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2-Week Online Refresher Course in Information Technology (MD) (An Initiative for Quality Enhancement in Teaching-Learning & Research)

From 26-10-2023 to 08-11-2023

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**UGC-MALAVIYA MISSION TEACHER TRAINING CENTRE
(FORMERLY KNOWN AS UGC-HUMAN RESOURCE DEVELOPMENT CENTRE)**

KURUKSHETRA UNIVERSITY, KURUKSHETRA

In collaboration with

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

KURUKSHETRA UNIVERSITY, KURUKSHETRA

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**PROF. RAKESH KUMAR
CHAIRPERSON**

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**



**Prof. Preety Jain
Director, UGC-HRDC
K.U. Kurukshetra**



**Dr. Sunil Kumar
Dy. Director, UGC-HRDC
K.U. Kurukshetra**

Who Can Apply:

Faculty Members of the Universities/Affiliated
Colleges/Institutes

APPLY ONLINE MODE :

<https://forms.gle/zhDnU63x993z8GEc9>

The journey of digital governance in India

- **Origin:** e-Governance originated in India during the 1970's with a focus on in-house government applications in the areas of defense, economic monitoring, planning and deployment of ICT to manage data intensive functions related to elections, census, tax administration etc.

1976

NIC was formed,

- Computer applications for defense, economic monitoring, census, and elections.
- All District Headquarters were connected by NIC.
- 1980 : Use of computers began
- 1987 : Launch of NICNET

1994

DOT passed National Telecom Policy

- Licenses for cellular mobiles for four metros issued
- 1997 : TRAI was setup
- 1998 : National Task Force on IT and Software Development
- 1999 : Union Ministry of Info Tech
- 2000 : BSNL was established and entry of Private sector in Long distance services

10/30/2023

Pardeep, DOI



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3:37 PM | Refresher Course in Information Techno...
 10/30/2023 Pandey, DOT



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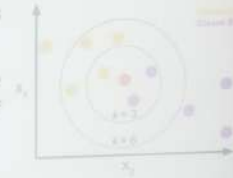
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K-NEIGHBORS CLASSIFIER

- K-Nearest Neighbors is one of the most basic yet essential **classification algorithms in Machine Learning**. It belongs to the supervised learning domain.
- It is non-parametric, meaning, it does not make any underlying assumptions about the distribution of data.
- It is also called a lazy learner algorithm because it does not learn from the training set immediately instead it stores the dataset and at the time of classification, it performs an action on the dataset.
- In the K-NN algorithm:
 - There is no particular way to determine the best value for "K". The most preferred value for K is 5.*
 - A very low value for K such as K=1 or K=2, can be noisy and lead to the effects of outliers in the model.*
 - Large values for K are good, but it may result in fewer classes.*



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anita singhrova (Presenting)

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10:50 AM | Refresher Course by Information Techn...

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Principal Component Analysis

- Principal component analysis (PCA) is an unsupervised technique used to **preprocess and reduce the dimensionality of high-dimensional datasets** while preserving the original structure and relationships inherent to the original dataset so that machine learning models can still learn from them and be used to significantly speed up unsupervised feature learning algorithm.
- When PCA is used as part of preprocessing, the algorithm is applied to: Reduce the number of dimensions in the training dataset. De-noise the data. Because PCA is computed by finding the components which explain the greatest amount of variance, it captures the signal in the data and omits the noise.
- Main features are **exploratory data analysis, dimensionality reduction, information compression and data de-noising.**

10:58 AM | Refresher Course in Information Techno... | Anita Singhra (Presenting)

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Meet: Refresh Course in I...

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Track Attendance

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Next Session

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Synthetic Minority Oversampling Technique (SMOTE)

Why do we need SMOTE?

ML techniques such as Decision Tree and Logistic Regression have a bias towards the majority class, and they tend to ignore the minority class. This results in misclassification.

SMOTE is

- Oversampling methods to solve the imbalance problem.
- It aims to balance class distribution by randomly increasing minority class examples.
- It synthesizes new minority instances between existing minority instances. It generates the virtual training records by linear interpolation for the minority class.
- These synthetic training records are generated by randomly selecting one or more of the k-nearest neighbors for each example in the minority class.
- After the oversampling process, the data is reconstructed and several classification models can be applied for the processed data.

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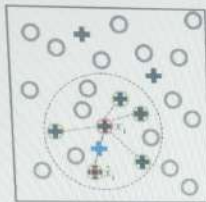
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STENO
SHORT HAND NOTE BOOK

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SMOTE Working

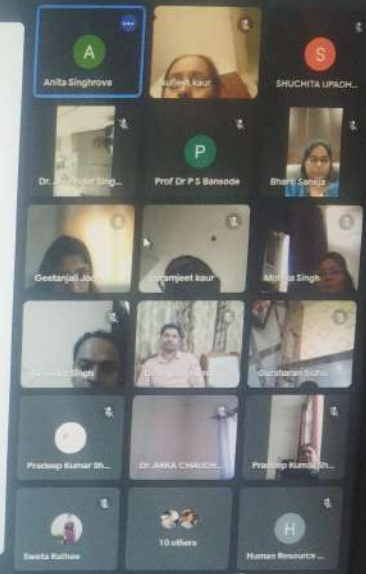


- Majority class samples
- ✚ Minority class samples
- Randomly selected minority class sample x_i
- ✚ 5 K -nearest neighbors of x_i
- Randomly selected sample z_j from the 5 neighbors
- ✚ Generated synthetic minority instance

