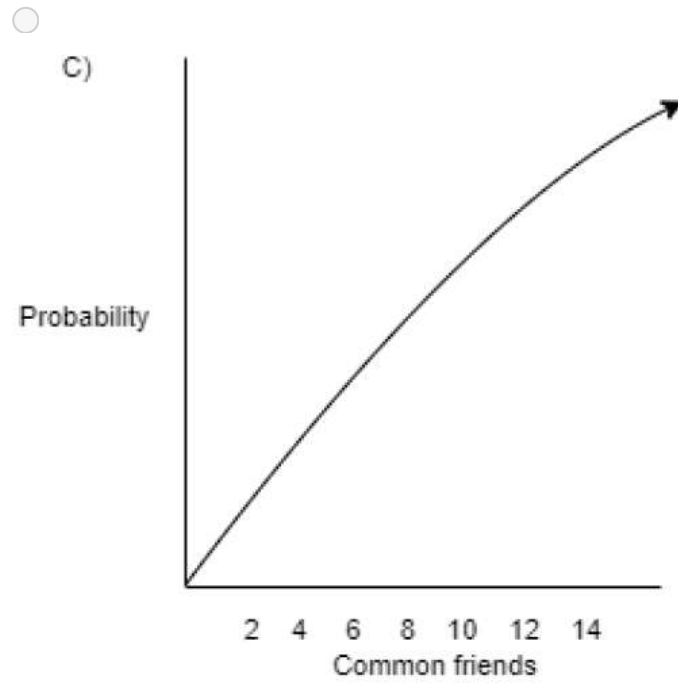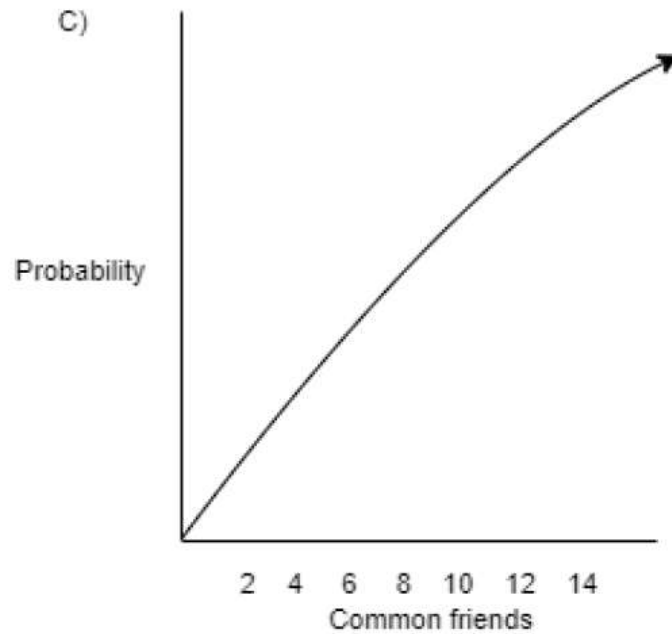being friends with respect to the number of their common friends?

A)

B)

C)

Probability

2   4   6   8   10   12   14
Common friends

D)

Probability

2   4   6   8   10   12   14
Common friends

No, the answer is incorrect.
Score: 0

Accepted Answers:

C)

Probability

2 4 6 8 10 12 14
Common friends

6) The probability of Jon and Eva not being friends given that they have a common   **1 point**
friend is 0.8. What is the probability of them being friends given that they have 8 common
friends?

○ 0.83

◉ 0.16

○ 0.2

○ 0.5

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.83

7) Ram and Raghav both are part of the Royal cricketing club. They meet at the club   **1 point**
and gradually become friends. This phenomenon is known as?

