

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

Phase IV; Lecture Codes: 04. A1 & 04.A2

Dates: 19.10.2020 [for 04.A1] & 20.10.2020 [for 04.A2].

Time: 01:00 pm to 02:30 pm [IST].

Topic 1: On a type of Riemannian Manifold (04.A1)

Topic 2: An expedition to Relativity (04.A2)

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. Manjusha Majumdar, Professor, Retd. Professor, Department of Pure Mathematics, University of Calcutta

About the speaker: After completing her M.Sc. from the University of Calcutta, Prof. Majumdar did her Ph. D. from the same University under the guidance of eminent mathematician Prof. M.C. Chaki. She has published several papers in reputed top-class international journals such as Mathematical. Her research areas are mainly Differential geometry, Riemannian geometry, general relativity. She is very popular teacher.

Abstract: A differentiable manifold M together with a covariant tensor field g of type $(0,2)$ satisfying some properties is defined to be a Riemannian manifold, denoted by (M, g) . Beside the unique Riemannian connection on (M, g) , several types of connections have been discussed. Ricci soliton on (M, g) has been defined finally.

General theory of relativity was developed by Einstein in 1911 in order to discuss gravitation equation of motion of a free particle has been discussed and it has been shown that trajectory of a free particle under the gravitation force is geodesic in space time continuum. In weak gravitational field, Poisson equation of classical Newton Theory has been established. The necessary and sufficient condition of a space with a spherically symmetric metric be an Einstein space has been shown. Finally, the motion of a planet and Einstein Universe has been discussed.

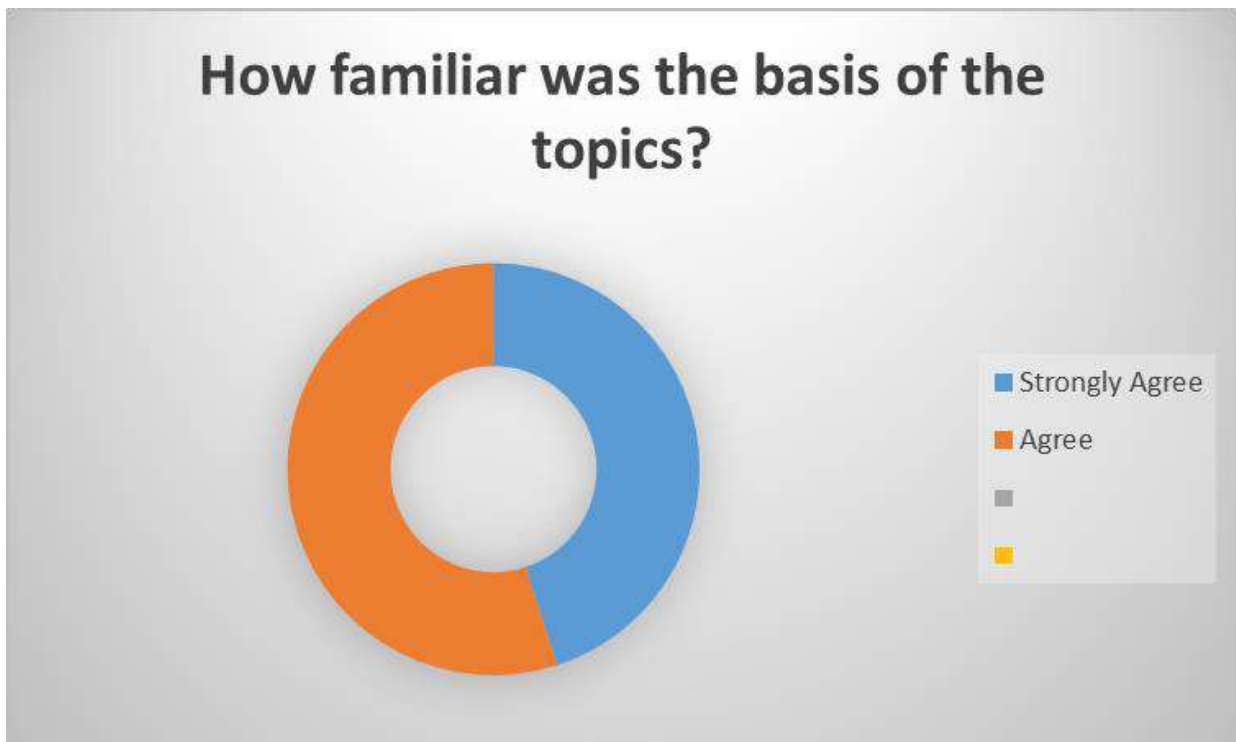
A brief proceeding/ overview: The arranged webinars were two days' online class lectures. These two