Difference of training data after and before SMOTE

```
✓ x_res.shape  
(244, 28)  
✓ [288] x_train.shape  
(1081, 28)
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Stop sharing

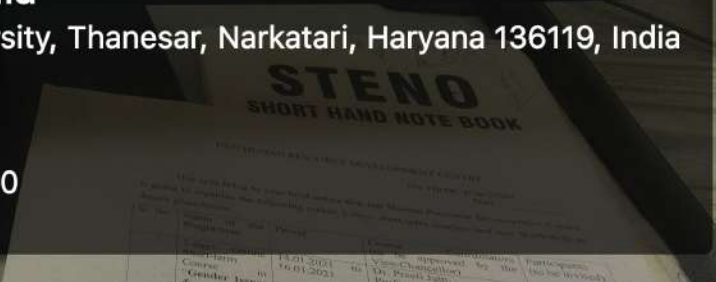


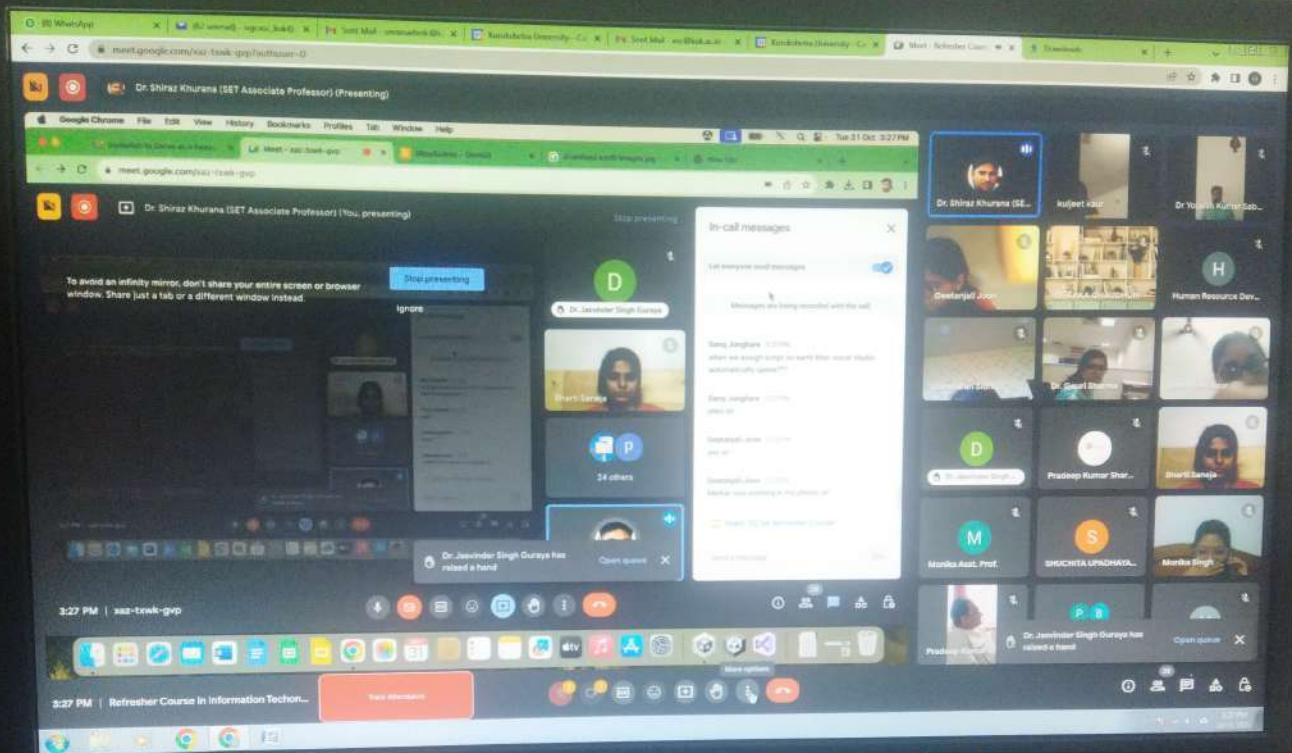
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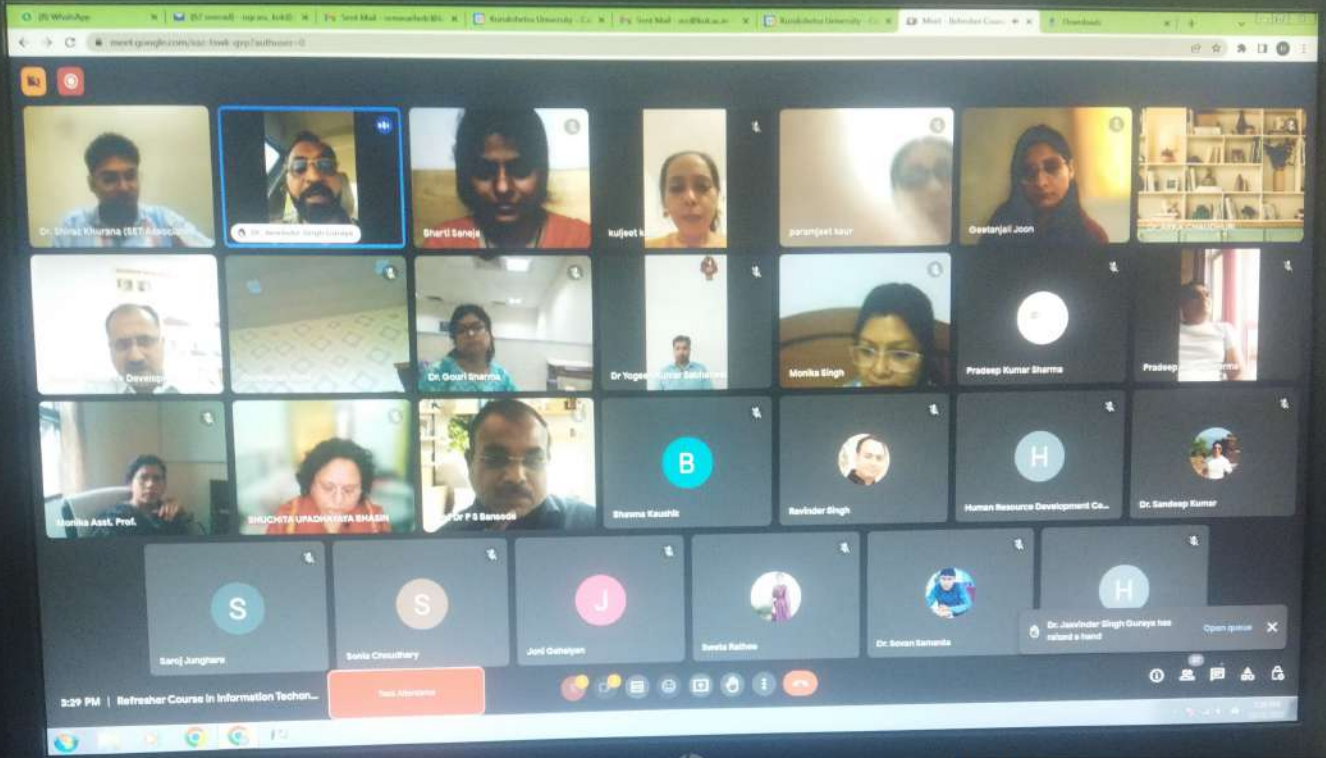
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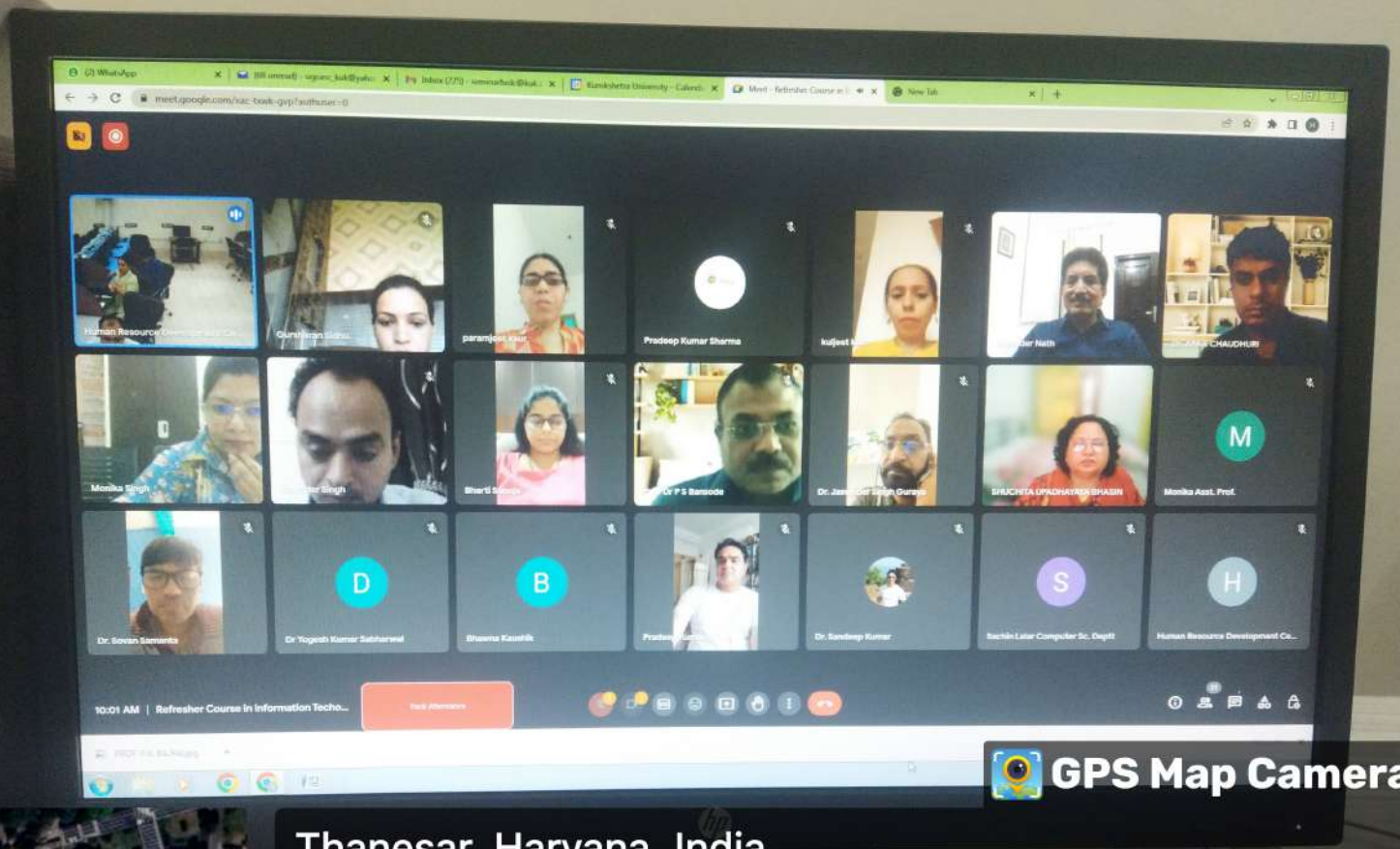


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30-11-23
English - Reading



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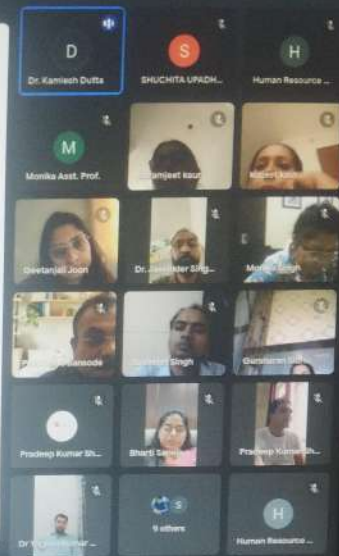
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Prior research for the choice of language

- Prior research in **Ethiopia** showing a similar link between student performance and the match in the language students are taught in and speak at home.
- Researchers in the **Philippines**, however, find some **challenges** to the implementation of a similar policy in which they explore how teachers may struggle to teach in local languages as mandated.
- There may also be some state **specific constraints** to the implementation of directives in India, like in **West Bengal**, where despite the diversity in languages spoken, there is a strong public sentiment of safeguarding **Bengali over other languages**.



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Test attendance



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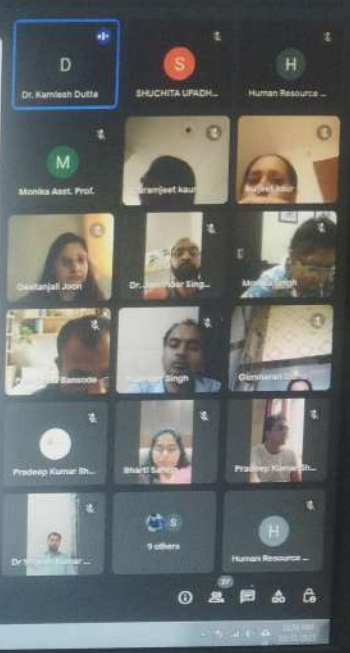


Dr. Kamlesh Dutta (Presenting)

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Examples of Related Technologies

- Ideas like opening of tooth paste.
- Internet of Things (Sensor Technology)
- Cloud Computing (SaaS, Paas, IaaS)
- Biometric Authentication
[Finger/Thumb Print Recognition (attendance, mobile), Face Recognition, Retina Recognition, Voice Recognition]
