Unit 7 - Week 5

Thank you for taking the Assignment 5.

Assignment 5

Your last recorded submission was on 2020-03-04, 23:15 Due date: 2020-03-04, 23:59 IST. IST

1) In a graph having ‘n’ nodes, how many possible triangles can be present? ***1 point***

- ○ n^3
- ○ 3n
- ◉ (n(n−1)(n−2))/6
- ○ None of the above

2) What can we say about the stability/balance of K6 (complete graph on 6 nodes) having all edges -ve, with one random edge being positive? (Choose the most appropriate): ***1 point***

- ○ It is a stable graph.
- ○ It is an unstable graph but it will have exactly four balanced triangles.
- ○ It is an unstable graph but it will have exactly six balanced triangles.

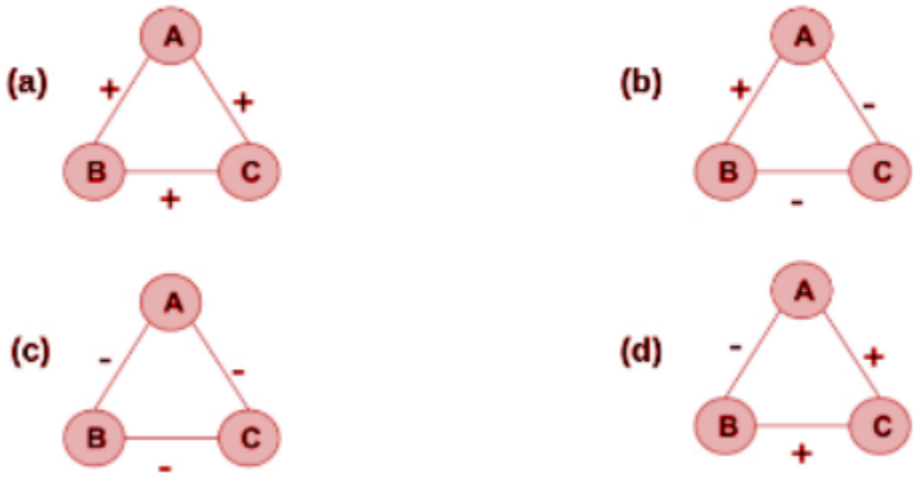
Assessment submitted.
X

- (•) It is an unstable graph but It will have only one balanced triangle.

3) In a graph having 8 nodes, how many possible edges can be present? ***1 point***

- (•) 28
- ( ) 36
- ( ) 56
- ( ) 58

4) Which of the following graphs are stable? ***1 point***



- ( ) (b) & (d) ONLY
- ( ) (a) & (c) ONLY
- ( ) (c) & (d) ONLY
- (•) (a) & (b) ONLY

5) Which of the triangles shown in Figure displayed in Ques 4 follows the social belief that 'Enemy of my enemy is my friend' ? ***1 point***

- ( ) (a)
- (•) (b)
- ( ) (c)
- ( ) (d)

6) A friend's friend tends to become a friend, and so does an enemy's enemy. The reasons for the same are ***1 point***

- ( ) Social influence and clustering respectively
- ( ) Social influence and structural balance respectively
- (•) Triadic closure and structural balance respectively

Assessment submitted.

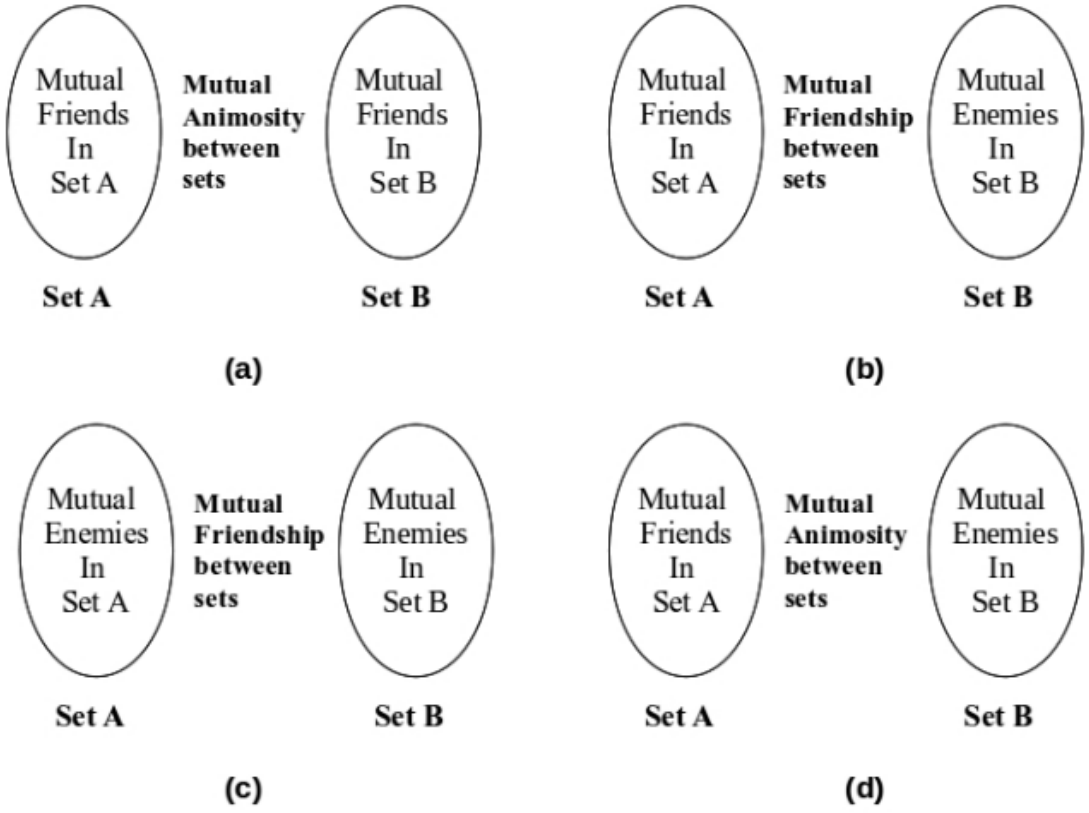
X

○ Triadic closure and clustering respectively

7) A signed graph is balanced if and only if it contains no cycle with ***1 point***

○ An even number of negative edges
○ An odd number of negative edges
○ An even number of positive edges
◉ An odd number of positive edges

8) Which of the following structures of graphs is/are balanced? ***1 point***



◉ Both (a) and (c)
○ Only (a)
○ Only (b)
○ Both (b) and (d)

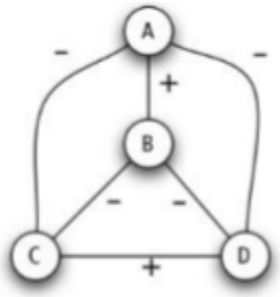
9) Can we have a complete signed graph on 4 nodes (K4) and 5 nodes (K5) respectively, each having exactly one unstable triangle? ***1 point***

○ K4 - Yes, K5 - Yes

Assessment submitted.
X

- ○ K4 - Yes, K5 - No
- ○ K4 - No, K5 - Yes
- ◉ K4 - No, K5 - No

10) Which of the following graphs is/are balanced? ***1 point***



- ○ Only (b) and not (a)
- ○ Neither (a) nor (b)
- ○ Both (a) and (b)
- ◉ Only (a) and not (b)

You may submit any number of times before the due date. The final submission will be considered for grading.

Submit Answers

Assessment submitted.

X

Week 5 Feedback (unit?unit=58&lesson=214)

Week 6

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