Institute: **Indian Institute Of Technology, Kanpur**   Date: **8th June, 2021**

CSE Department

Duration : 30 minutes(Over Zoom)

Panel : Prof. Ashutosh Modi, Prof. Vipul Arora, Prof. Arnab Bhattacharya

1. A small presentation (maximum 15 mins) on any research project that you have pursued in the past (could be your bachelor's/master's thesis or a research project you might have done or are doing in the company you work at or any other research-oriented project).

2. (By Prof. Vipul Arora)

   (a) What is over-fitting. How we typically avoid them?
   (b) What is graph neural network (Explain Mathematically).
   (c) Explain inductive and transductive settings in inductive setting in case pf GNNs.

3. (By Prof. Arnab Bhattacharya)

   (a) What is heap? Time complexity of min-Heap Construction?
   (b) How will you remove/ pickup the second minimum element from heap? What is the time complexity?

4. (By Prof. Ashutosh Modi)

   (a) Suppose $P(A|B) = 0.36 = P(A)$. Then what is $P(A| B)$?
   (b) Write pseudo code : Given two substrings, find if first substring is a subsequence of second. Say the time complexity.