- Applications: Aadhar Card (Citizenship, Bank Account Linkage, Income Tax Fraud Detection, Mobile phone authenticity, Population count, Criminal identification, Land records)
- Big Data Analytics (Car showroom and service station location, Hotel business, Crime detection using mobile, Fast tag)
- Fog Computing (Smart City using CCTV)
- 3-D Printing (Artificial Limbs)
- Coursera (Stanford University), Online Video Conferencing Platforms
- Khan Academy (Private), Code Academy (Private), Unacademy (Emerging)
- Institute Mathematics Initiative (IISC), Computational Biology (IISC)
- National Program on Technology Enhanced Learning
- YouTube, SWAYAM, DIKSHA
- E-Paathshala (CBSE study material in 15 Lang.)
- TV 24/7 on several channels (who do not have internet)
- tu App for people safety (Google map rerouting (Containment contact list intimation)).

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Sandeep Sood (Presenting)

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Pradeep Kumar Sharma has left the meeting

4:20 PM | Refresher Course in Information Technology

Participants: Sandeep Sood, Dr. Jaevinder Sing..., Dr. Yogesh Kumar..., Oetanjali Joon, Subject kaur, Human Resource..., paramjeet kaur, Prof Dr P S Bansode, Dr. Gouri Sharma, Ravinder Singh, Human Resource..., Dr. Sandeep Kumar, Mandeep Dhan, 10 others, Human Resource...

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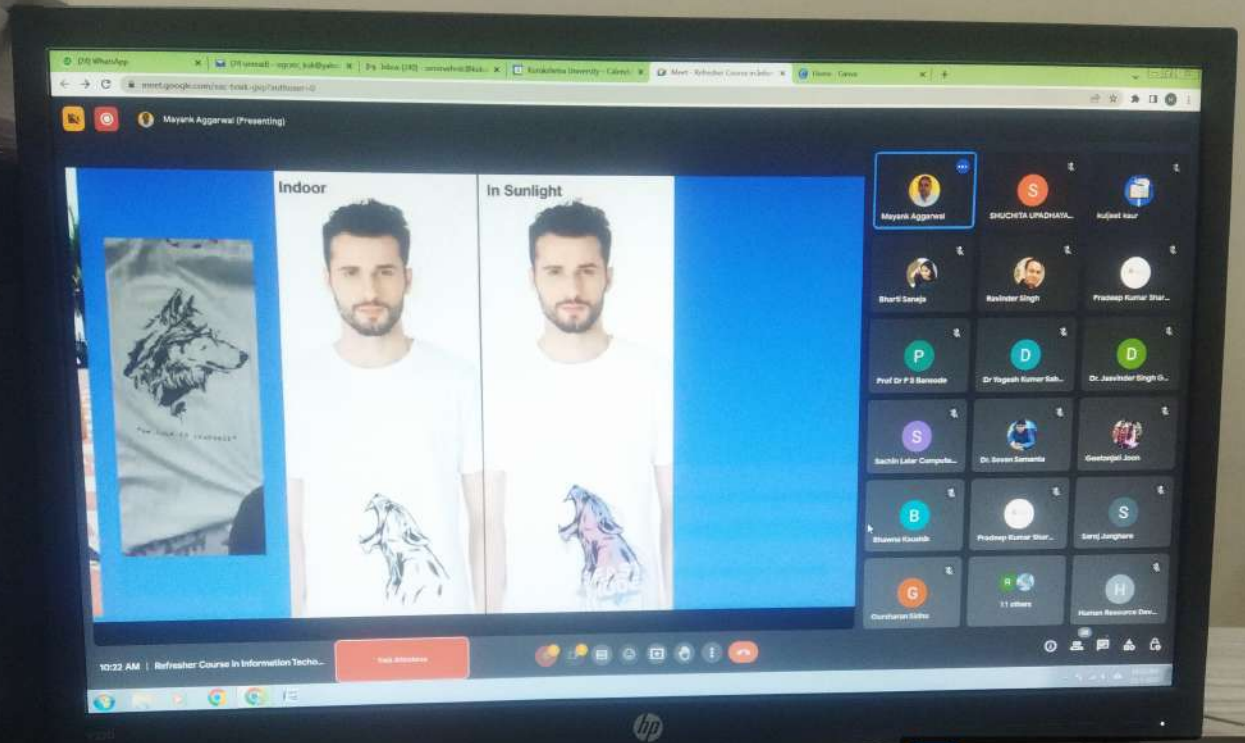
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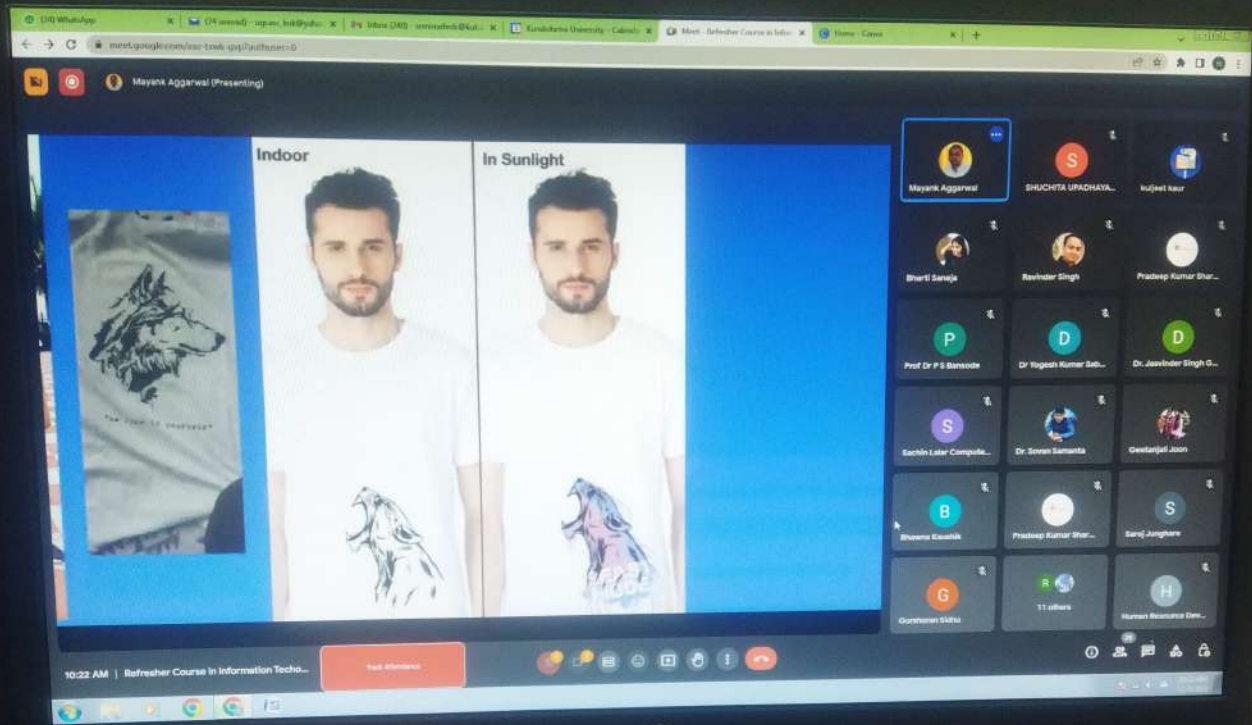



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Handwritten notes on a sticky note:
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Community development - Academic



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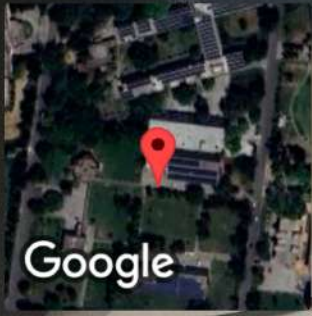
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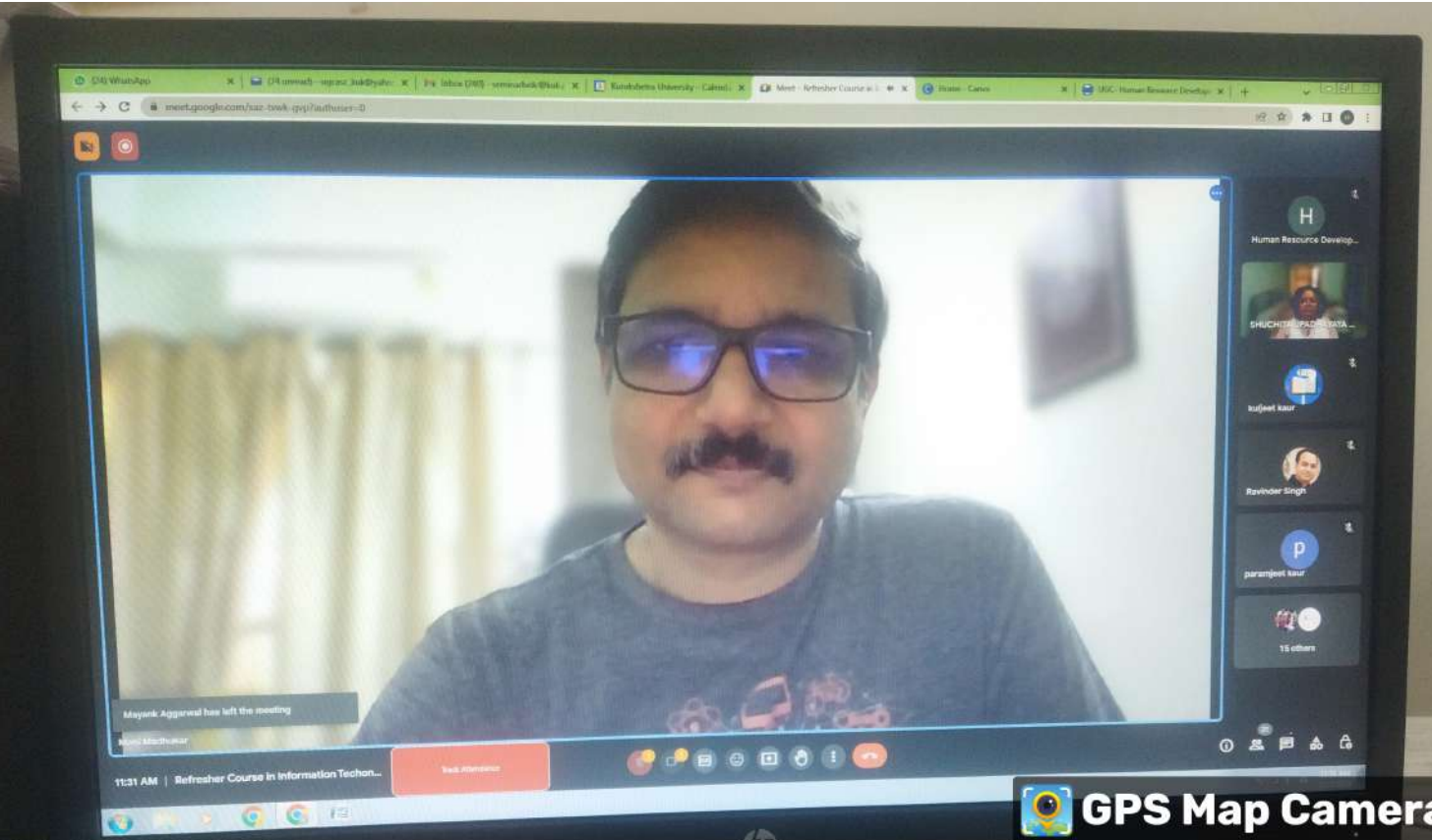




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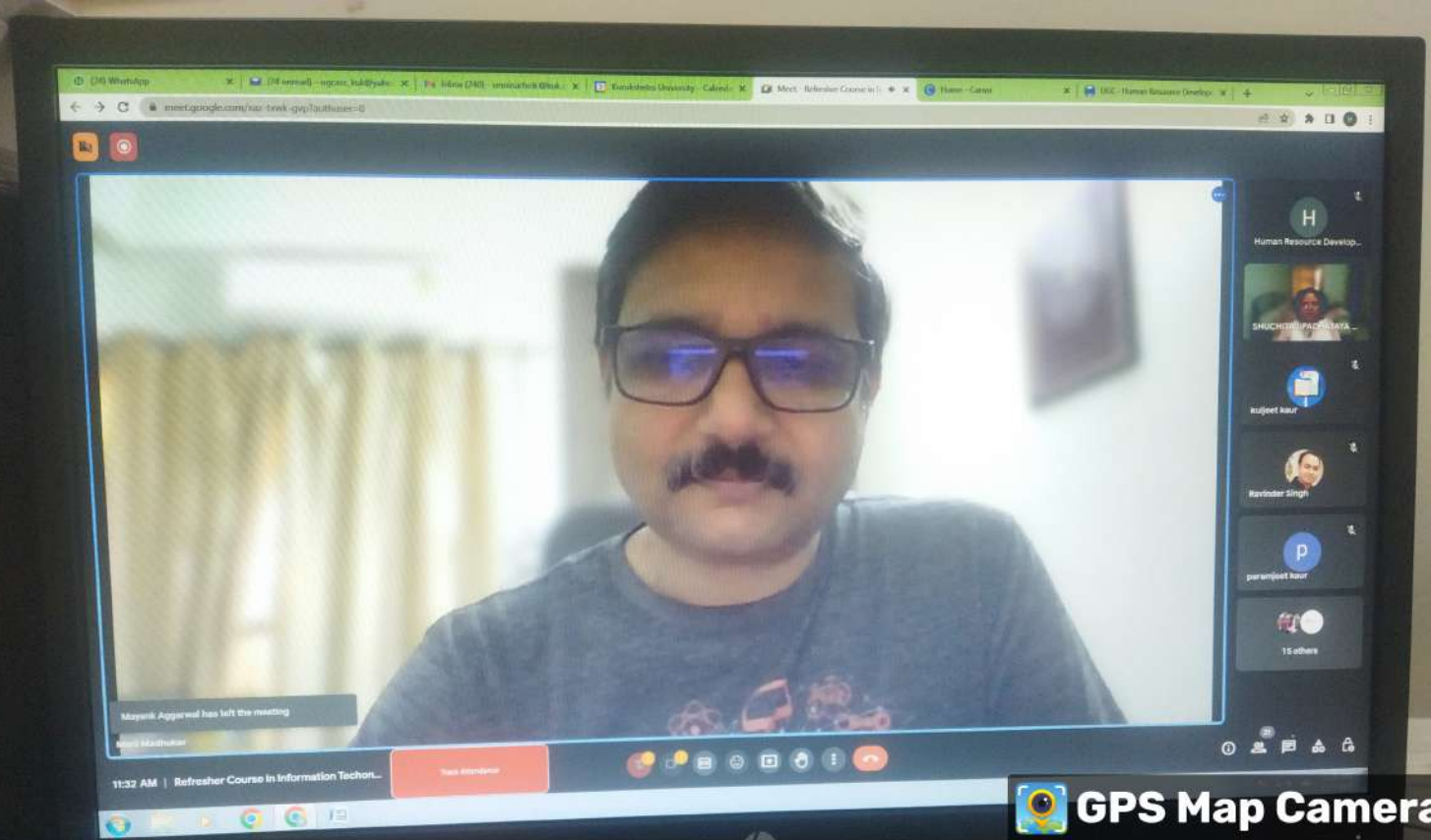