○ Social influence

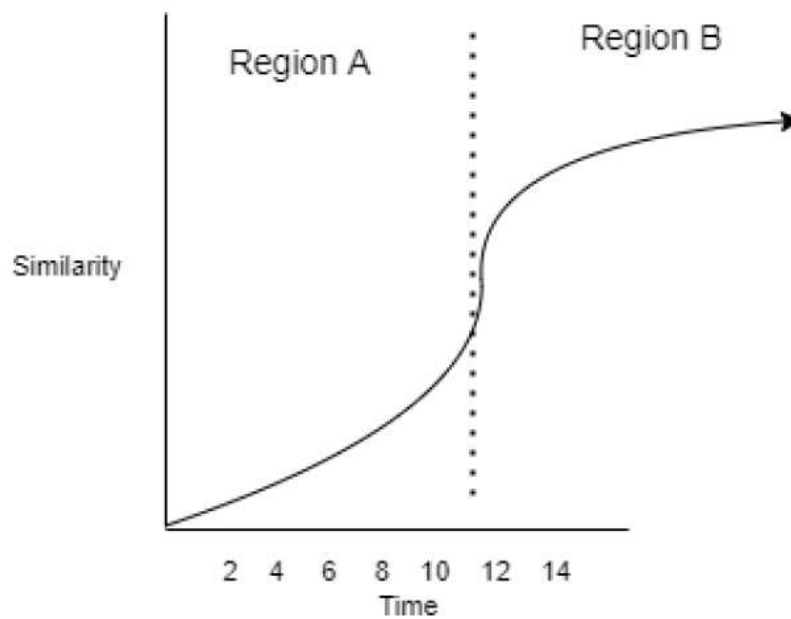○ Triad closure

○ Foci Closure

◉ Membership Closure

No, the answer is incorrect.
Score: 0

Accepted Answers:
Foci Closure

8) The increase in similarity in region B can be attributed to which phenomenon?   **1 point**

Region A

Region B

Similarity

2 4 6 8 10 12 14
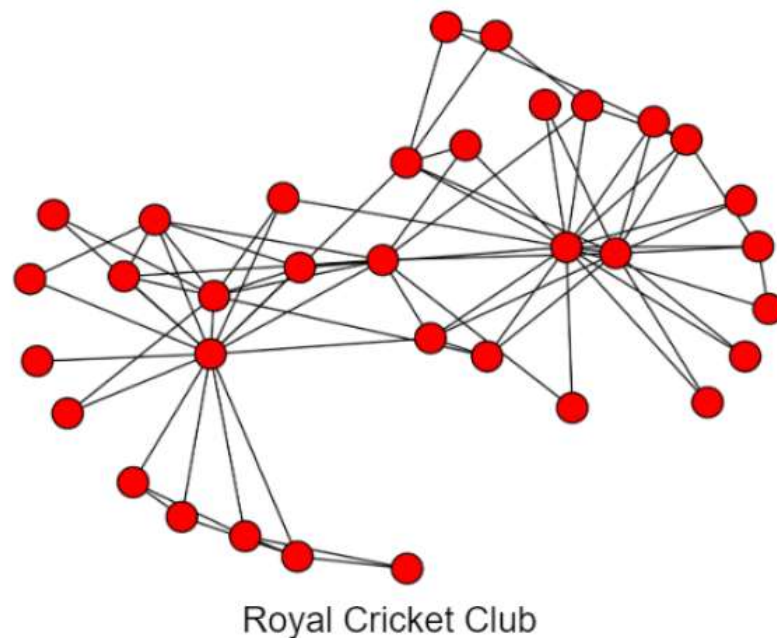Time

○ Selection
◉ Social influence
○ Triadic Closure

Yes, the answer is correct.
Score: 1

Accepted Answers:
Social influence

9) If nodes represent players and edges between players represent friendships, then **1 point**
which of the following phenomenon might have resulted in the following network?

Royal Cricket Club

I. Foci Closure
II. Social influence
III. Selection
IV. Membership Closure

○ Only I

○ Only IV

◉ Only I, IV

○ Only I, III

Yes, the answer is correct.
Score: 1

Accepted Answers:
Only I, IV

10) Given that the homophily in a network consisting of class A and class B is very high **1 point**
i.e greater than $\dfrac{1}{2}$. Choose the correct option.

I. Across edges are low in proportion.
II. People tend to make friends within their group.
III. The probability of selecting an across edge is low.
IV. People tend to make friends outside their group.

○ Only IV

○ Only I, II

◉ Only I, III

○ Only I, II, III

No, the answer is incorrect.
Score: 0

Accepted Answers:
Only I, II, III