lectures of Prof. Manjusha Majumdar were divided into two distinct topics taught in undergraduate and/ or post graduate mathematics with a huge scope of application.

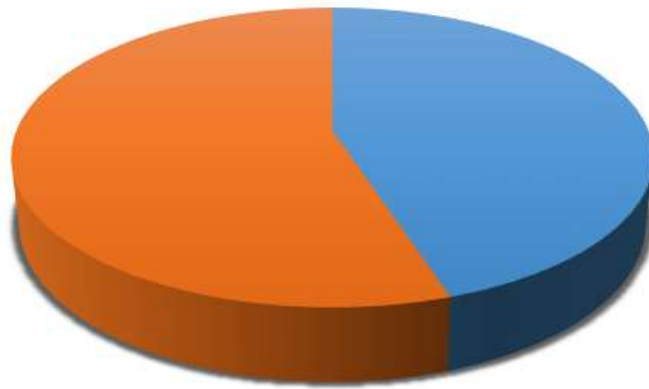
The webinars were commenced by the organizing Secretary Mr, Chandan Kumar Mondal, Assistant Professor of Mathematics, NSOU. After a brief introduction of the speaker Prof. Majumdar by Mr. Mondal, the welcome address was delivered by Chairperson Prof. Kajal De, HOD Mathematics & Director, School of Sciences, NSOU. Later Prof. Majumdar took over the session. On day 1, the lecture was about understanding several concepts related the basic notion of differential geometry and Riemannian manifold. In this lecture several new concept of connections were discussed along with their geometric application. In the 2nd day, the lecture revolved around the general theory of relativity and the concept of Ricci soliton. Both the sessions saw active interactions between the speaker and the participants in the Q & A slots after the lectures were delivered.

The programme ended with the concluding remarks of Prof. Kajal De and Dr. Ushnish Sarkar, followed by the vote of thanks by Mr. Ratanes Mishra, Associate Professor of Mathematics, who is the rapporteur of this series. A special thanks was given to the Honorable 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

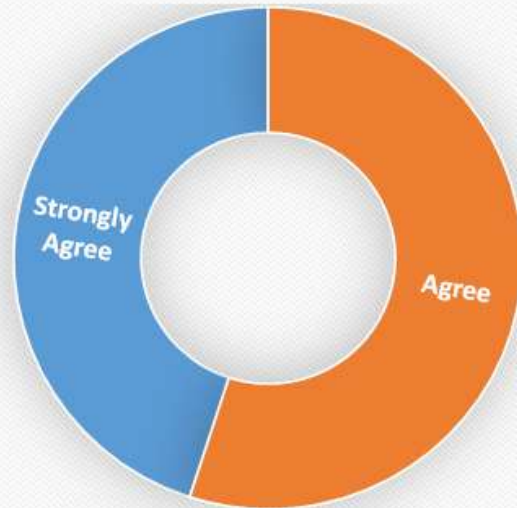


How much have you been exposed to new knowledge and practice



■ Strongly Agree ■ Agree ■

Overall teaching quality- your opinion



Strongly Agree Agree

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