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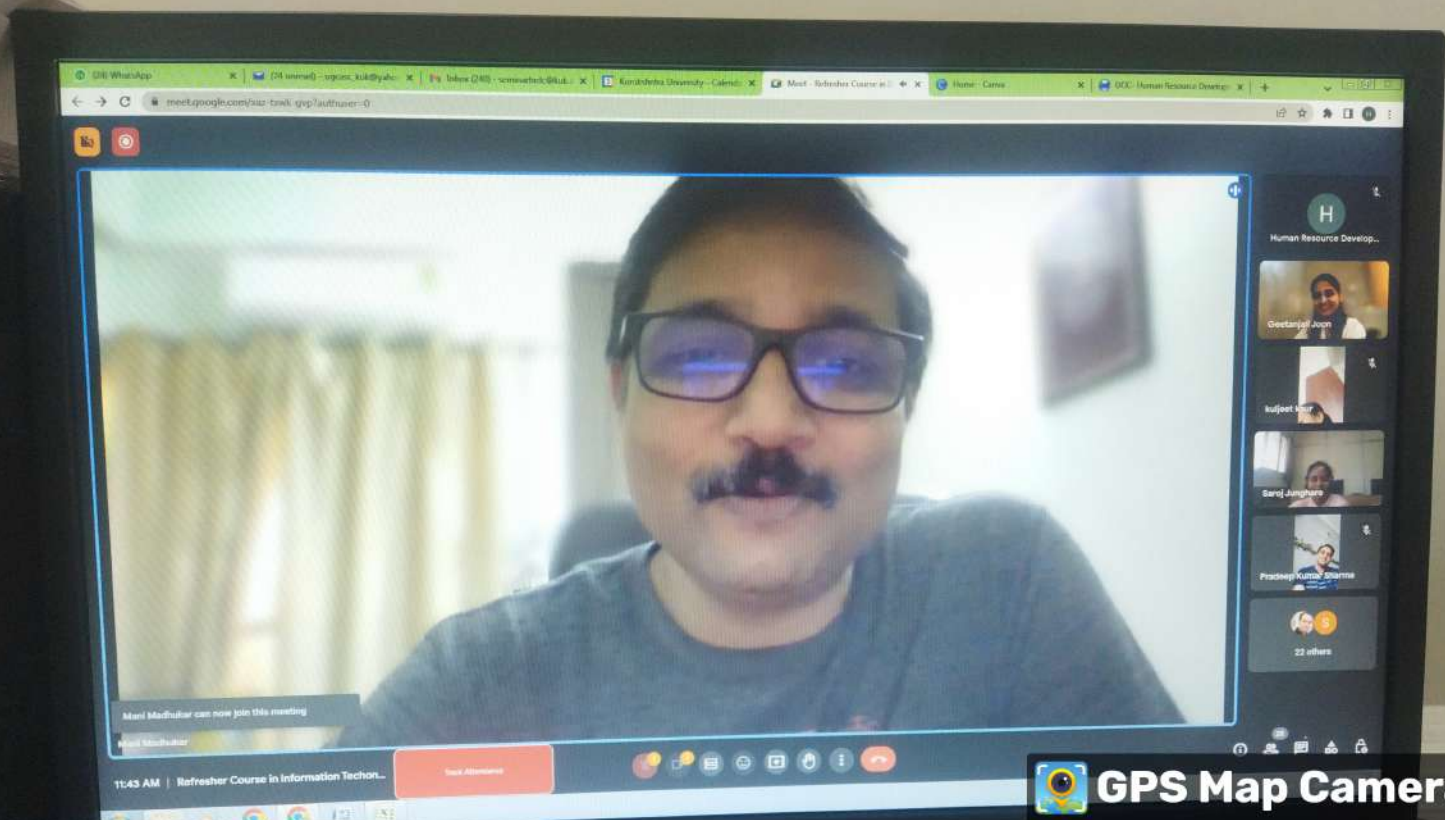
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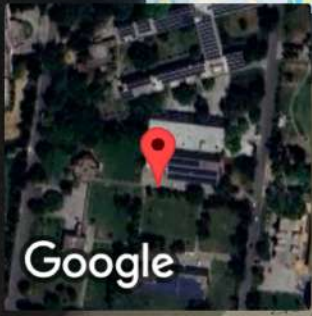
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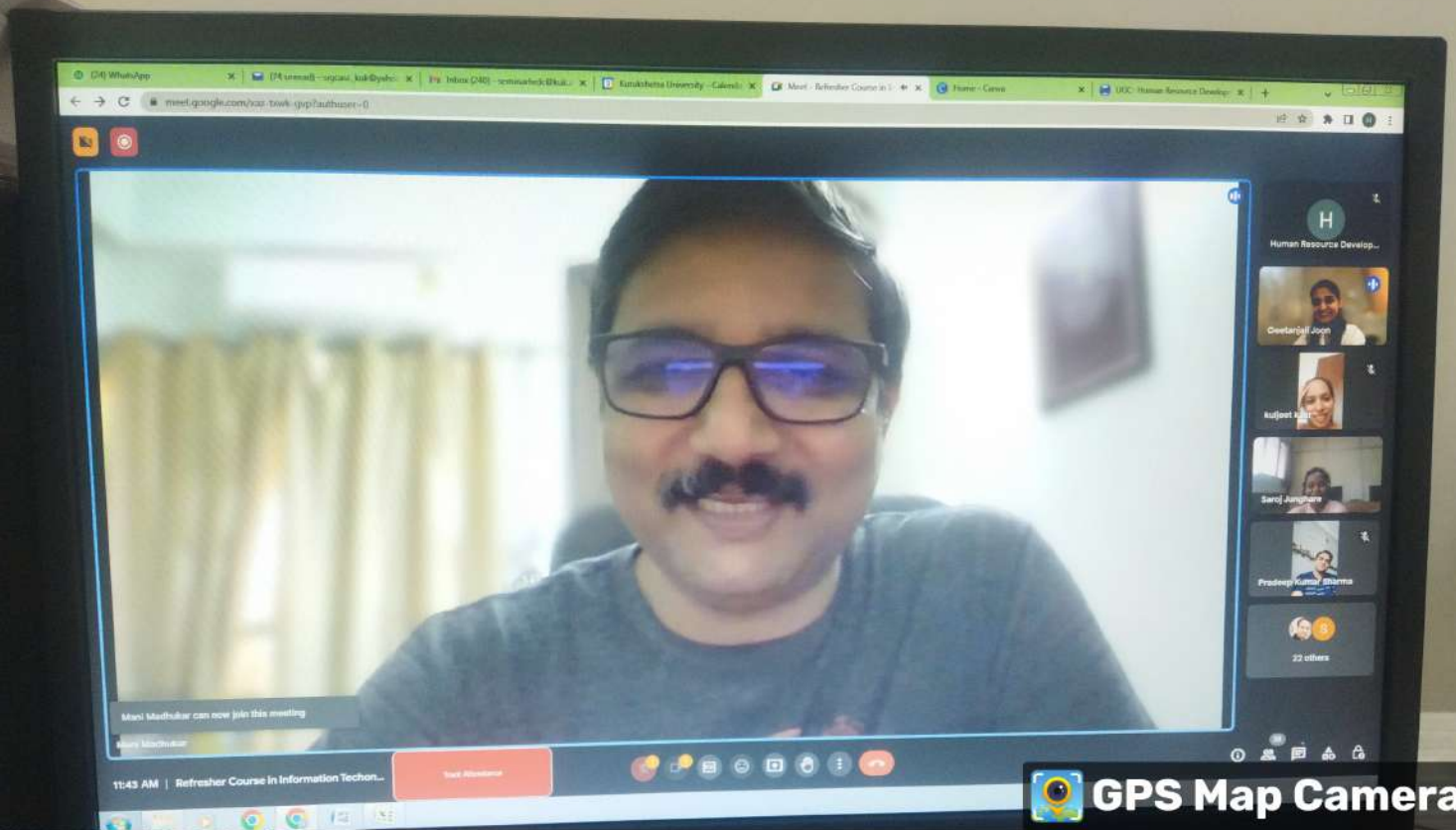
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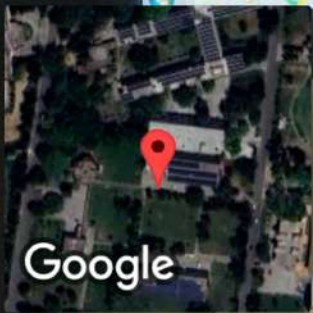
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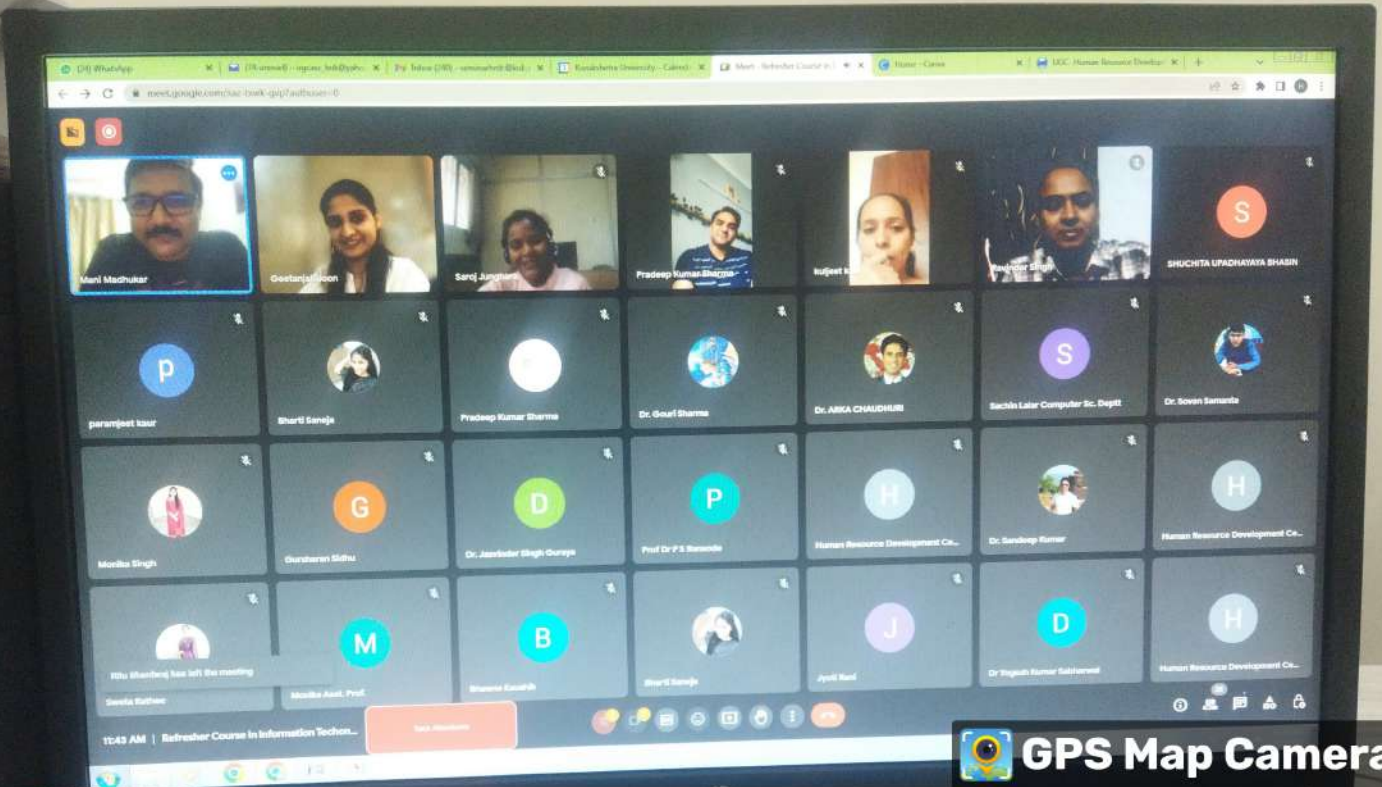
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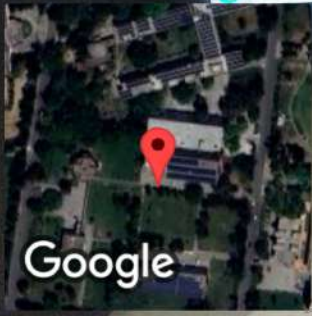
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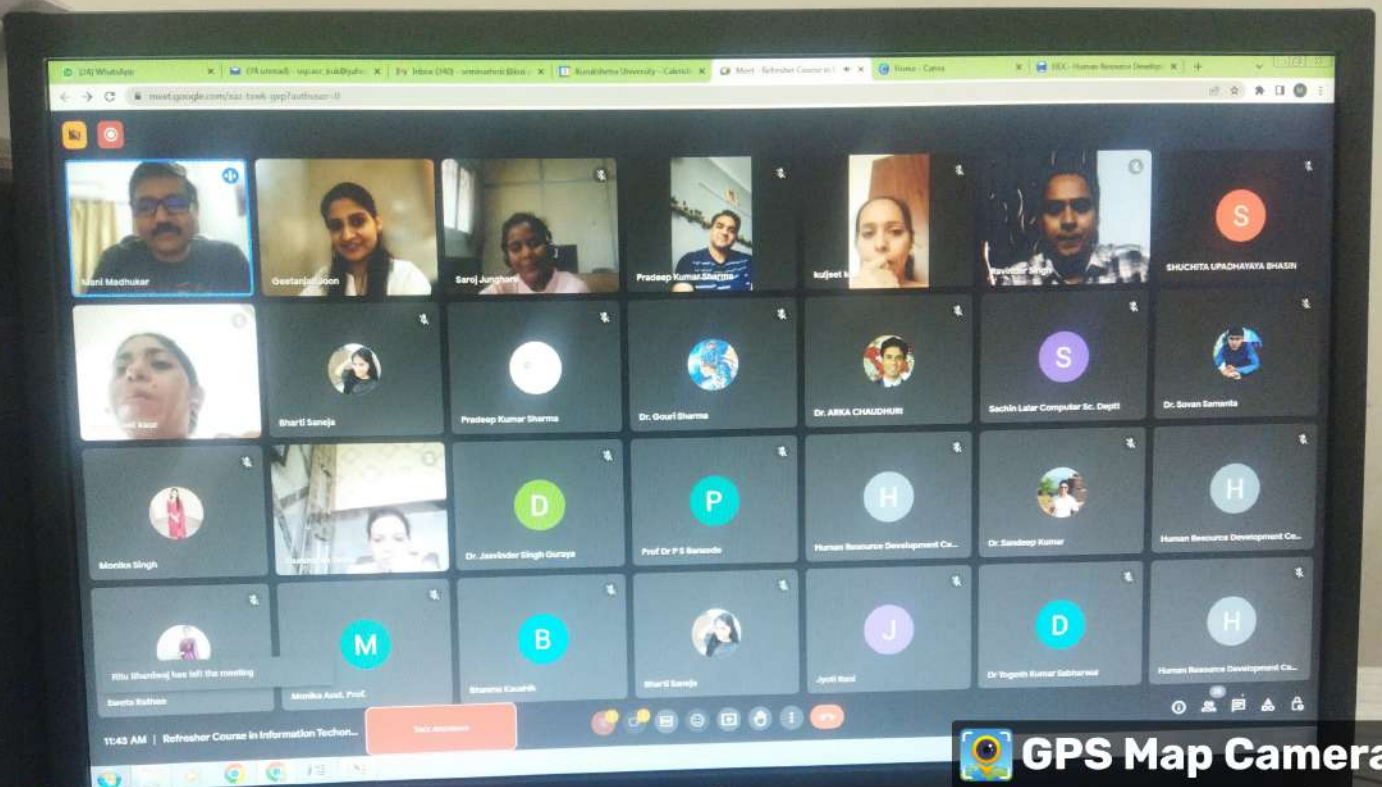


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11-23 English Technology

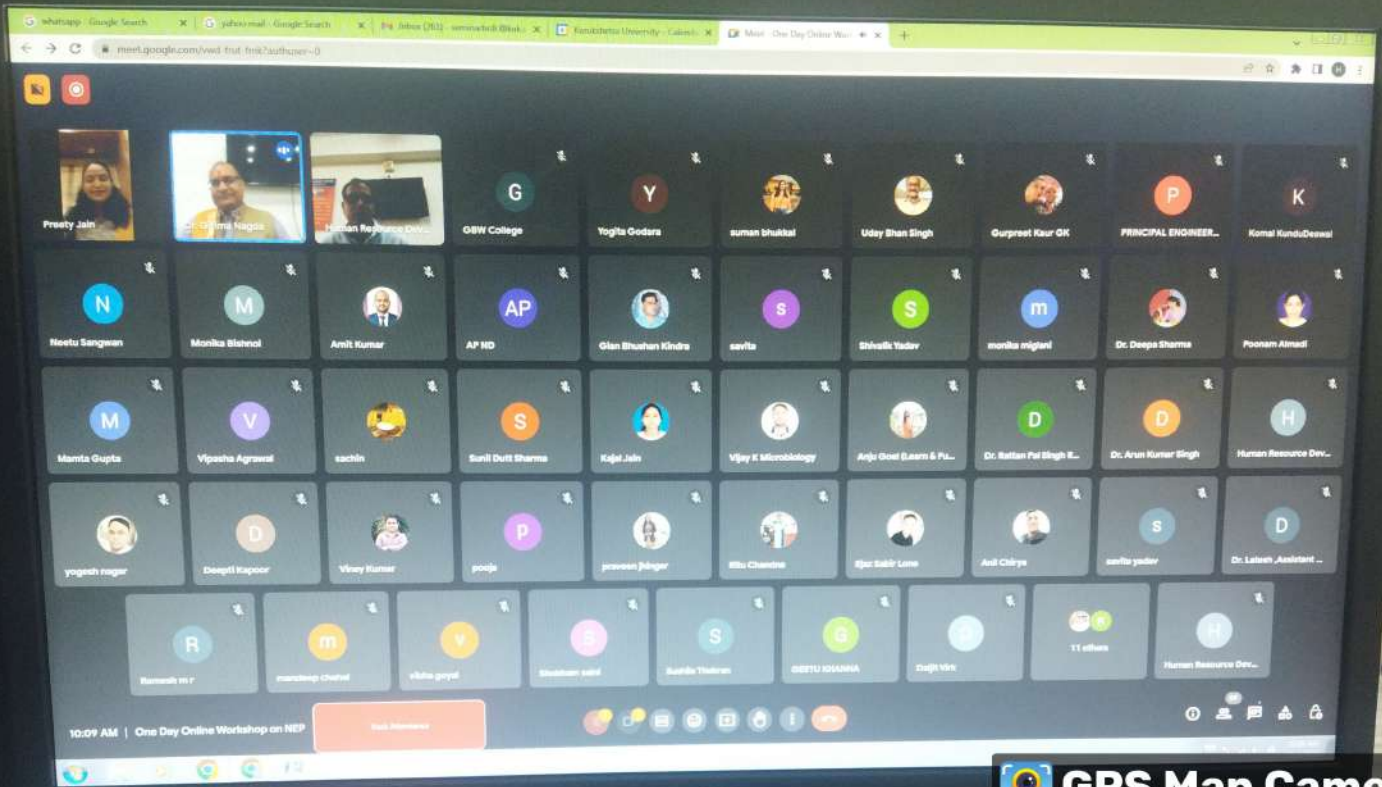


 **GPS Map Camera**



Thanesar, Haryana, India
XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
Lat 29.960518°
Long 76.814802°
03/11/23 11:43 AM GMT +05:30

11-23-2023
11-23-2023
English Psychology

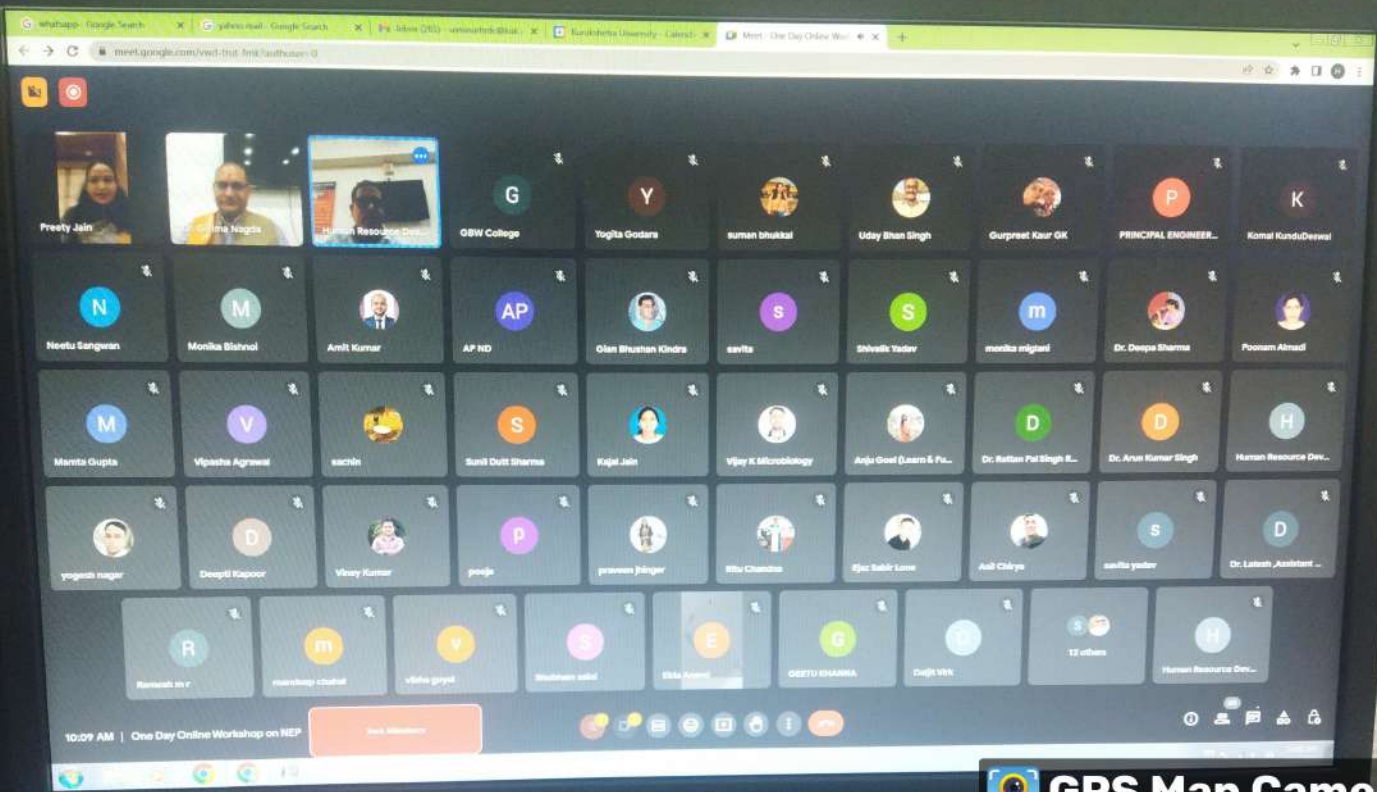


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Thanesar, Haryana, India
XR57+CR6, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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Long 76.81425°
04/11/23 10:09 AM GMT +05:30

9-11-23- Research Psychology in rural - some - some
in the development and community for

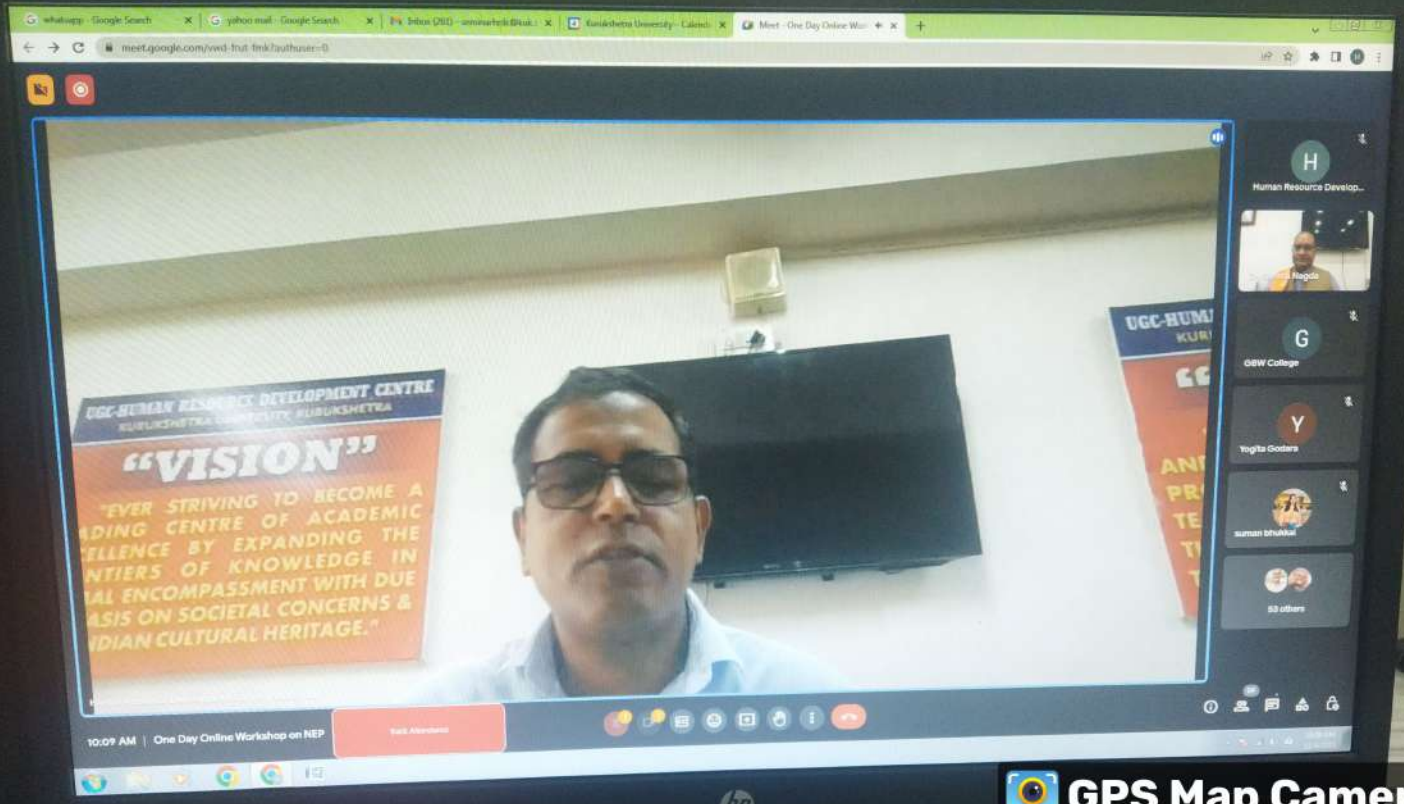


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XR57+CR6, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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90-11-23- Research in psychology is a social science...
development and common for...



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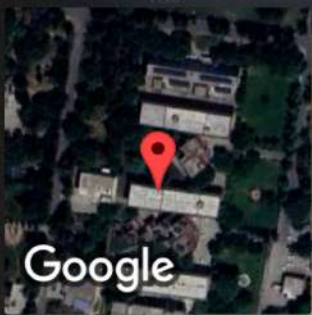
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XR57+CR6, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India

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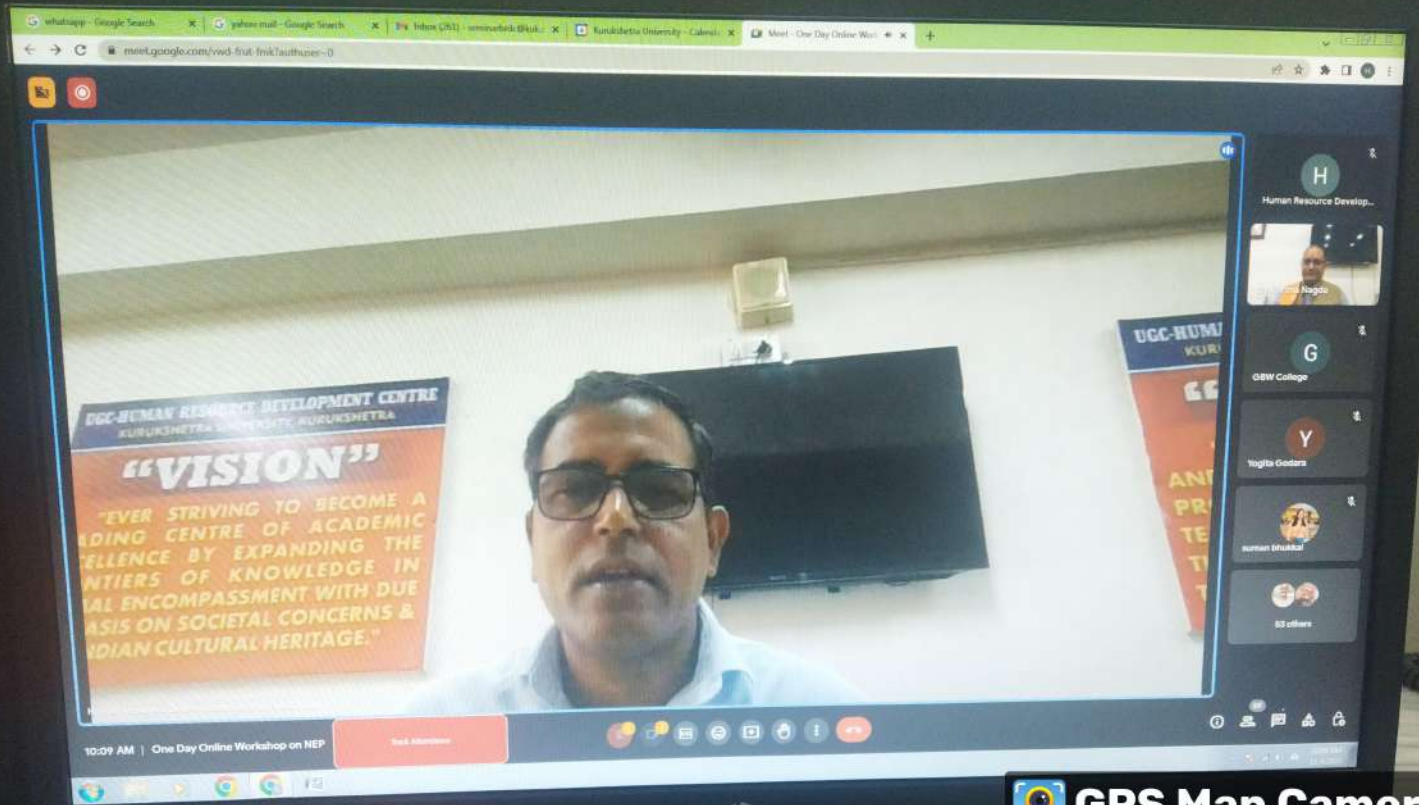
