Week 12 : PseudoCore

1. Which of the following is responsible for drastically reducing the diameter of the small world networks?

   A. Homophily based edges
   B. Weak ties (long range contacts)
   C. All the edges D. None of the above

   Explanation: In a small world network, there are two kinds of edges. One type is because of the homophily based links which connect close by people. Another type are the long range contacts which connect far away people. The later is responsible for reducing the diameter of these networks.

2. In Myopic search, a node does not have information about

   A. Its neighbbors connected to it with homophily based edges
   B. Its neighbbors connected to it with weak ties
   C. Weak ties of its neighbors
   D. None of the above

   Explanation: In Myopic search, each node knows about all of its neighbors but only the homophily based links of its neighbors. Hence, a node does not have any information about the long range contacts of its neighbors.

3. In a core-periphery structure

   A. Low status people are linked in densely connected core while the high status people atomize around this core as periphery of the network.
   B. Core and the periphery occupy interchangeable positions in the network.
   C. The notion of a node being in a core or in a periphery does not depend on the social status or the wealth of a node.
   D. High status people are linked in densely connected core while the low status people atomize around this core as periphery of the network.

   Explanation: Follows from the definition.

4. Pseudo-cores are the nodes

   A. which belong to the core of the network (synonymous to core).
   B. which belong to the periphery of the network (synonymous to periphery).
   C. which do not belong to the innermost core of the network but have equal spreading power (cascade capacity) as the innermost core.
   D. which do not belong to the outermost periphery of the network but have equal spreading power (cascade capacity) as the outermost periphery.

   Explanation: Pseudocores are the shells just outside the core which have equal spreading power as the core.

5. Myopic search

   A. performs better than the optimal search
   B. performs worse than the optimal search
   C. performs equivalent to the optimal search
   D. none of the above

   Explanation: It has been shown in the lecture videos that Myopic search is not optimal. Hence, it performs worse than the optimal search.

6. In a graph, node having the highest influential power tend to have highest

   A. degree
   B. betweenness
   C. closeness
   D. coreness

   Explanation: It has been proved in the lecture videos with programming screencasts that nodes having the highest influential power tend to reside in the core of a network.