

REPORT ON ONLINE SPECIAL LECTURE SERIES IN MATHEMATICS, 2020
OSLSM 2020

Phase V; Lecture Codes: 05.A1 & 05.A2

Date: 18.12.2020.

Time: 11:00am to 12:30 pm [IST] and 03:00 pm to 04:30 pm [IST]

Title: Interval Graphs, Intersection Graphs and Their Applications.

Target Audience: The lectures are meant primarily for the UG/PG students of Department of Mathematics of Netaji Subhas Open University [NSOU]. However, students of other universities and institutes, research scholars, faculties of different colleges/universities or any interested person were welcome to attend the lectures.

Technical Platform: The webinar was conducted using Zoom app through the LMS platform of ICT, NSOU. Technical Support was extended by M/s School Guru.

Speaker: Prof. Shamik Ghosh, Professor, Department of Mathematics, Jadavpur University, Kolkata, India.

About the speaker: One of the leading researchers of Graph theory in India, Prof. Shamik Ghosh did his M. Sc. in Mathematics from Jadavpur University. He did his Ph. D. from the Department of Pure Mathematics of University of Calcutta. Presently he is Professor in the Department of Mathematics, Jadavpur University. His areas of interest are primarily graph theory as well as semigroup theory and semiring theory. He is known for initiating some fascinating lines of research incorporating graph theory and ring theory. Apart from this, he has done vital research in the fields of interval graphs and intersection graphs. He has published several papers in top class international journals.

Abstract: This talk starts with some introduction to graph theory through various practical and historical problems. Next, we look at some application from which the concept of interval graphs evolved. Several properties and characterizations of interval graphs are discussed with special emphasis on the structure of adjacency matrix of an interval graph. The exhibition of applications continues leading to the more general concept, intersection graphs. After proving that every simple undirected graph is an intersection graph of sets in general, various intersection graphs of geometric objects are described. In the final sections we study some generalizations of interval graphs, namely, circular-arc graphs, interval bipartite graphs and probe interval graphs.

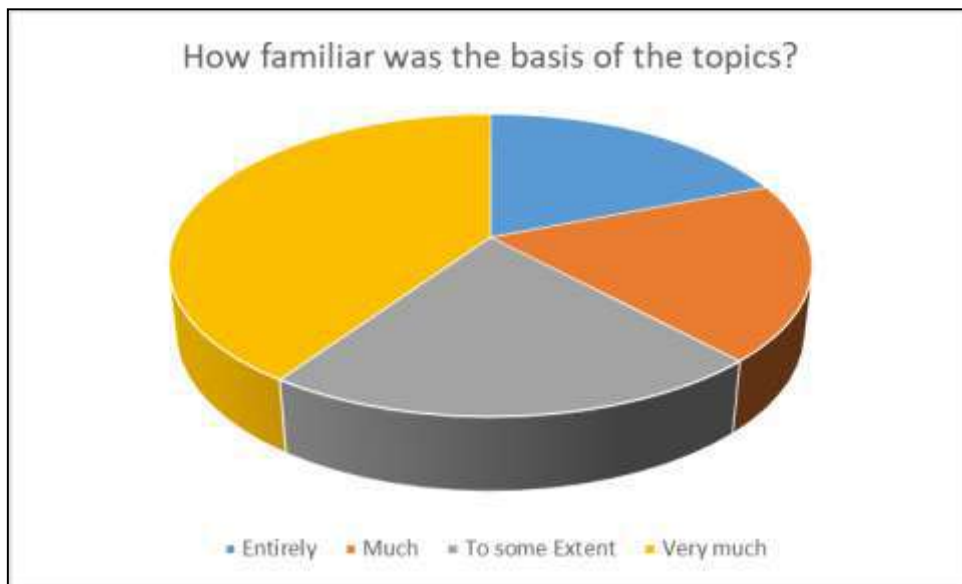
A brief proceeding/ overview: The arranged webinar was a one day's online lecture. The lecture of Prof. Shamik Ghosh was divided into two inter-related topics spread over two sessions. The first half

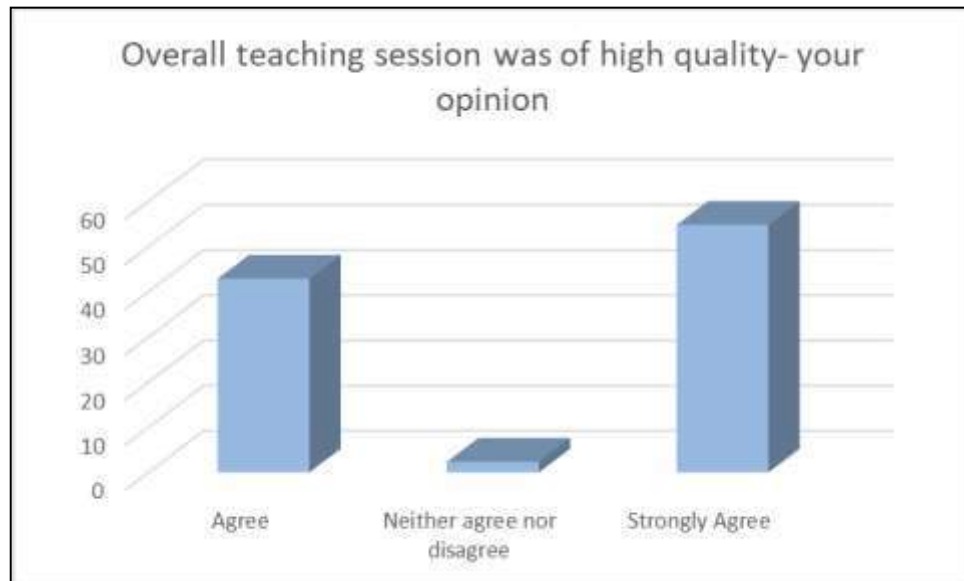
was dedicated in introducing the basic concepts of graph theory through several real life examples and exposing the audience to several interesting notions of interval graphs. The latter half dealt with intersection graphs and related concepts.

The webinars were commenced by the organizing Secretary Dr. Ushnish Sarkar, Assistant Professor of Mathematics, NSOU. After a brief introduction of the esteemed speaker Prof. Shamik Ghosh by Dr. Sarkar, the welcome address was delivered by Chairperson Prof. Kajal De, HOD Mathematics & Director, School of Sciences, NSOU. Later Prof. Ghosh took over the session. The participants overwhelmed with the mesmerizing talk of Prof. Shamik Ghosh. Both the sessions saw active interactions between the speaker and the participants in the Q & A slots after the lectures were delivered.

The programme in the second session was conducted by Mr. Chandan Kumar Mondal, Assistant Professor of Mathematics who is also Organizing Secretary of this series. The lectures ended with the concluding remarks of Prof. Kajal De, followed by the vote of thanks by Mr. Ratnes Misra, Associate Professor of Mathematics. A special thanks was given to the Honourable Vice Chancellor, Prof. Subha Shankar Sarkar of Netaji Subhas Open University (NSOU) for his exemplary and inspirational leadership and support towards materializing this event into a reality.

Feedbacks at a glance





Remarks: The lectures were a huge success and received a positive response from the participants.