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Google

English - Rohiniman

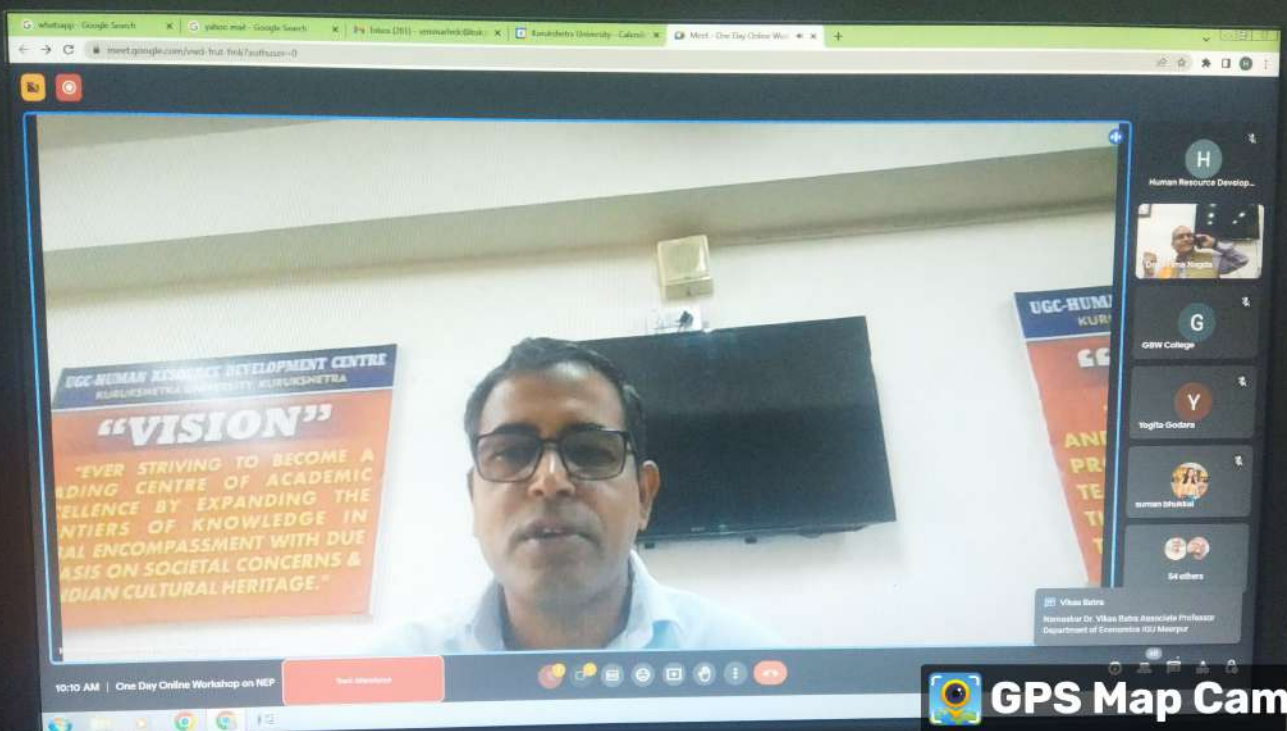


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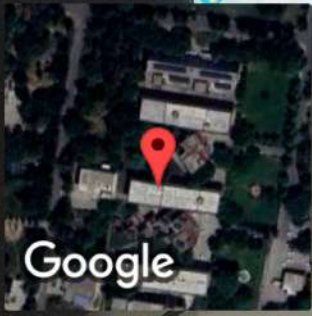
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XR57+CR6, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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English - Rohan Kumar

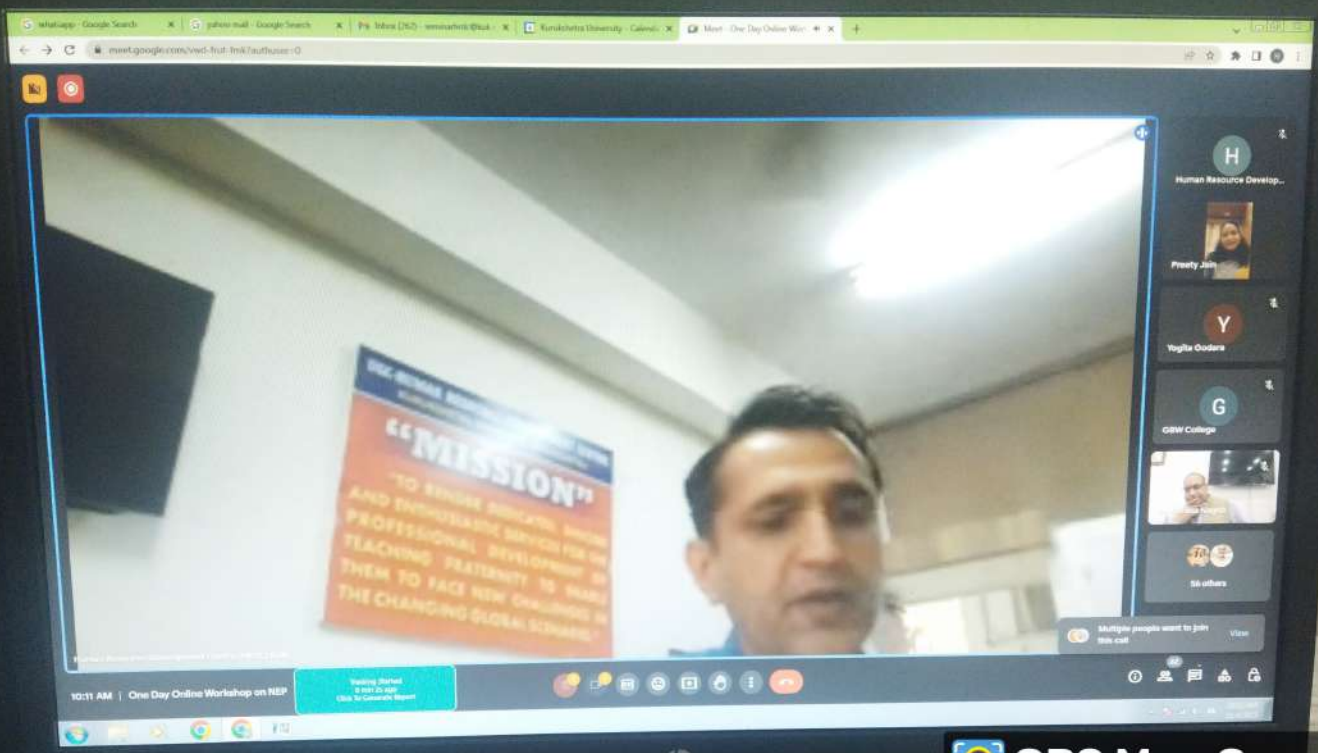


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30-11-23- Research scholar of JNU, Delhi, India
for the development of the Government of India

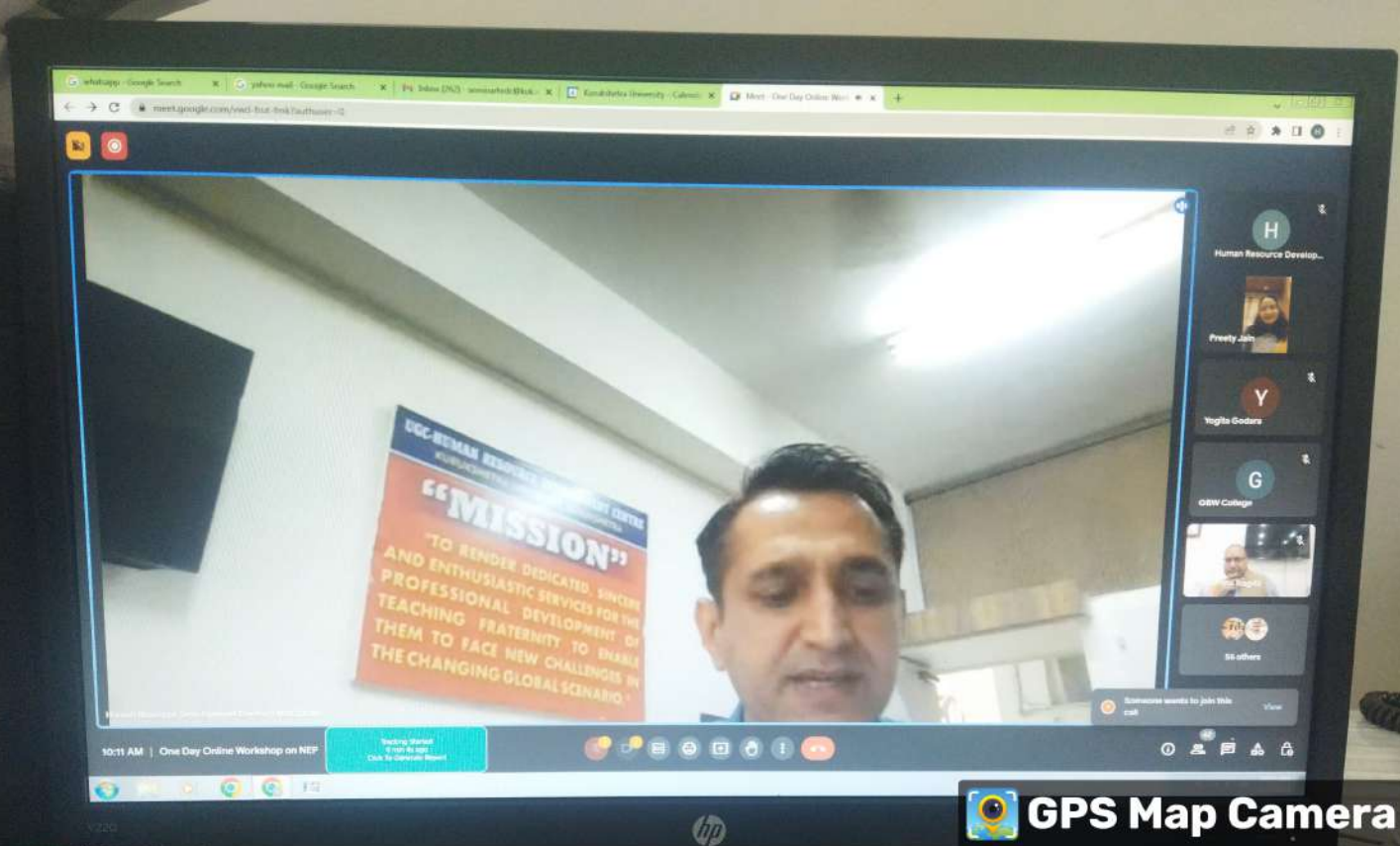


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1-12-23- Orientation - Tai Kichanji

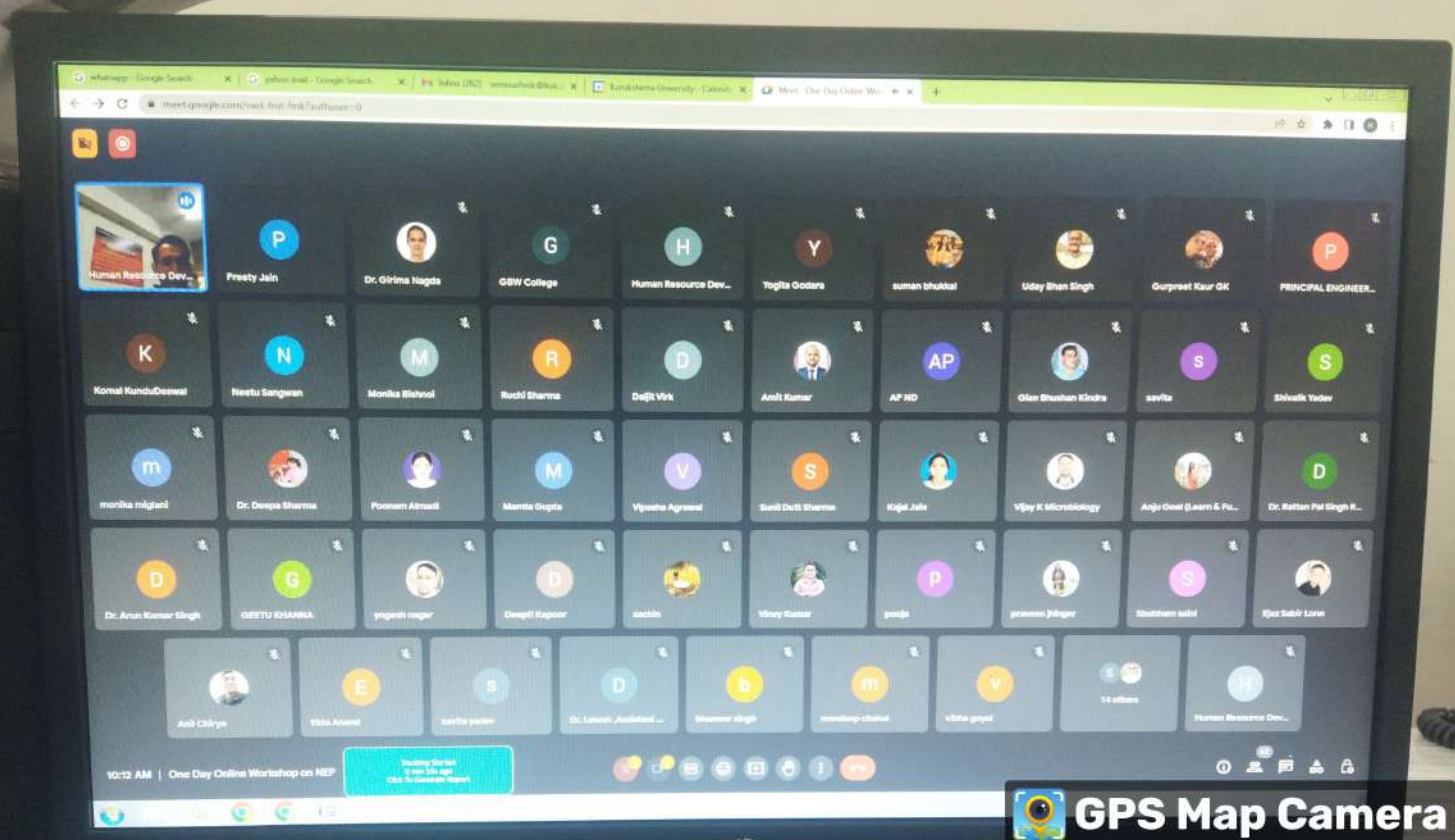


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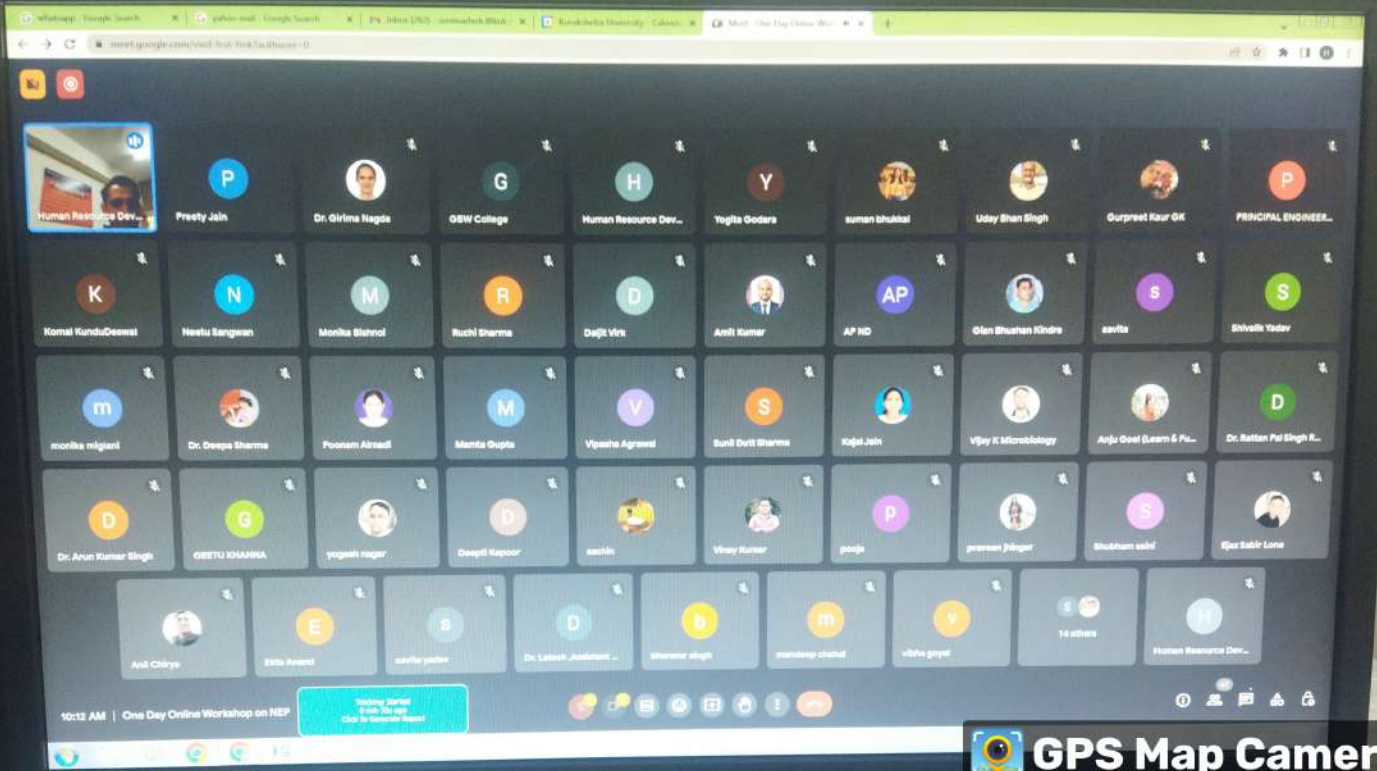
Learning Technology, English, Community Development, Research, Innovation, and Entrepreneurship



 **GPS Map Camera**



Thanesar, Haryana, India
XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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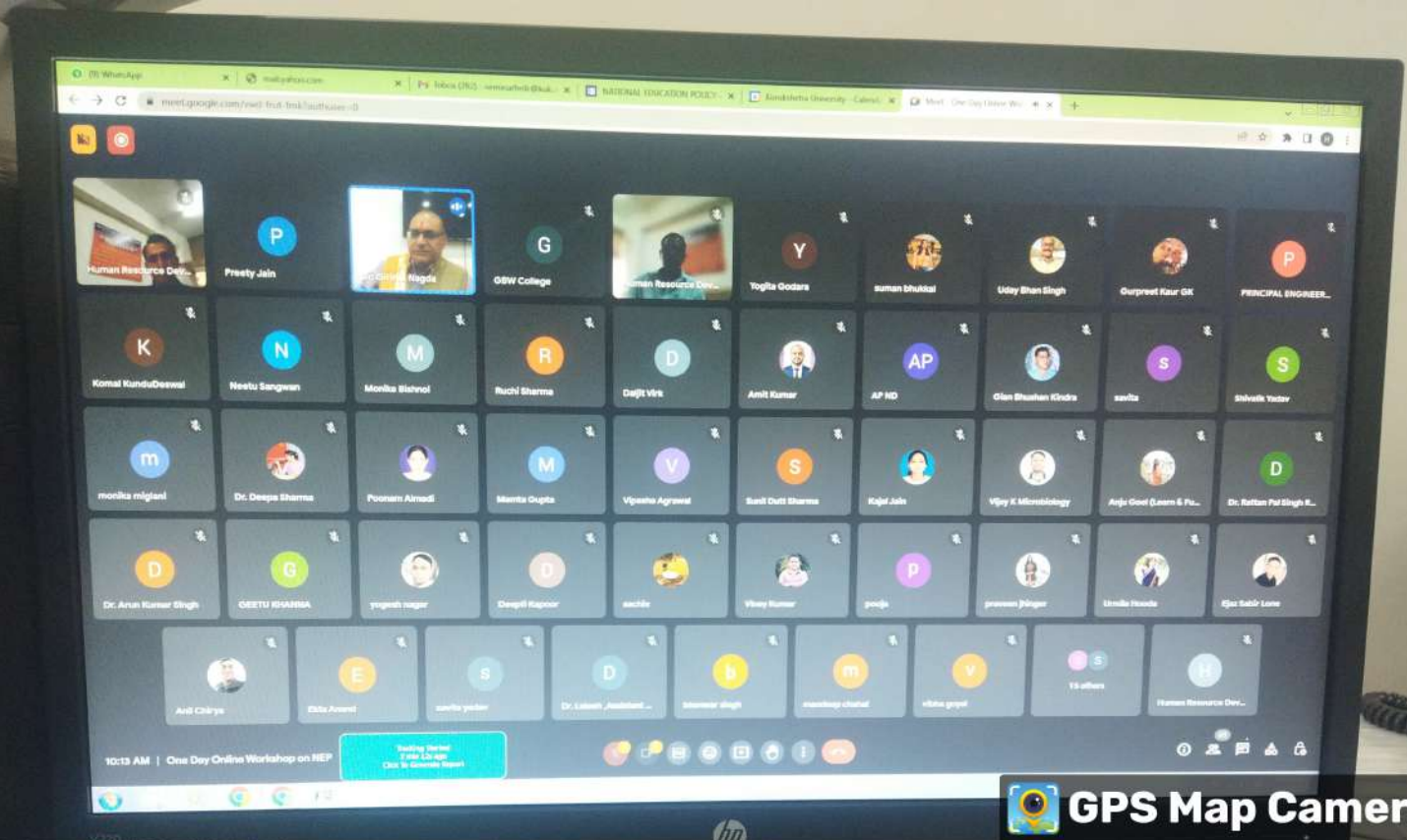


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*Research in Microbiology for...
Leadership development and Governance for...*

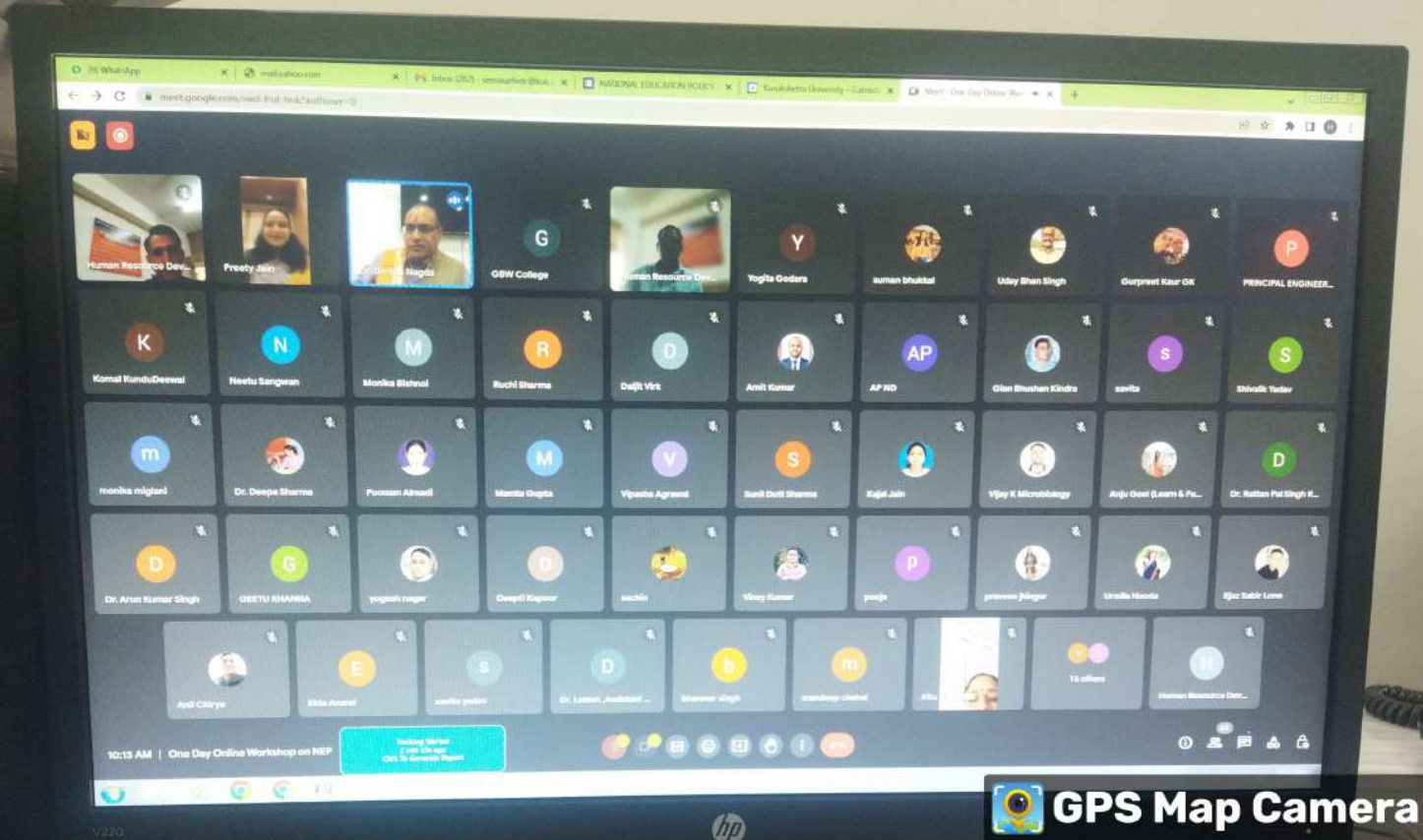


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Research methodology in social sciences - English - Rohanman



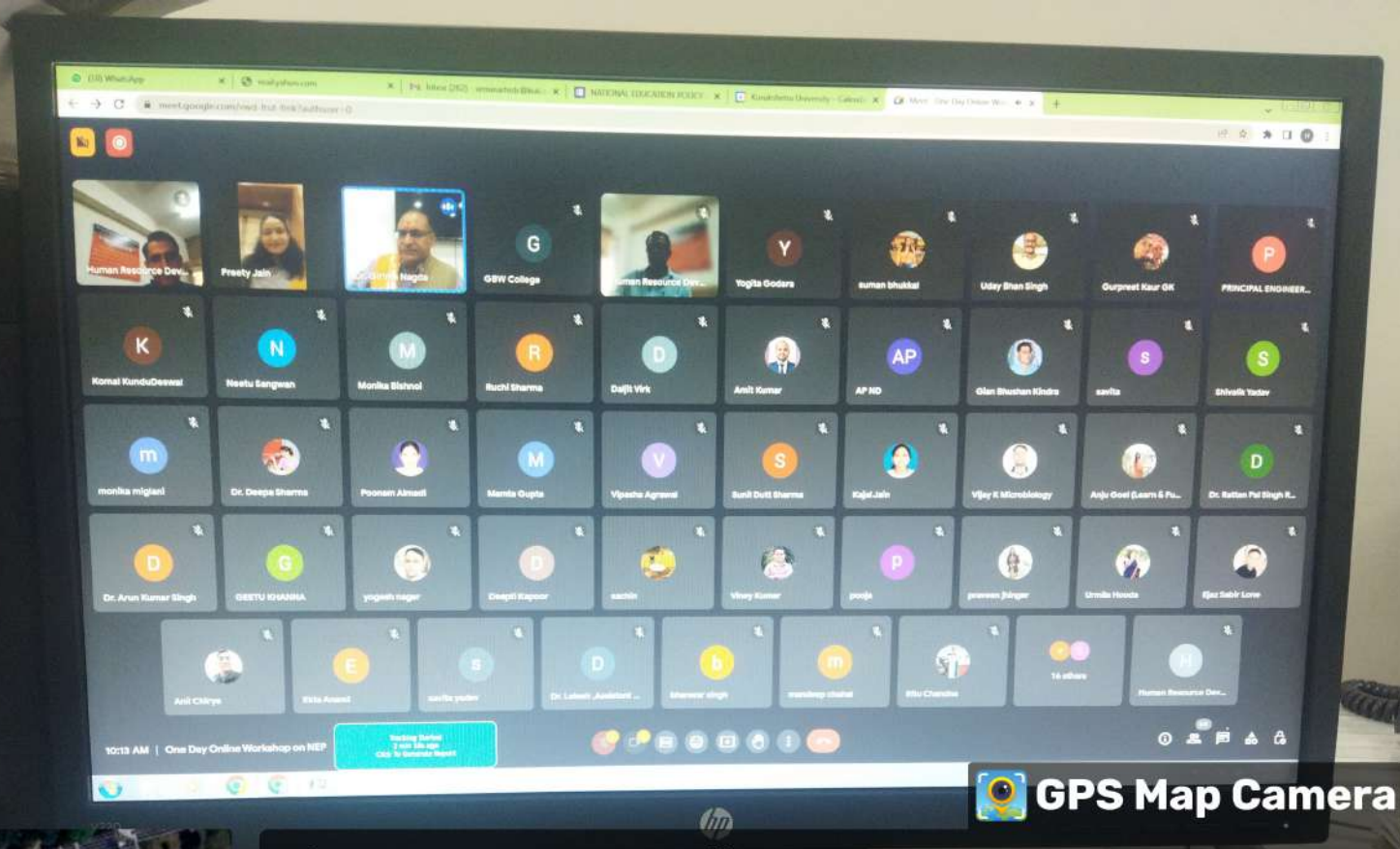
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Thanesar, Haryana, India
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Lat 29.960517°
Long 76.814796°
04/11/23 10:13 AM GMT +05:30

22-11-23

*Research Technology in Social Science -
Leadership development and innovation for
public administration
English - Resonance*

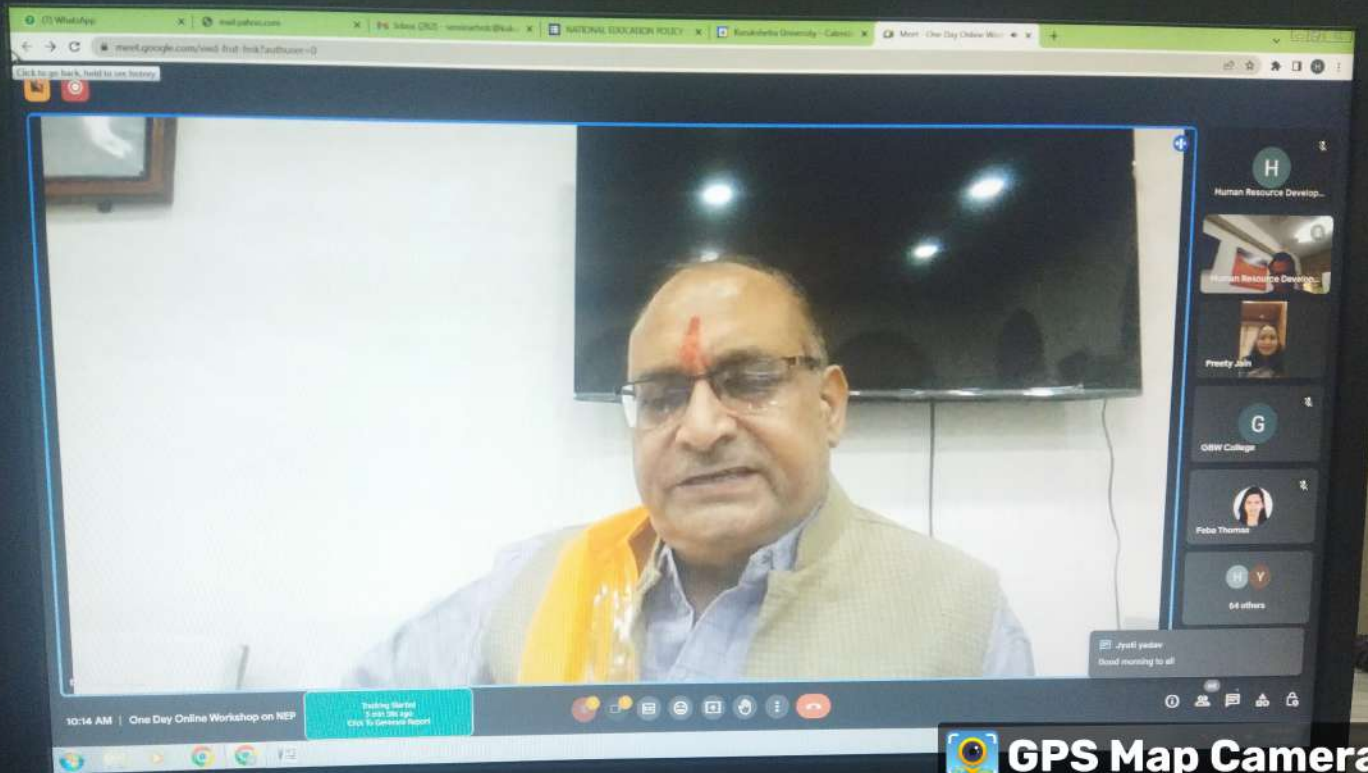


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Thanesar, Haryana, India
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*Research scholar of ...
English - ...*

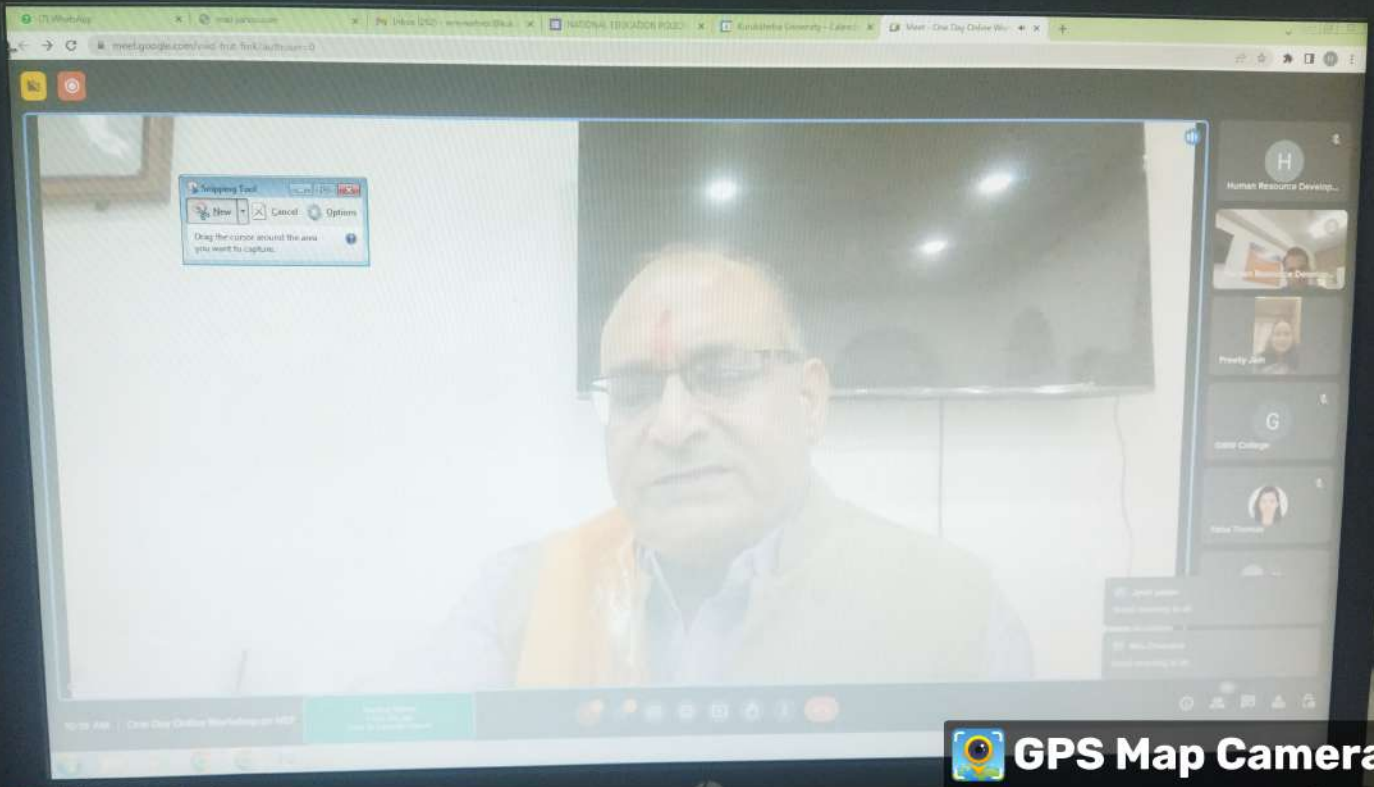


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20-11-23- Research methodology in social science
Leadership development and communication for
... ..

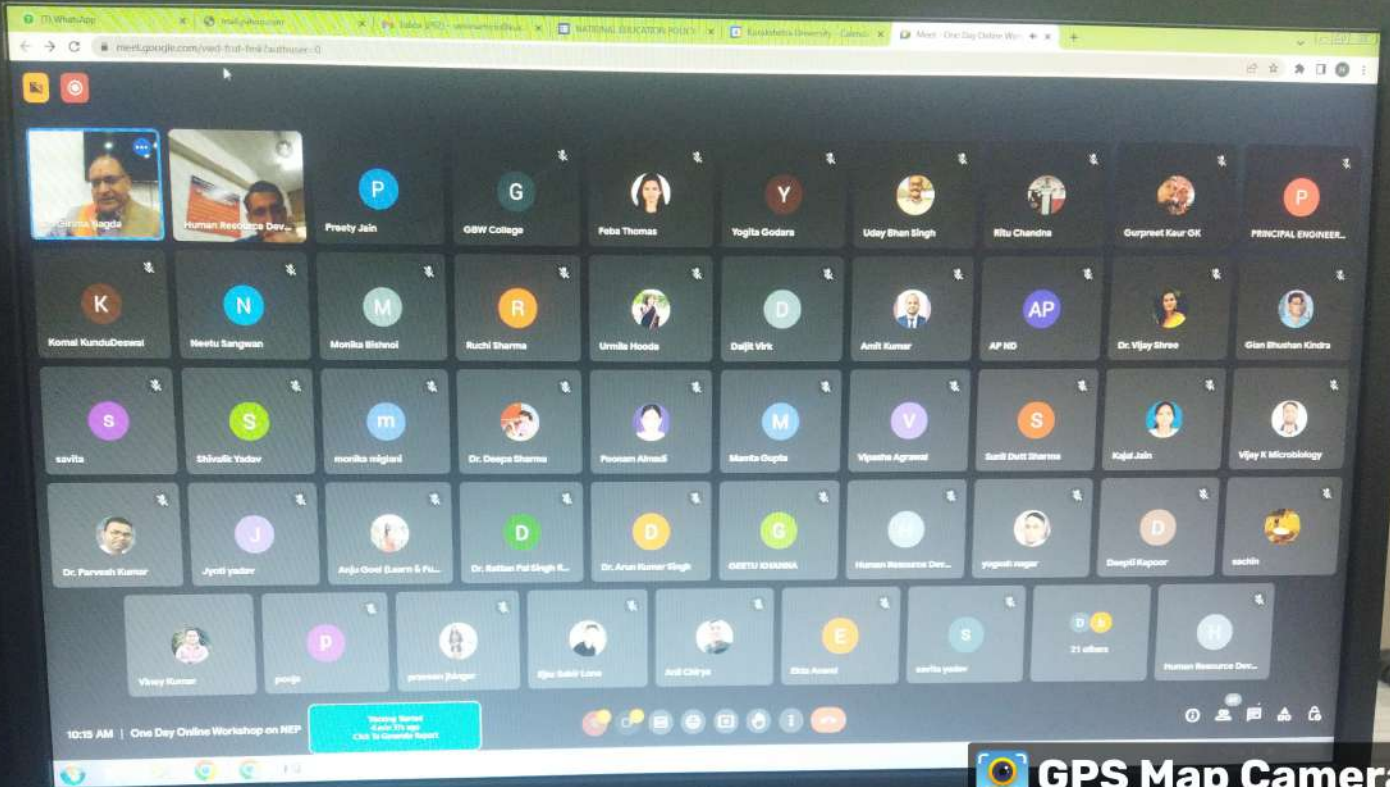


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Thanesar, Haryana, India
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20-11-23- *kecurian psikologi di awal - akhir*

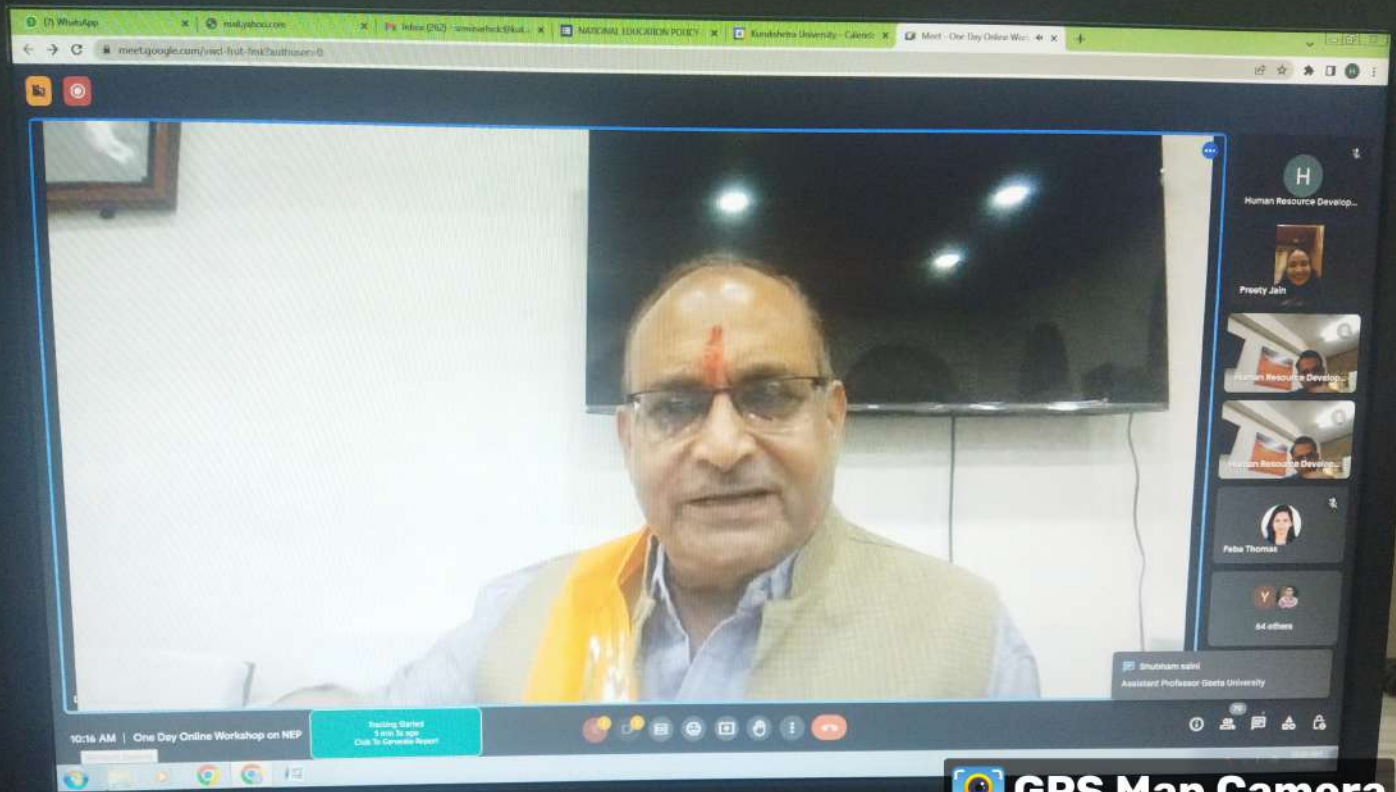


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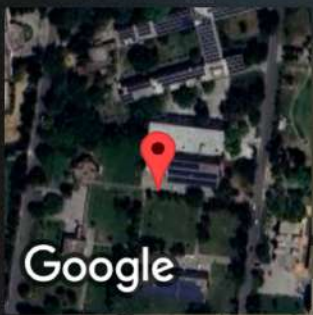


Thanesar, Haryana, India
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Research, Leadership Development and Innovation for Academic Administrators

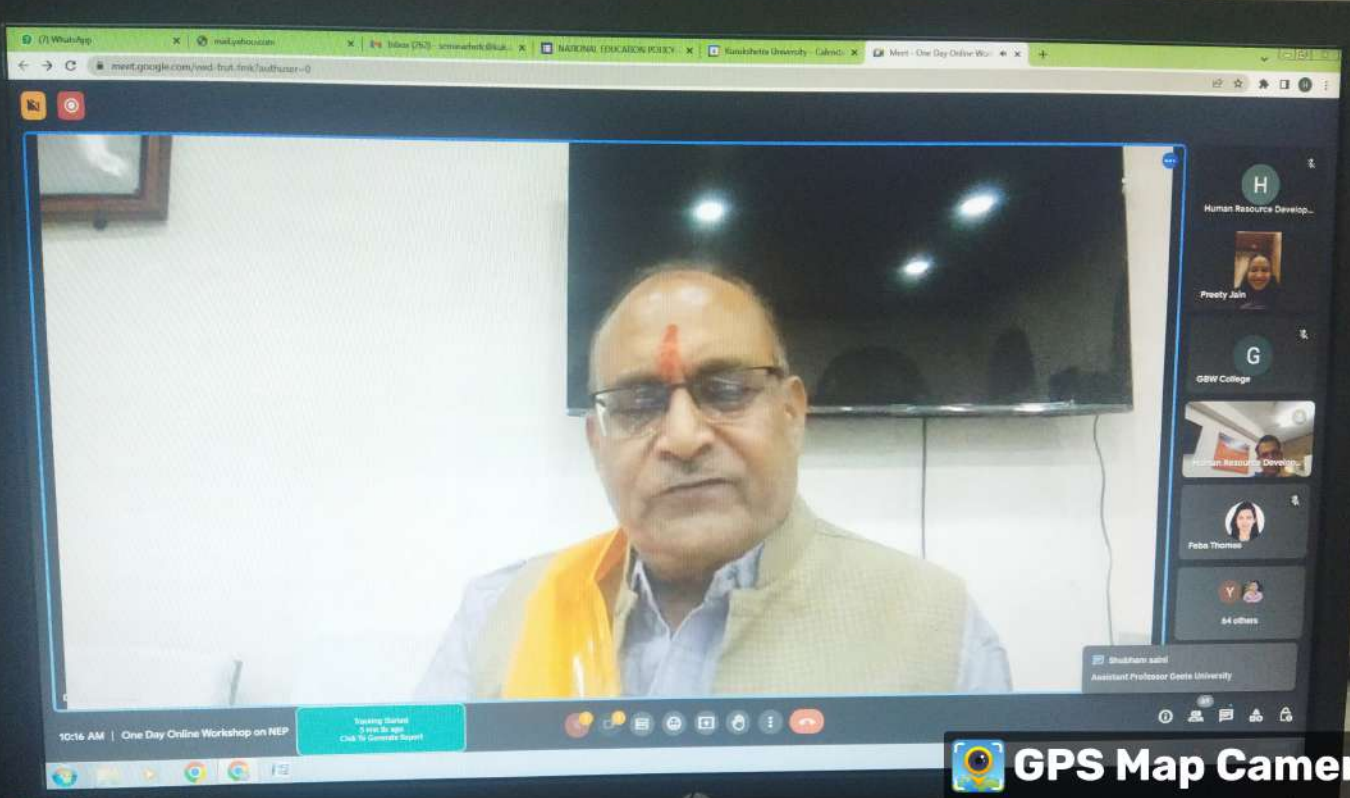


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Thanesar, Haryana, India
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*Academic Administration
English - Seminar
Vikas Sahasr*

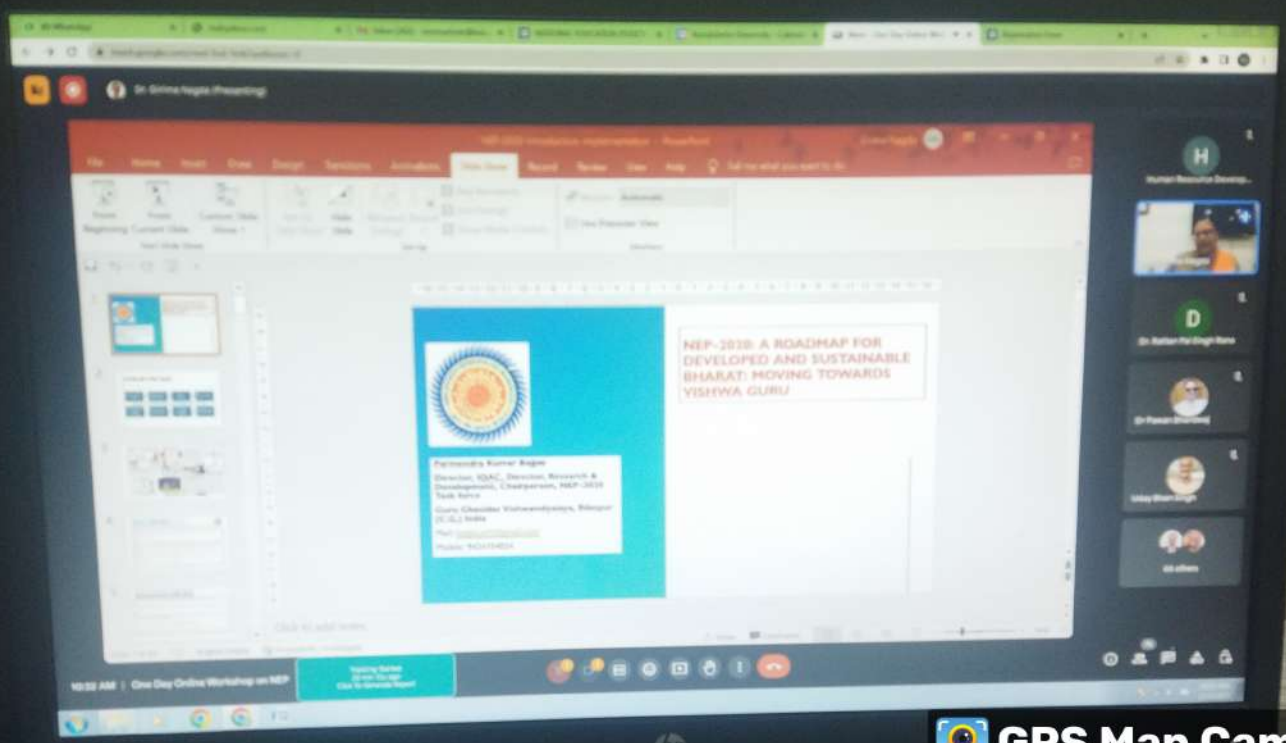


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XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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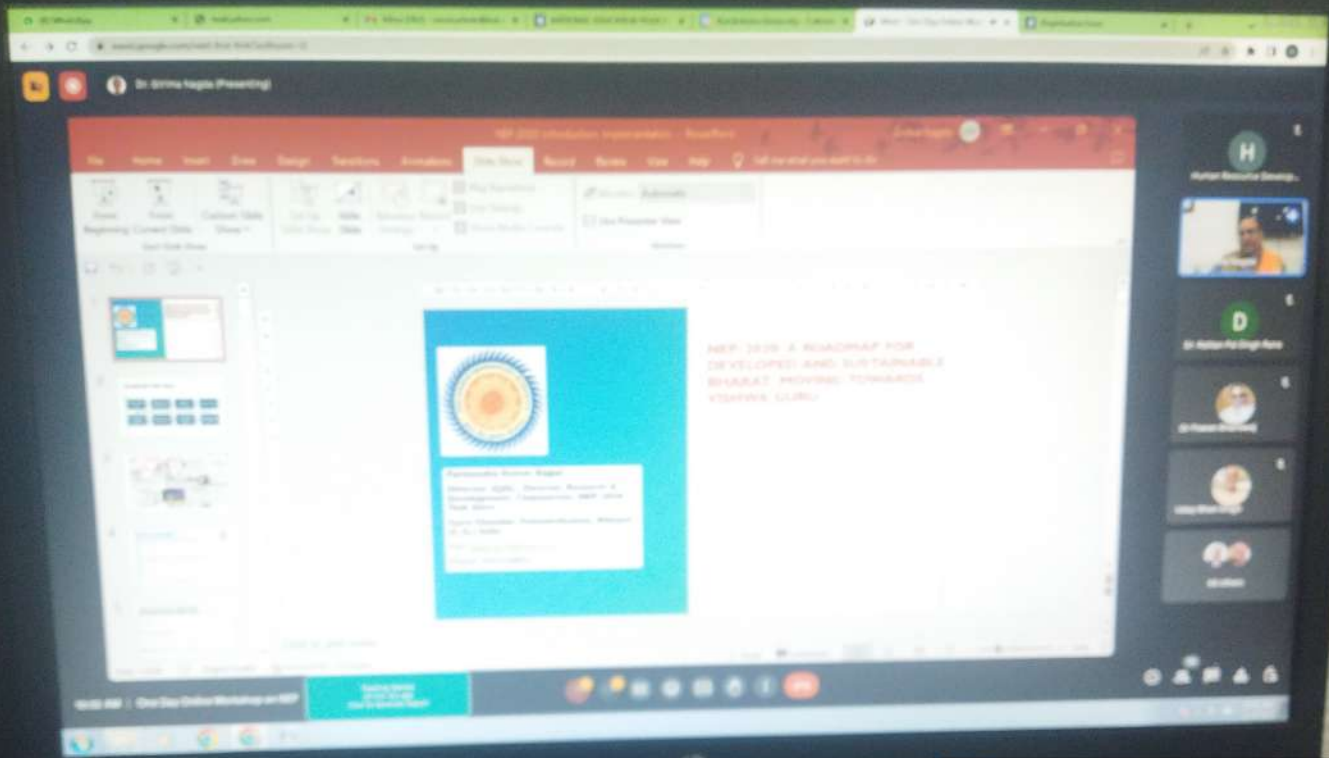
20-11-23
Leadership, Psychology & Social Science
Leadership development and communication
Administrative Leadership



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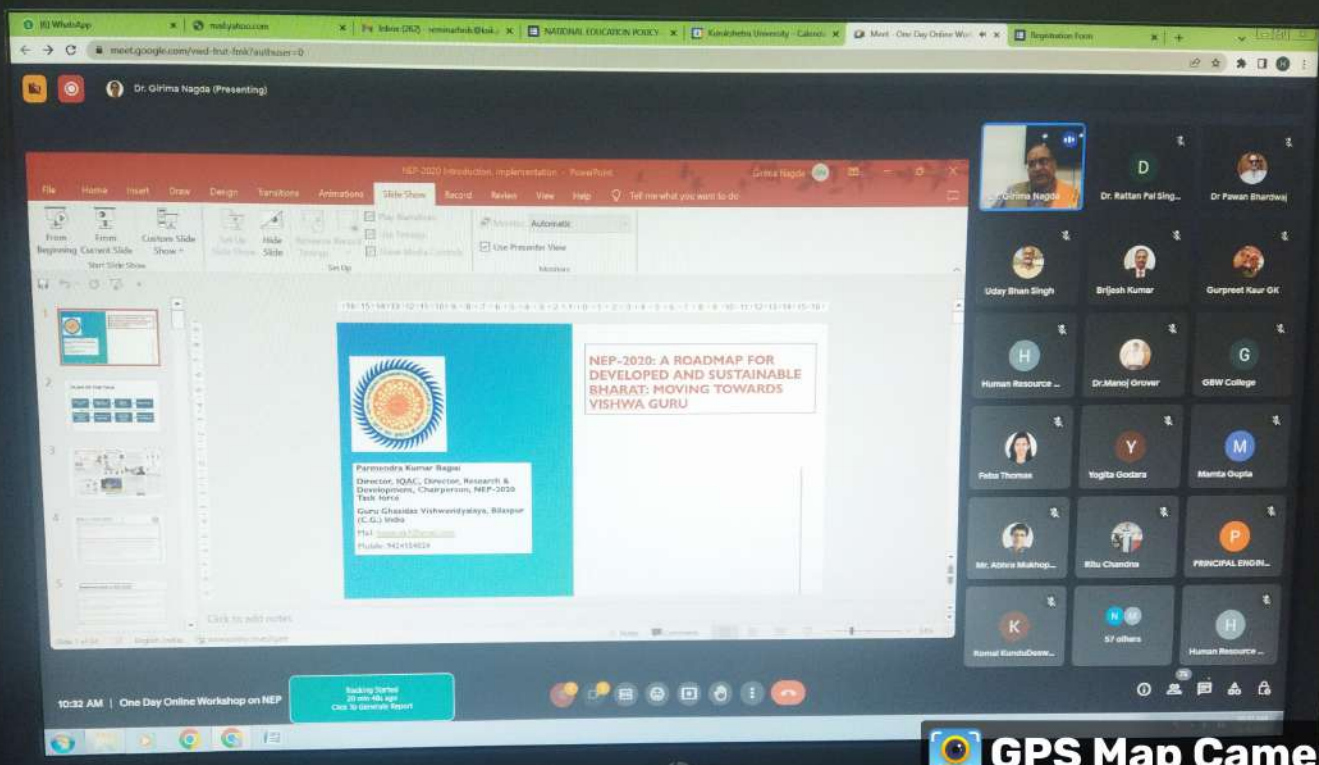
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XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
Lat 29.960531°
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04/11/23 10:31 AM GMT +05:30



 **GPS Map Camera**



Thanesar, Haryana, India
XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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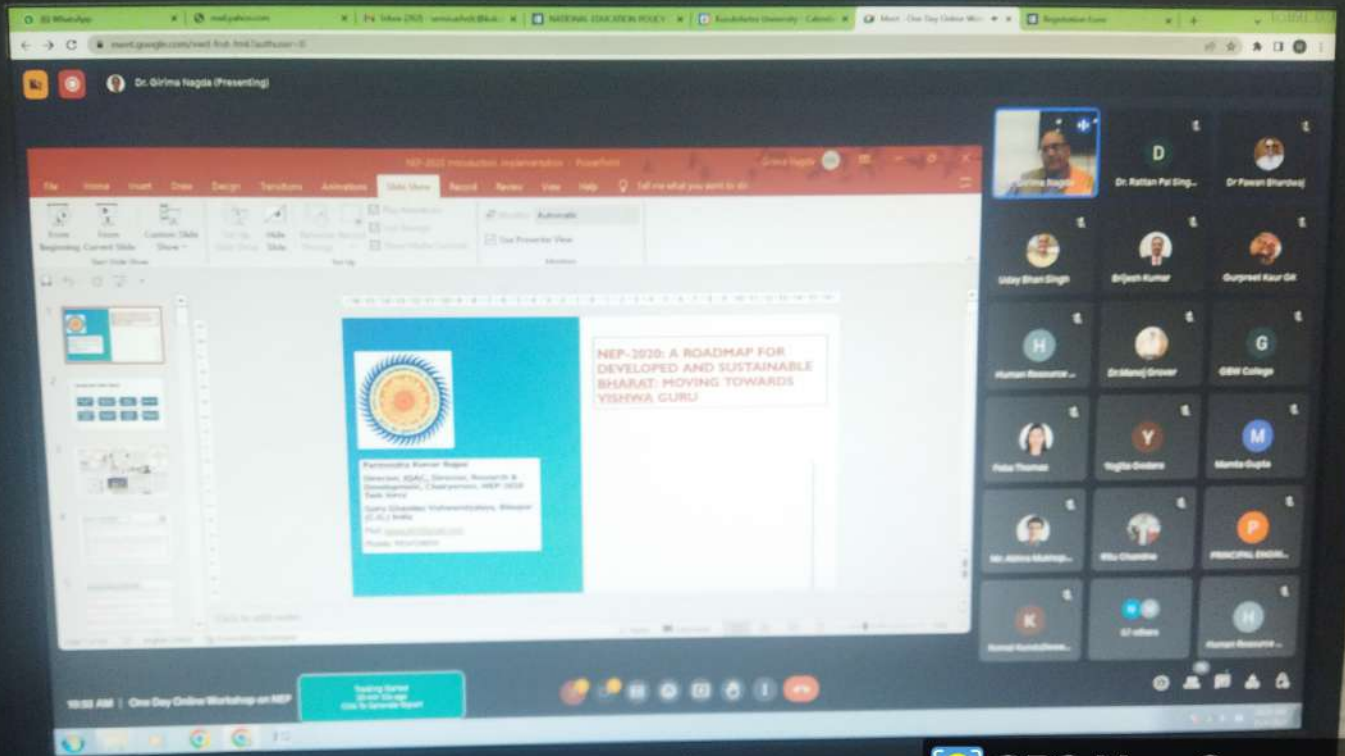
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Research including in the area of - English - Research

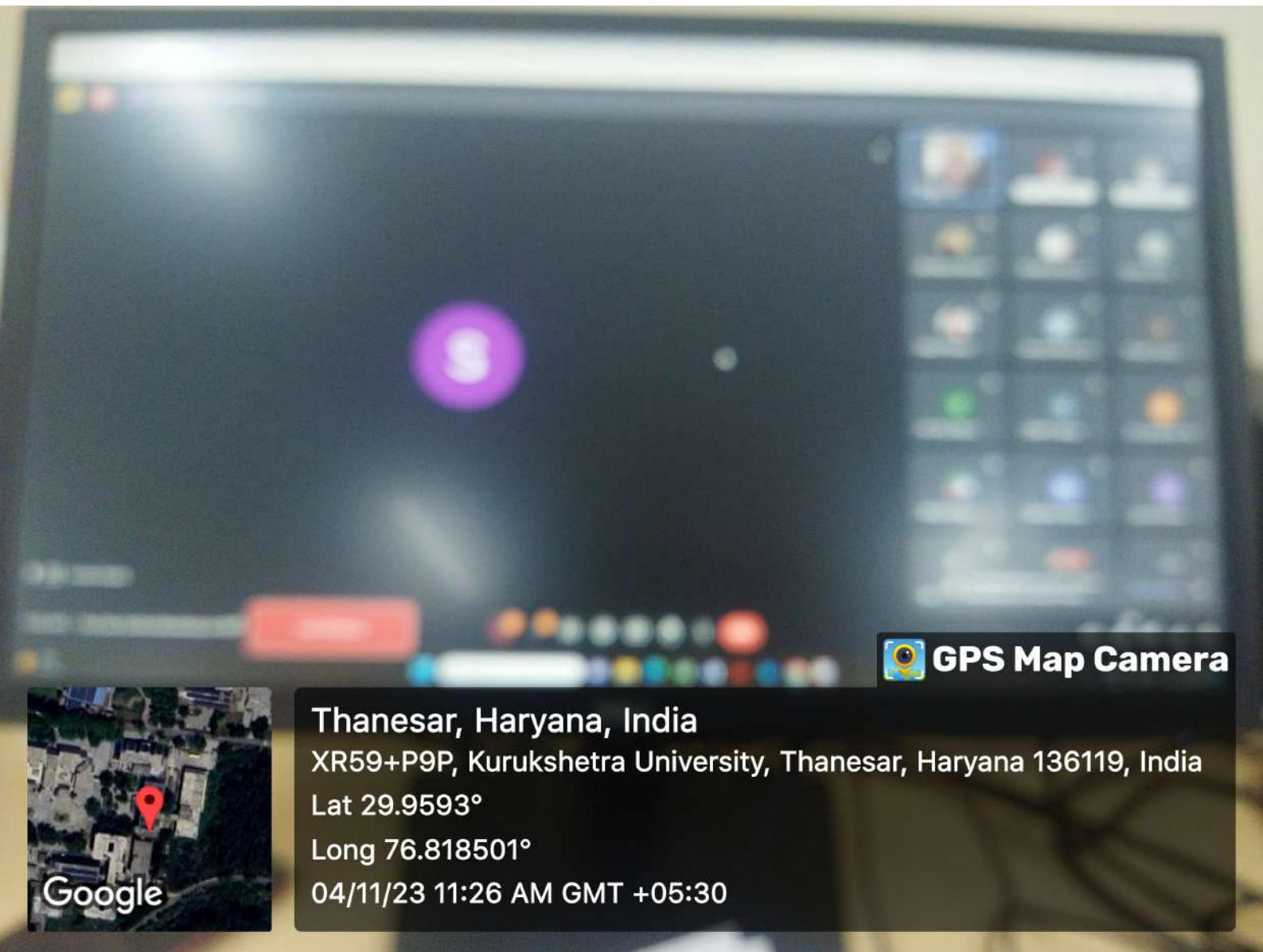
22-11-23



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Thanesar, Haryana, India
XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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Thanesar, Haryana, India

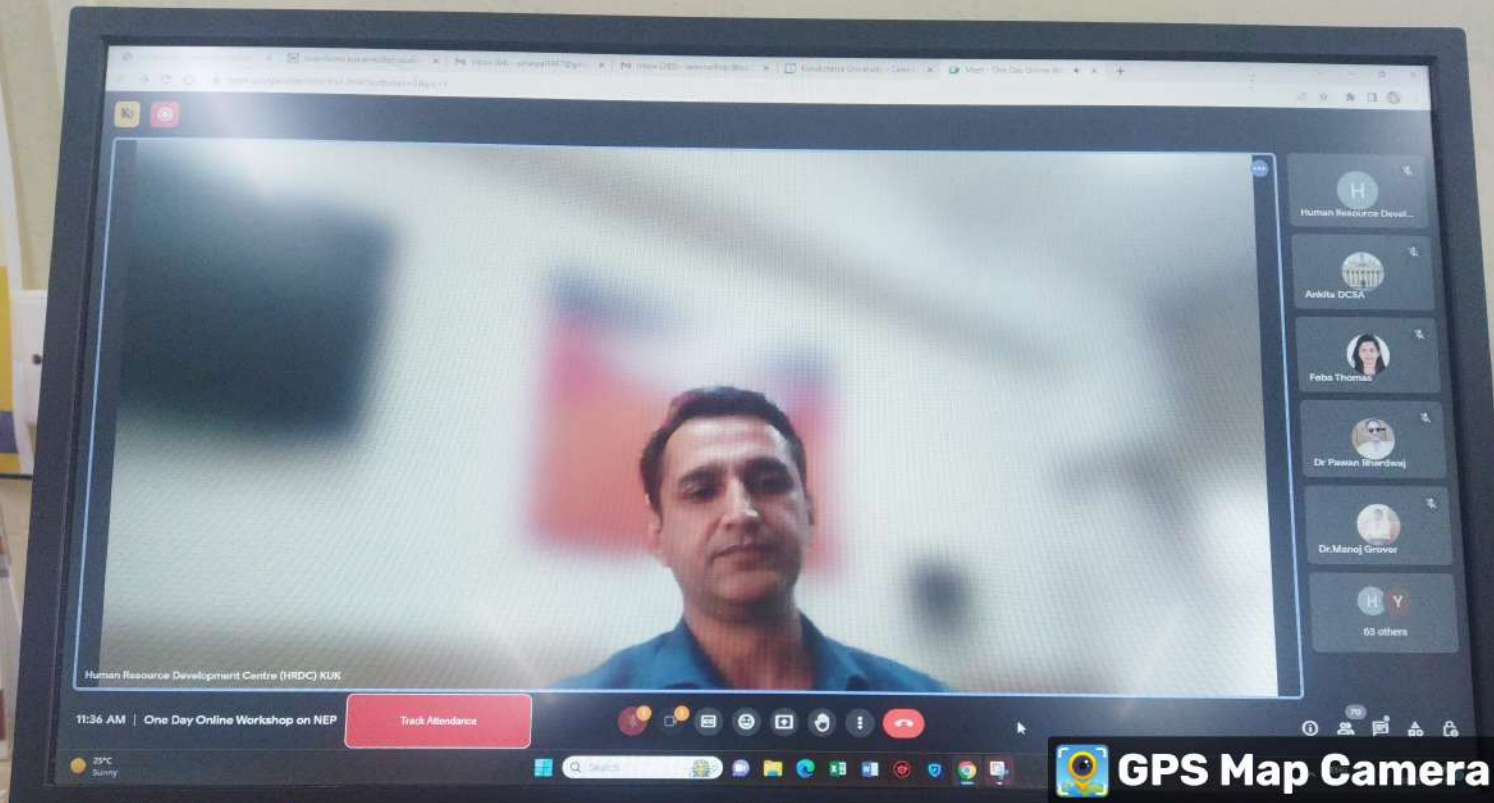
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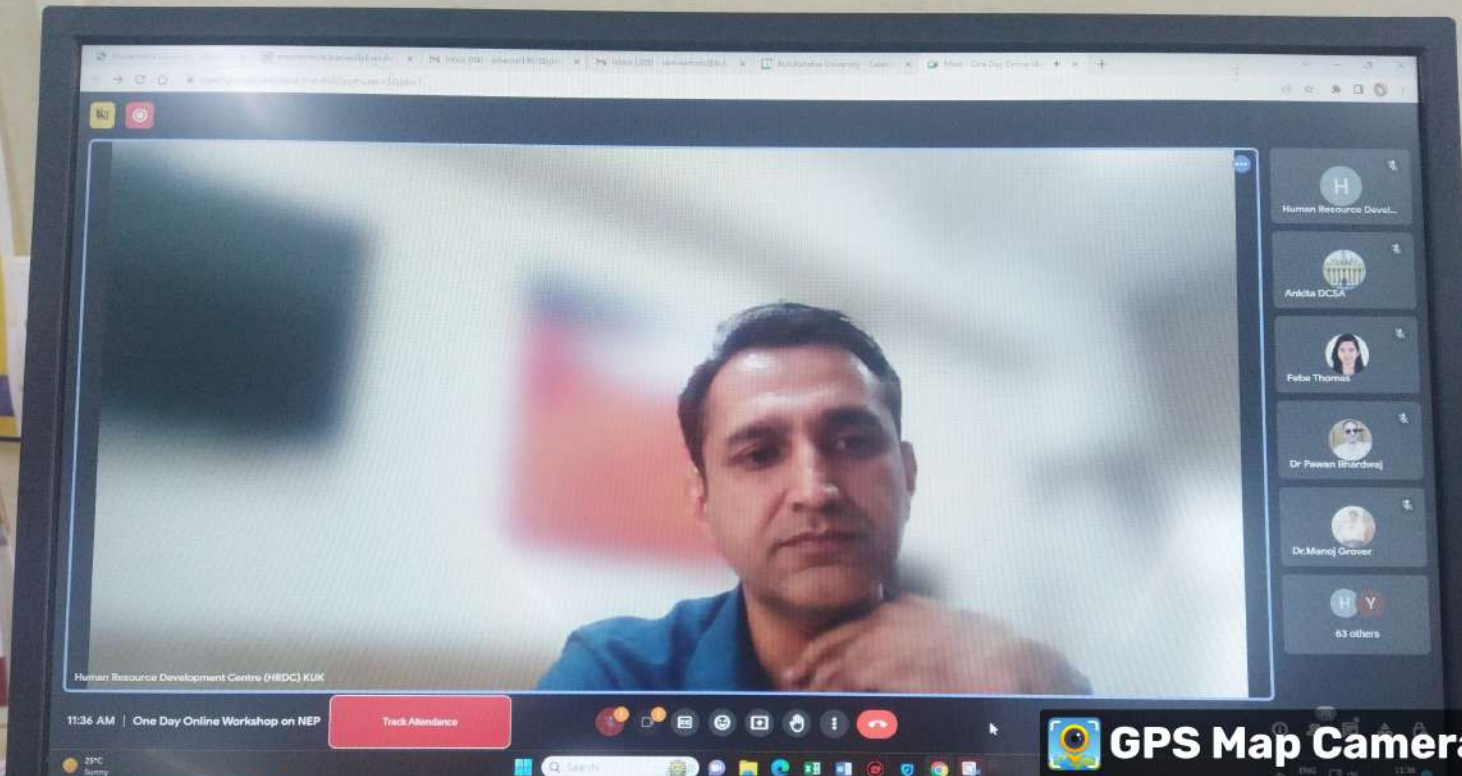
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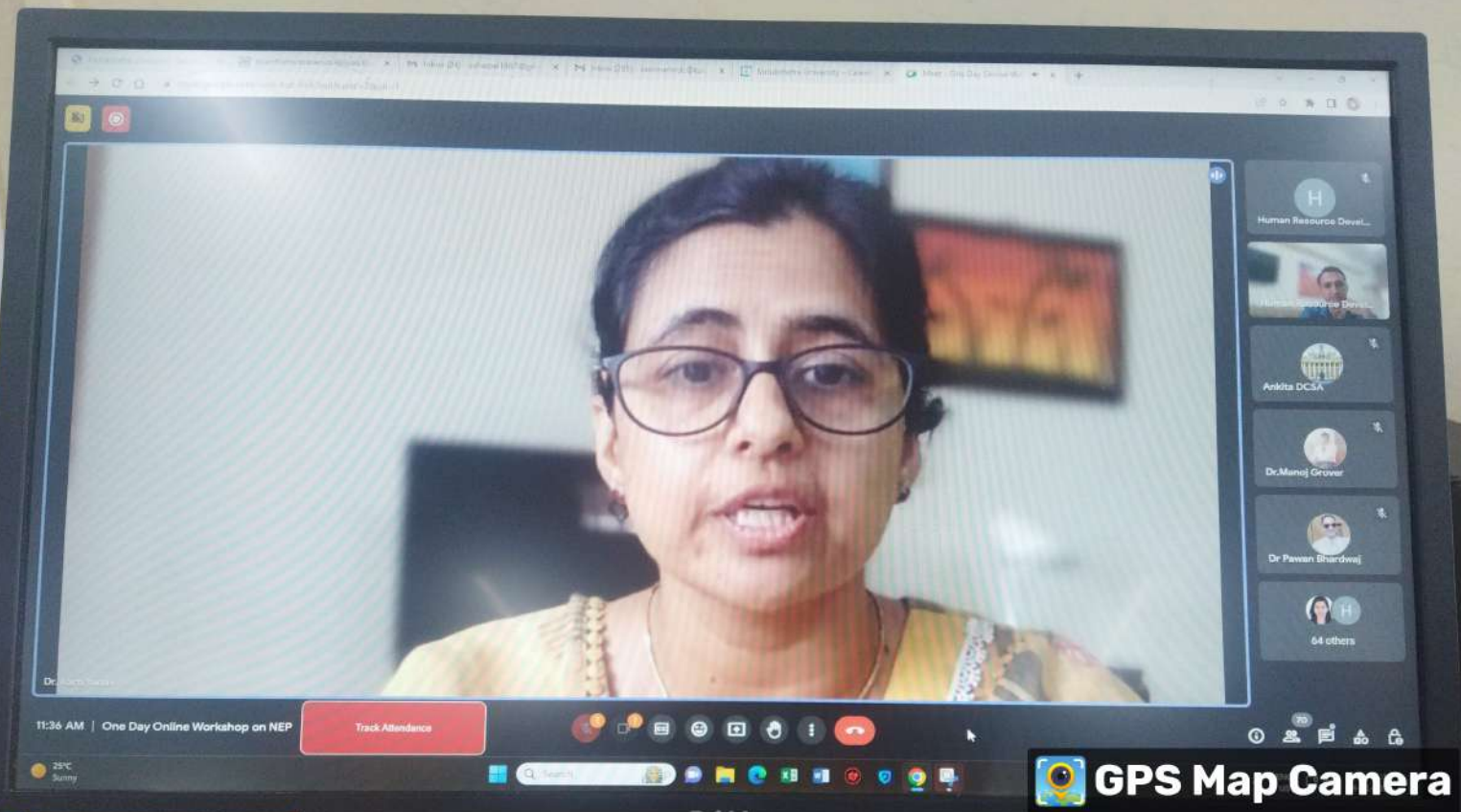




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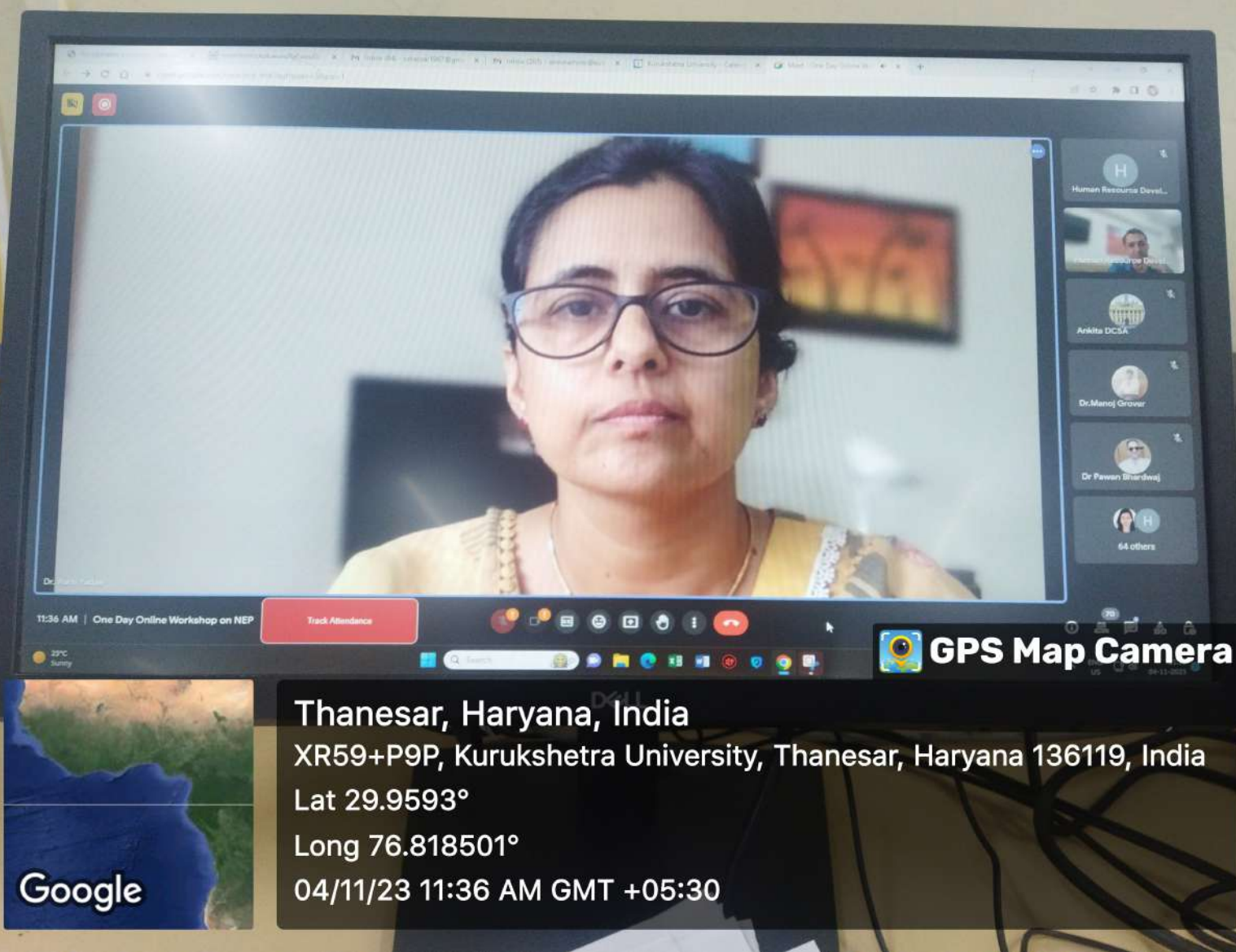
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Thanesar, Haryana, India
XR59+P9P, Kurukshetra University, Thanesar, Haryana 136119, India
Lat 29.9593°
Long 76.818501°
04/11/23 11:36 AM GMT +05:30



Thanesar, Haryana, India
XR59+P9P, Kurukshetra University, Thanesar, Haryana 136119, India
Lat 29.9593°
Long 76.818501°
04/11/23 11:36 AM GMT +05:30



Transforming Higher Education Institutions (HEIs) into Multidisciplinary Institutions

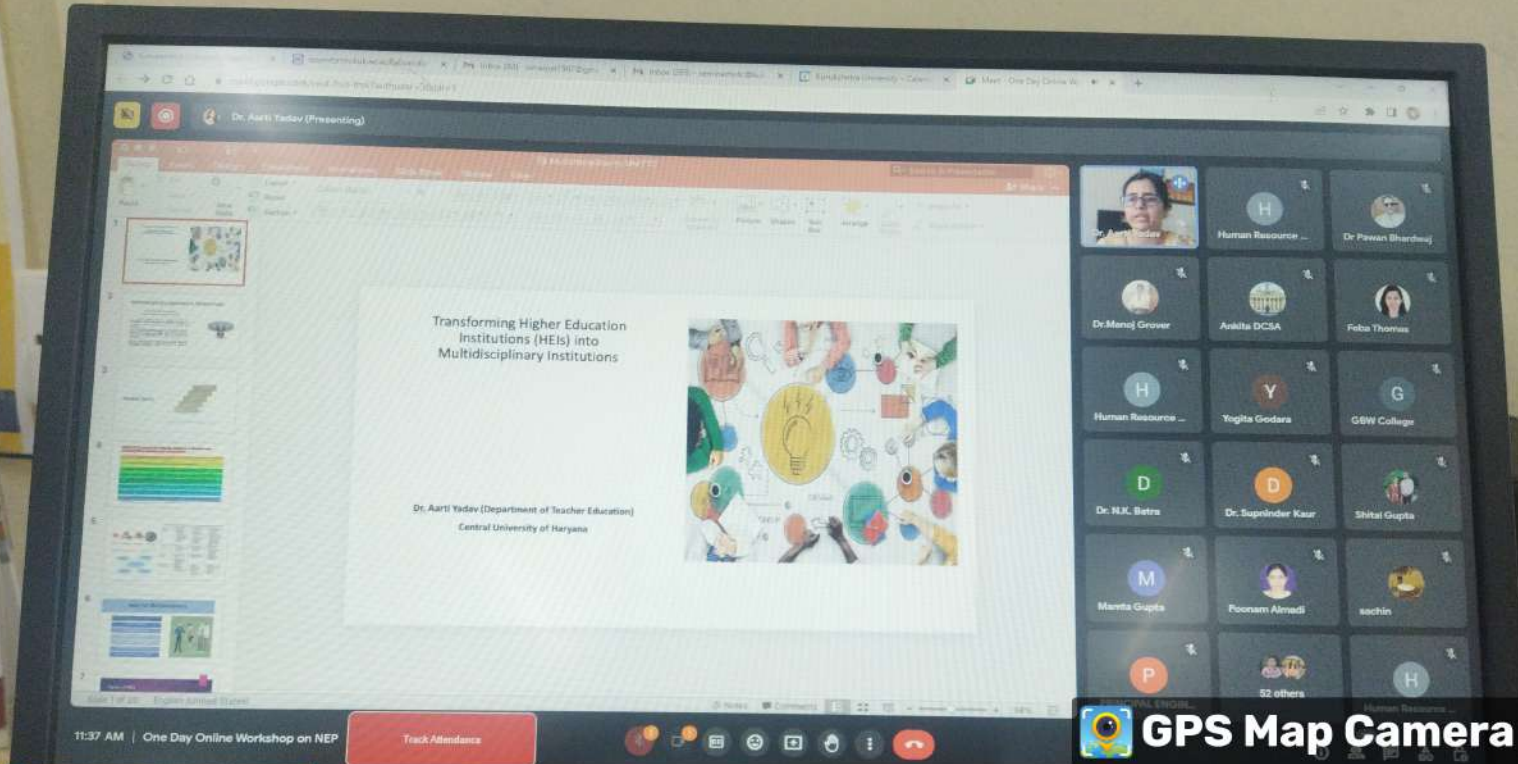
Dr. Aarti Taba (Department of Teacher Education)
Central University of Haryana

Track Attendance

 **GPS Map Camera**

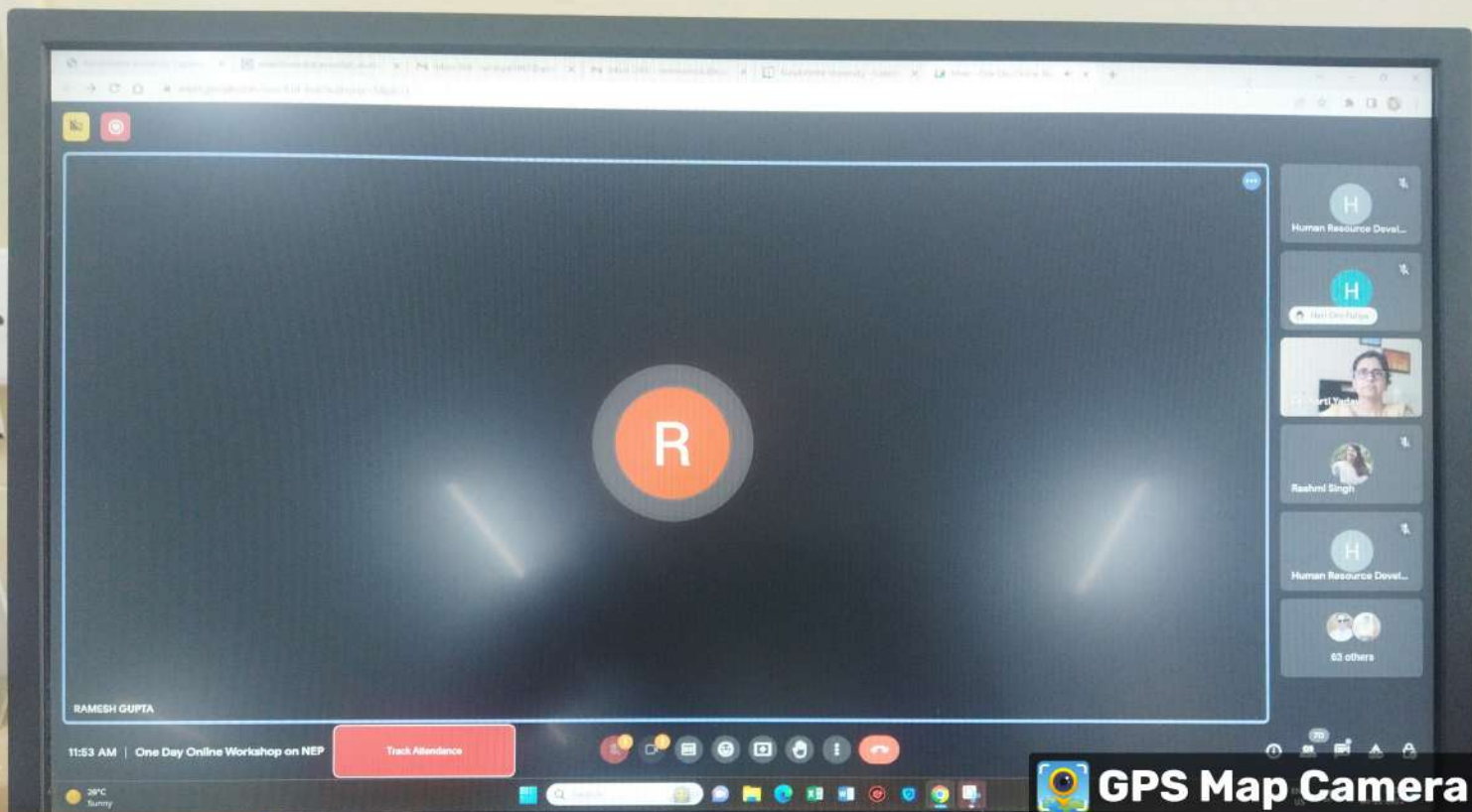


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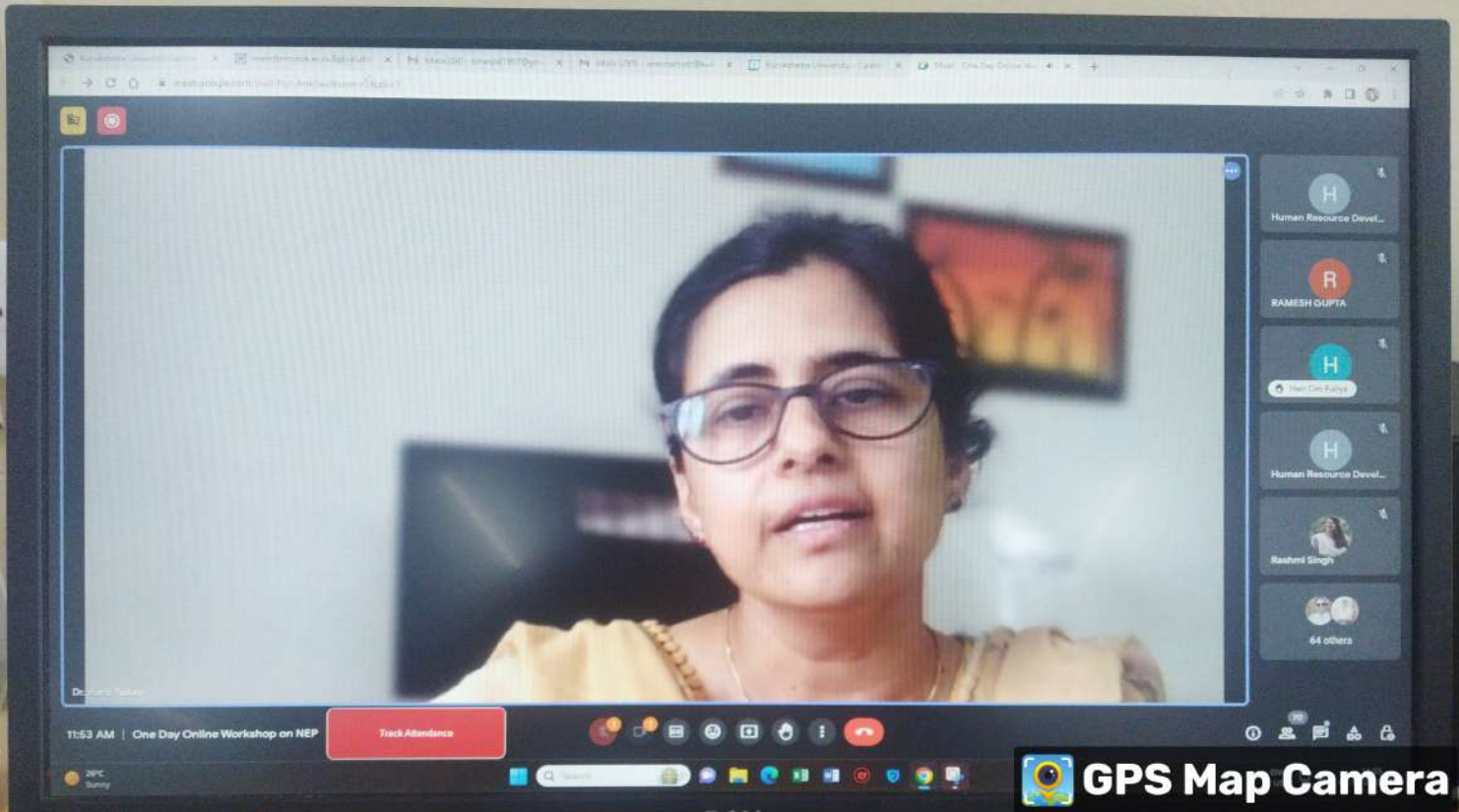


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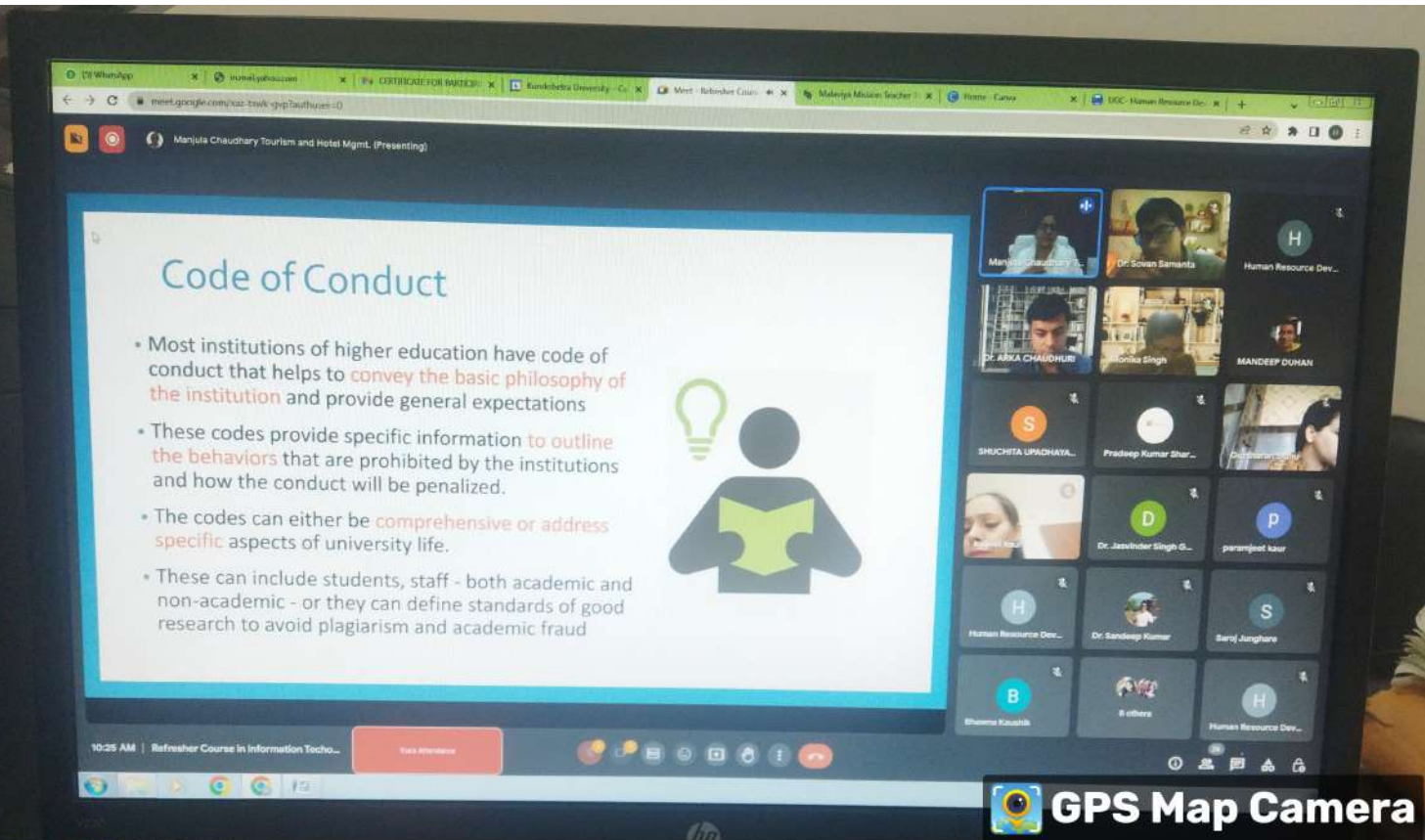
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Thanesar, Haryana, India
XR59+P9P, Kurukshetra University, Thanesar, Haryana 136119, India
Lat 29.9593°
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04/11/23 11:53 AM GMT +05:30



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Thanesar, Haryana, India

XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India

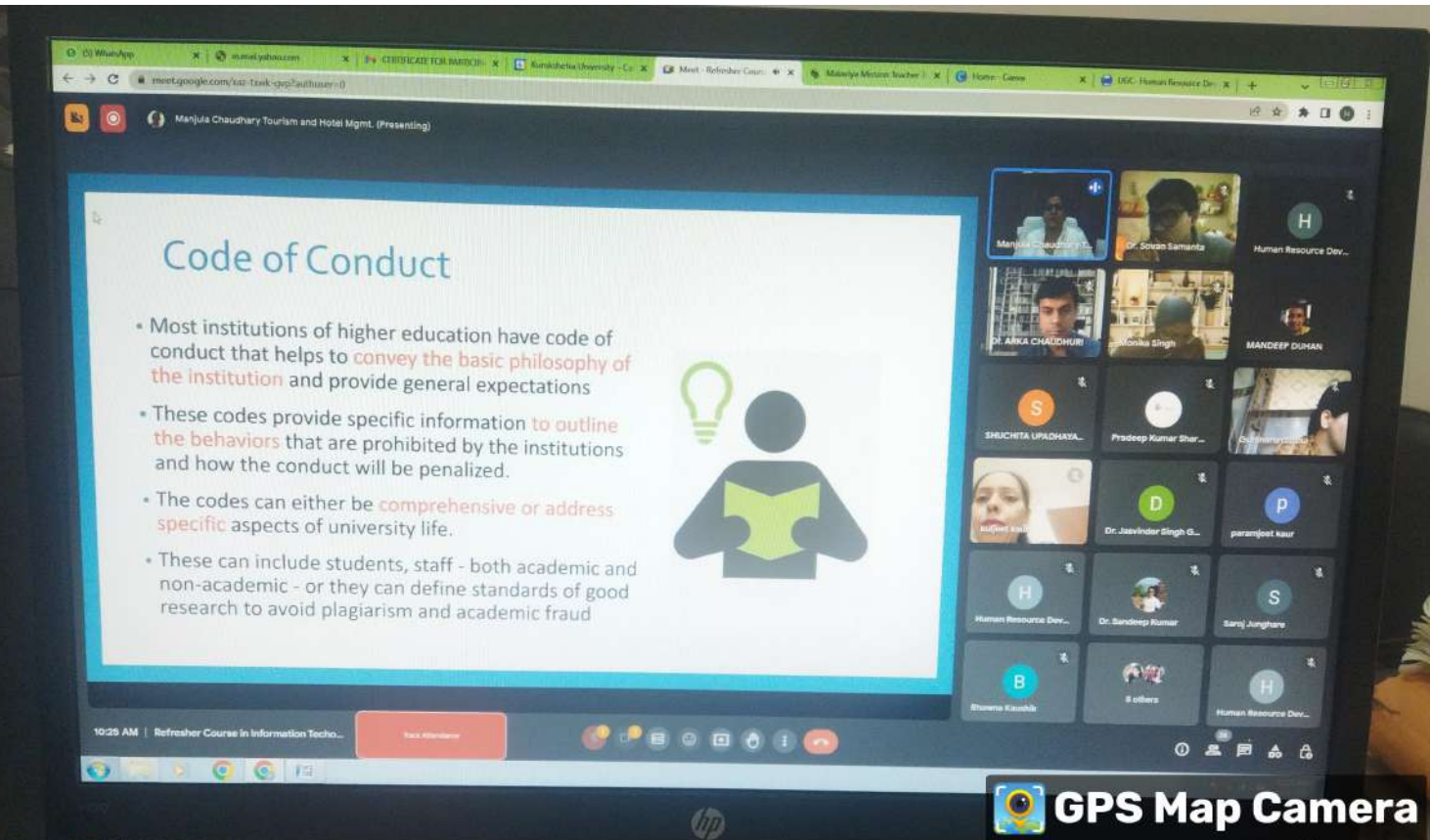
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Long 76.814832°

06/11/23 10:25 AM GMT +05:30

90-11-23

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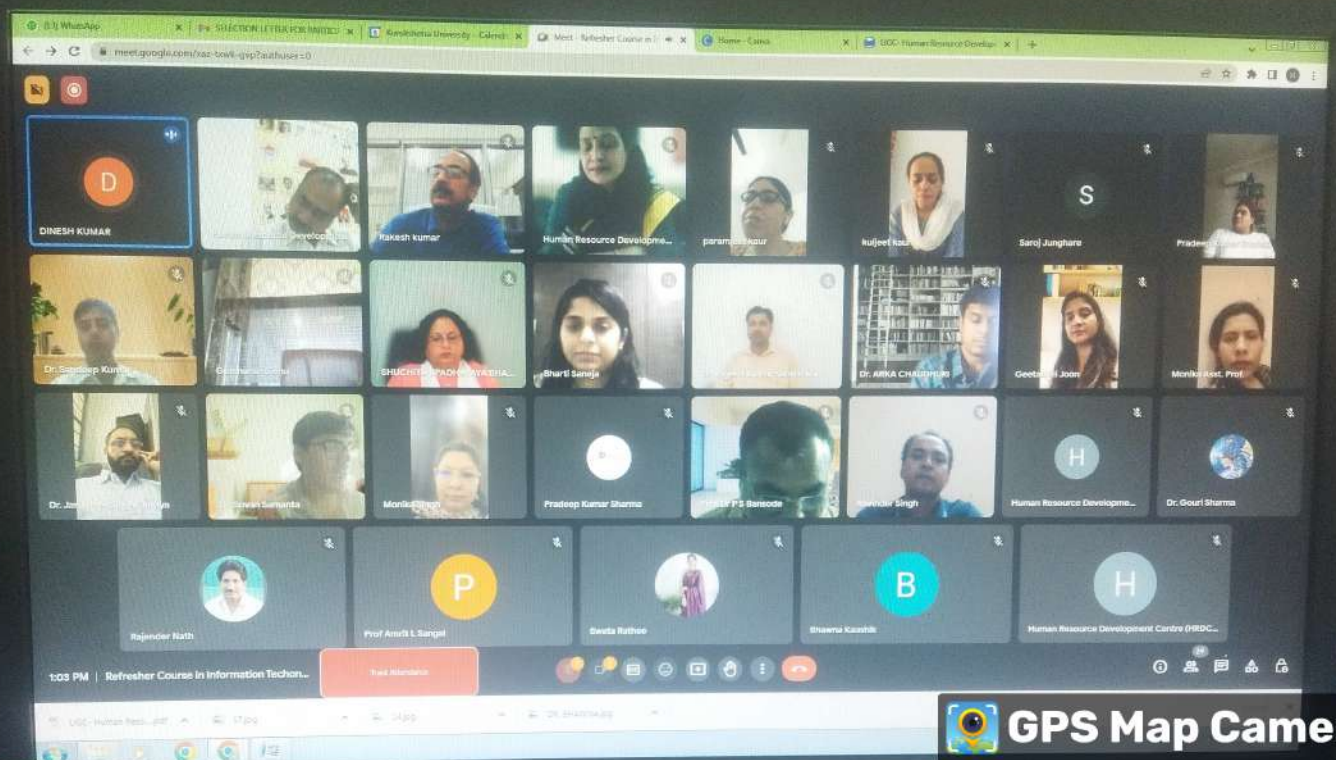
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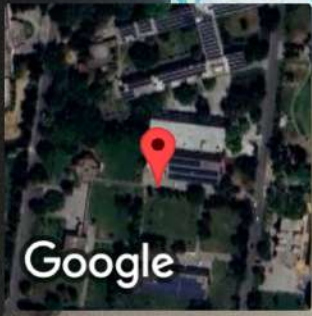
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22-11-23

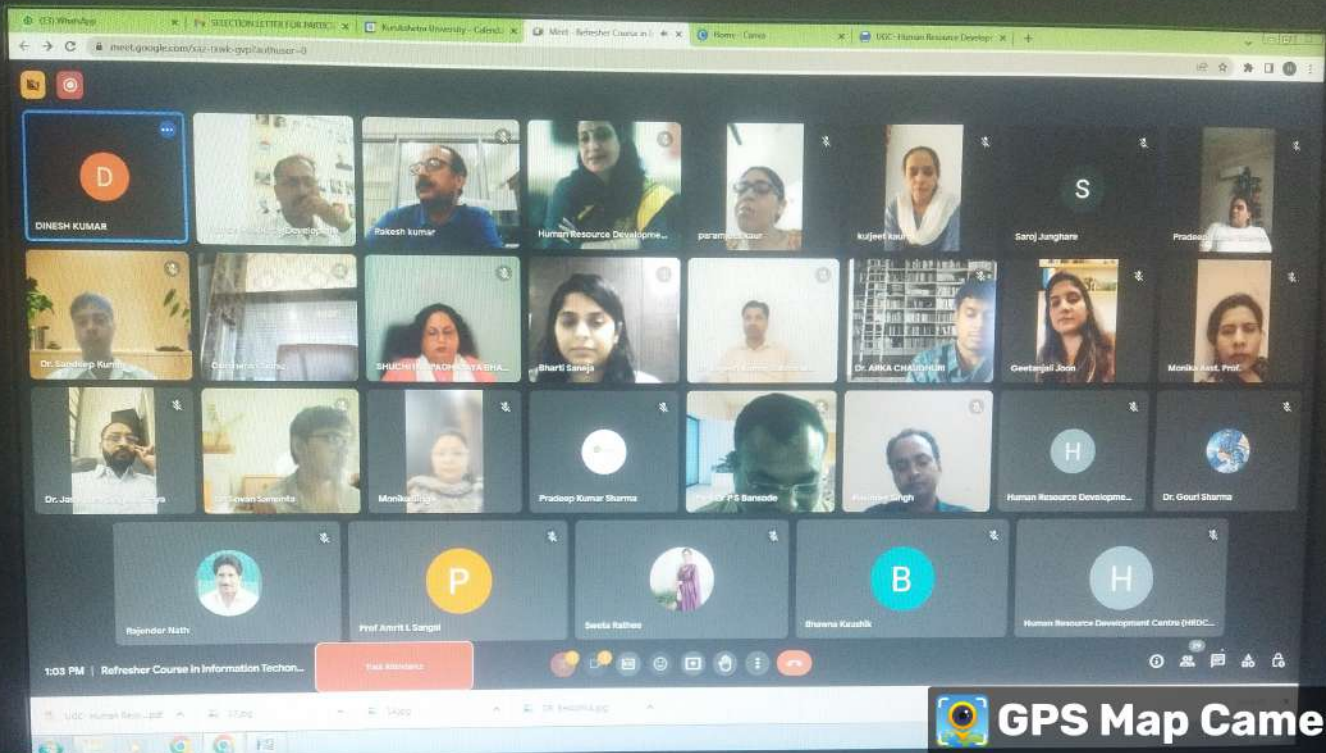
Tan Kishanji



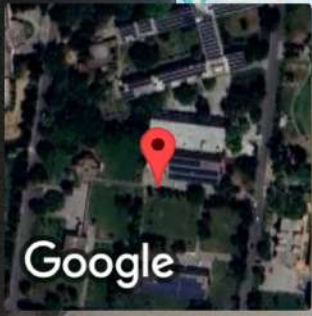
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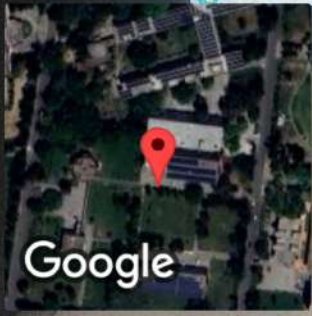
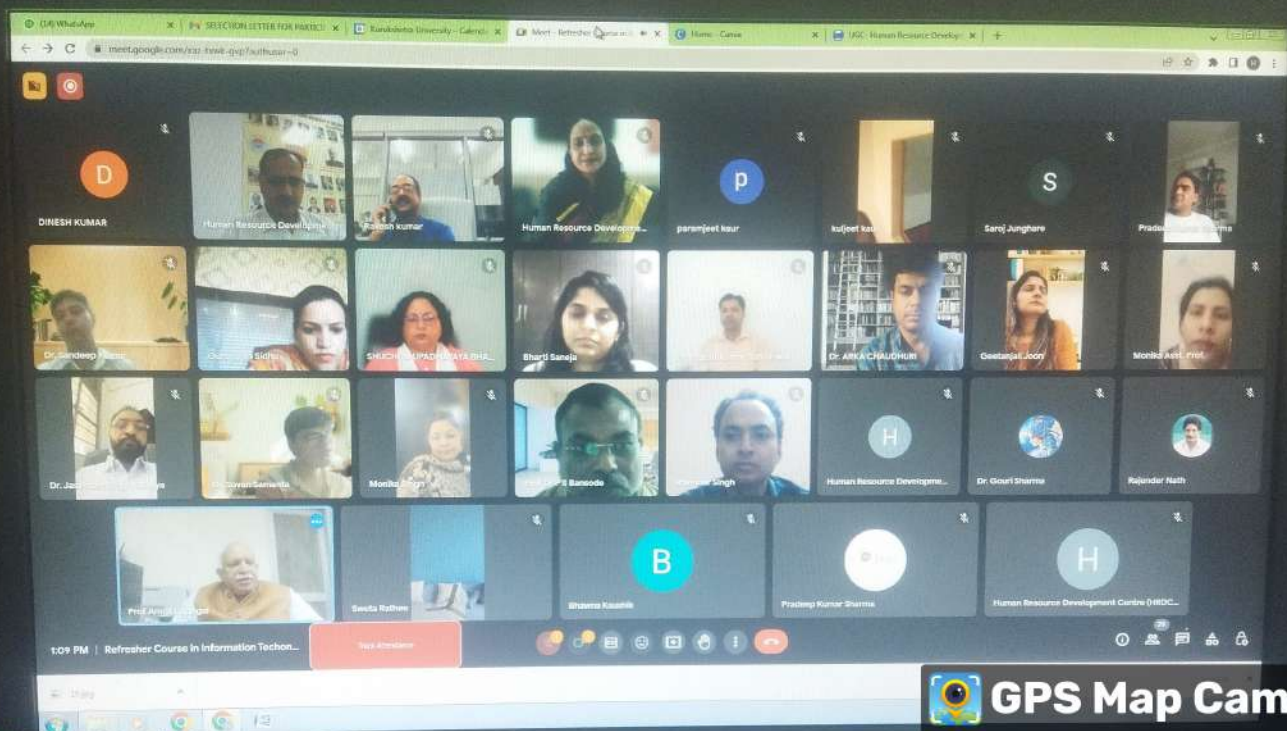
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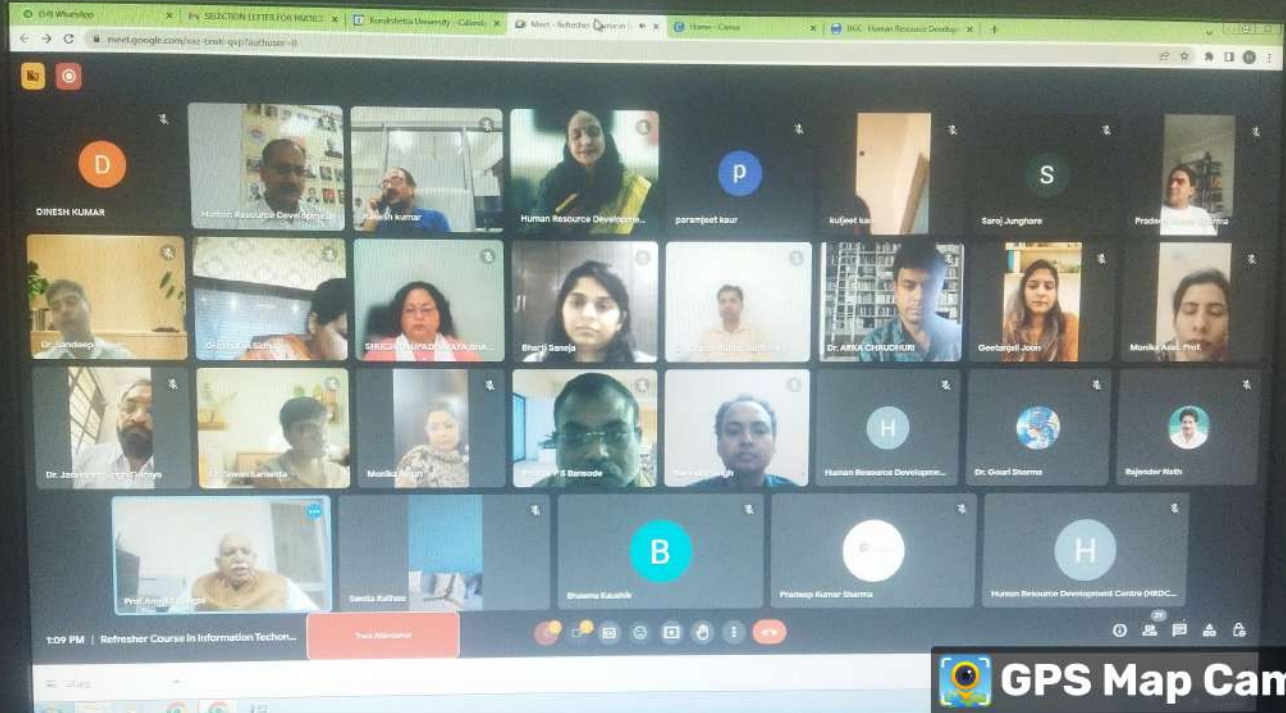


Thanesar, Haryana, India
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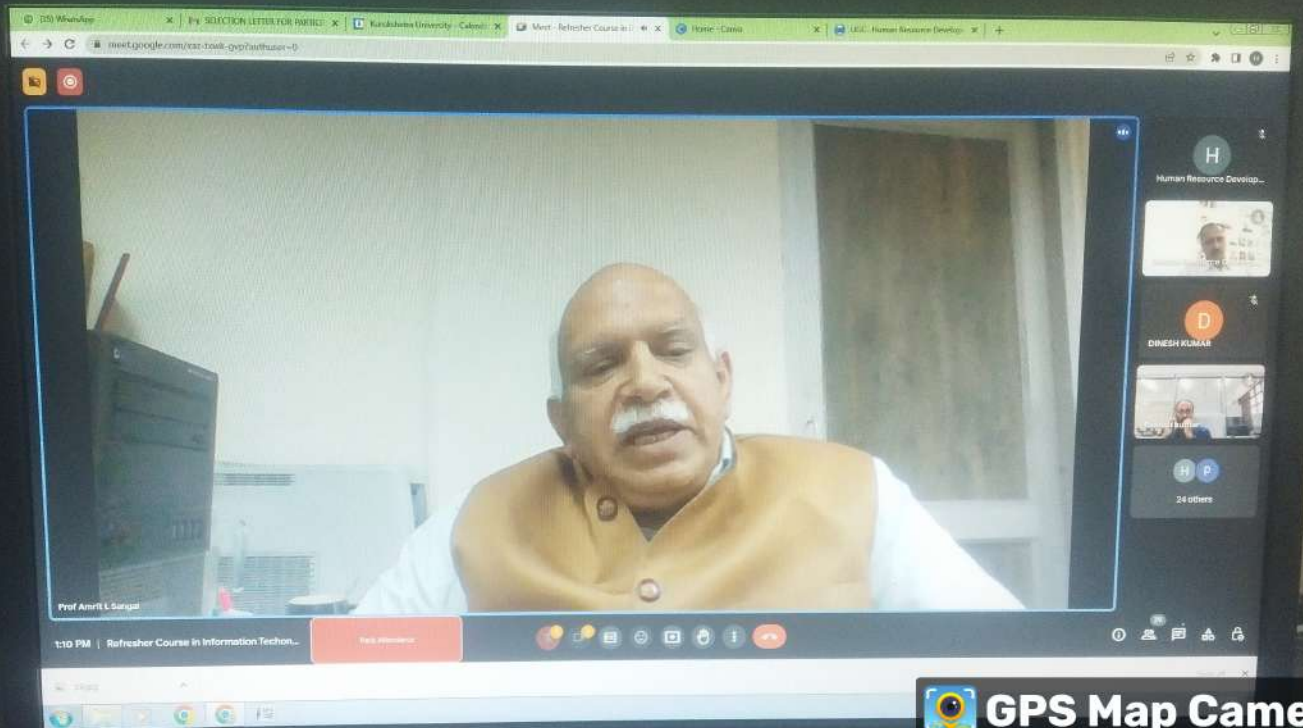
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Entrance Test - 2023
Roll Number
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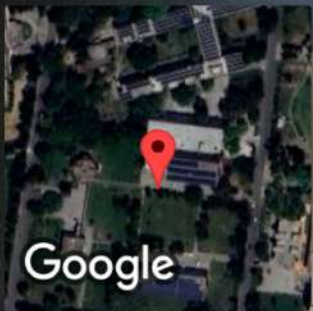
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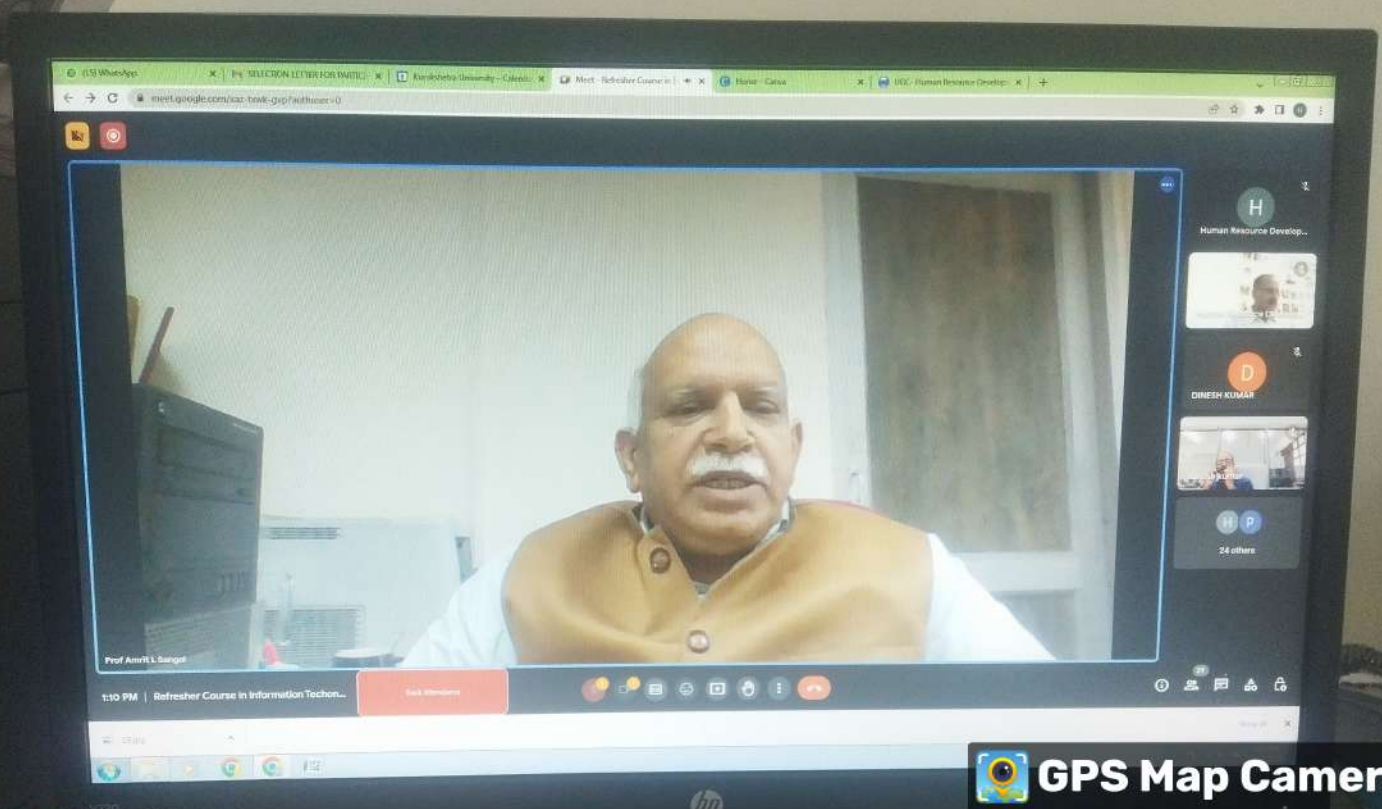
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 **GPS Map Camera**



Thanesar, Haryana, India
XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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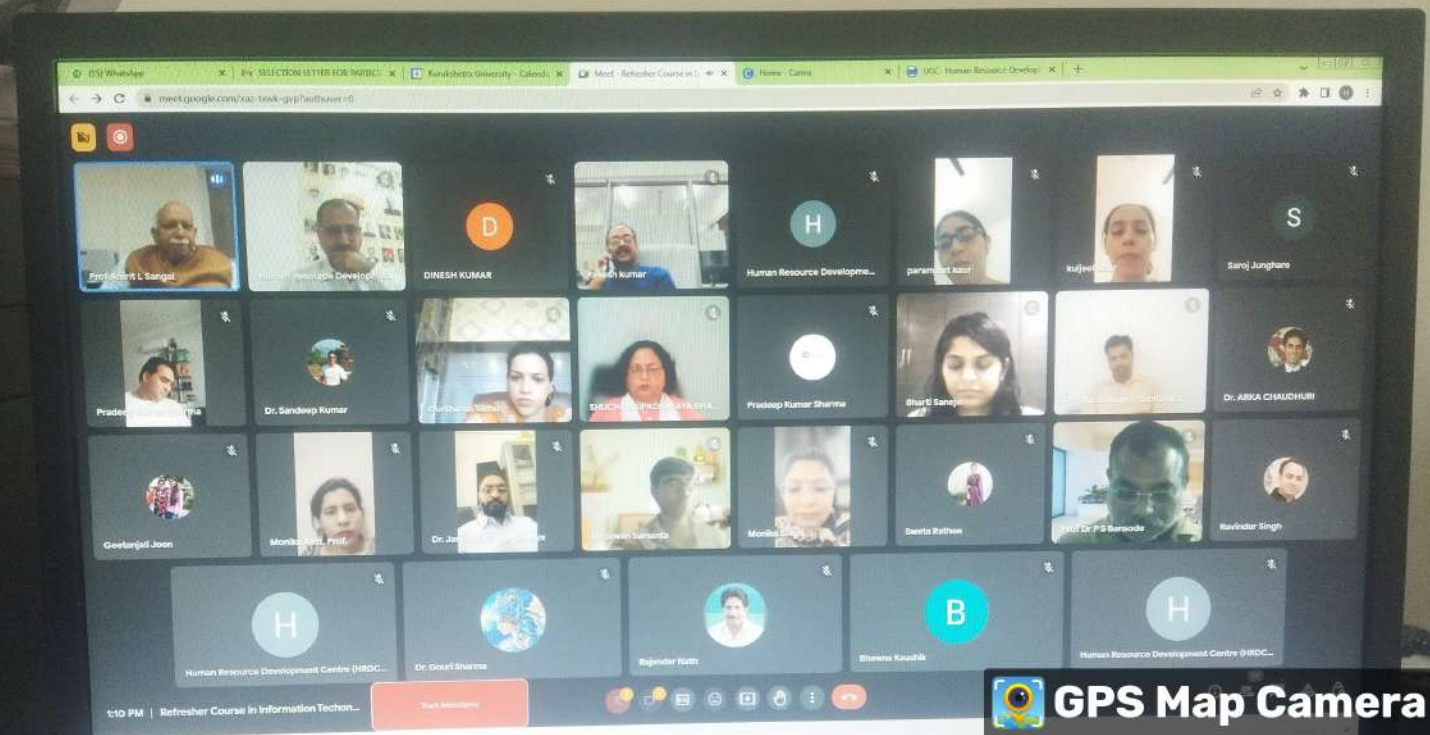


 **GPS Map Camera**



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XR67+5X8, Kurukshetra University, Thanesar, Narkatari, Haryana 136119, India
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GORAKHPUR UNIVERSITY, GORAKHPUR
Haryana, India - 2027
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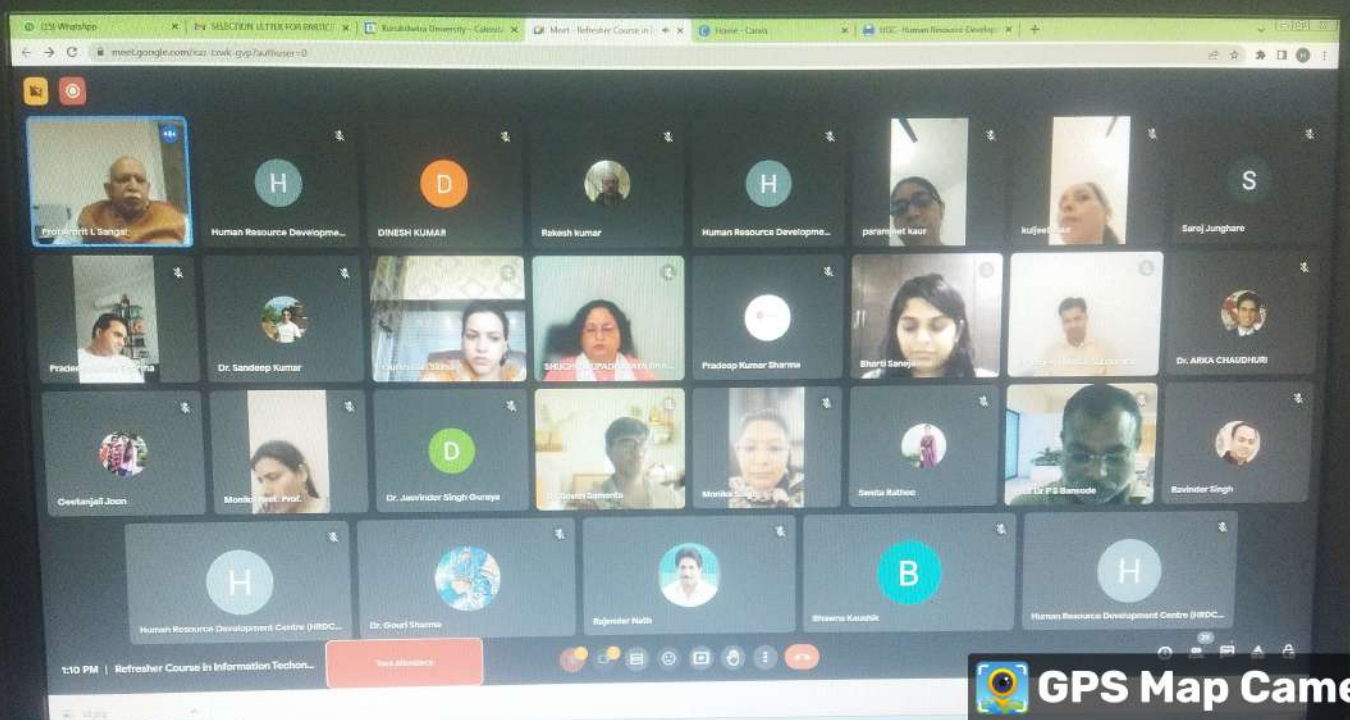


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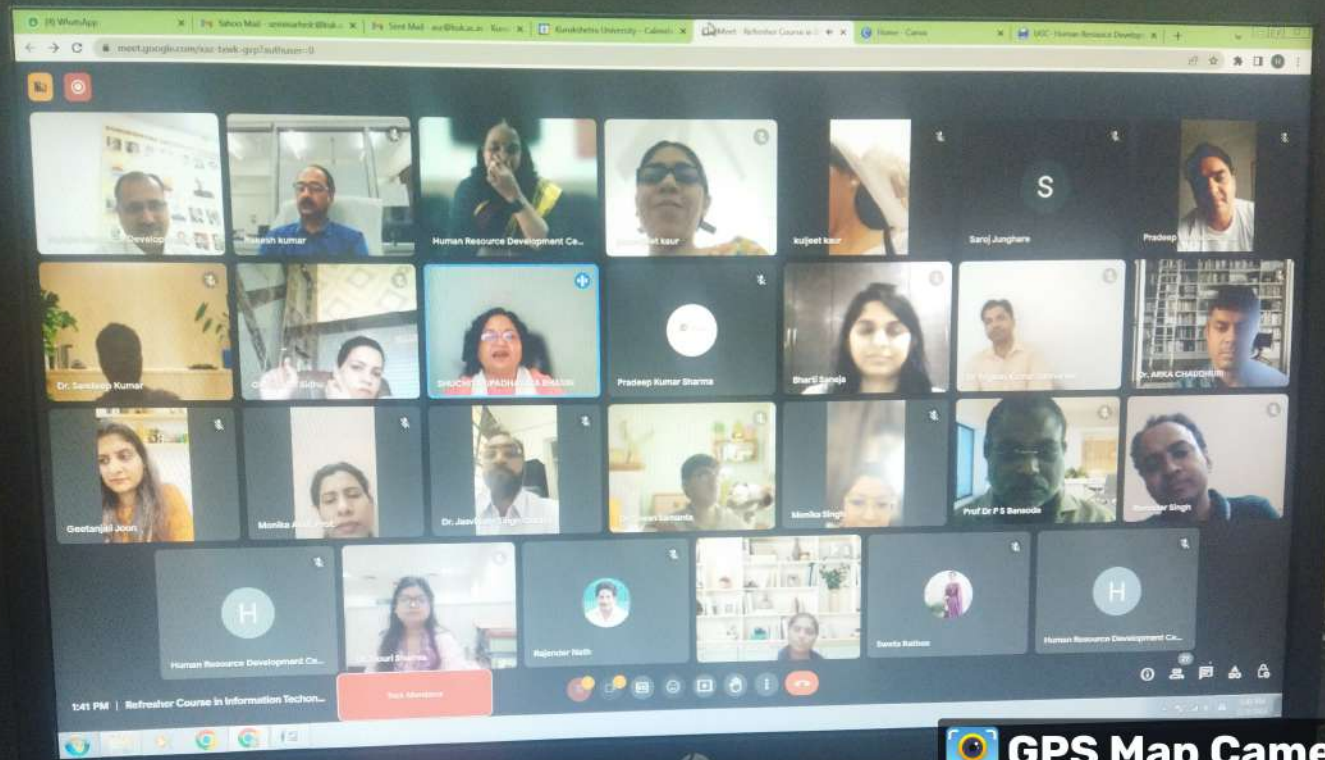
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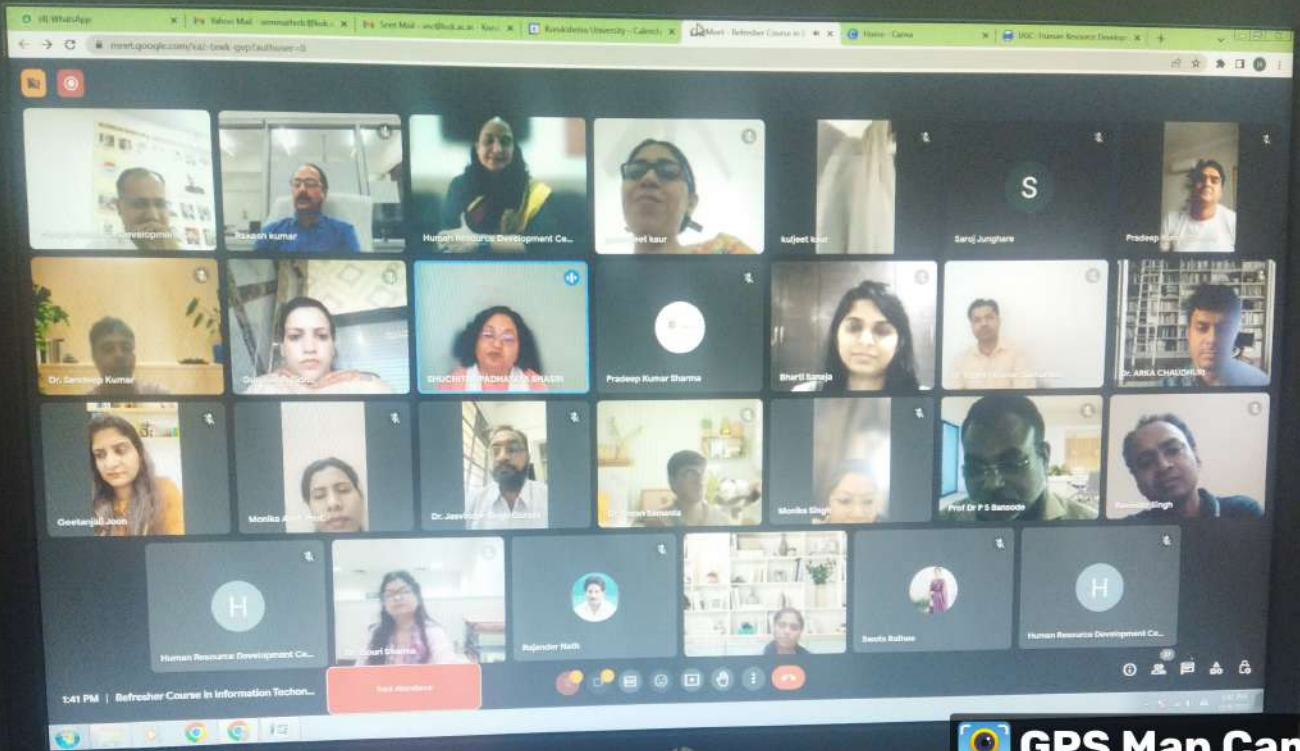
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 **GPS Map Camera**



Thanesar, Haryana, India
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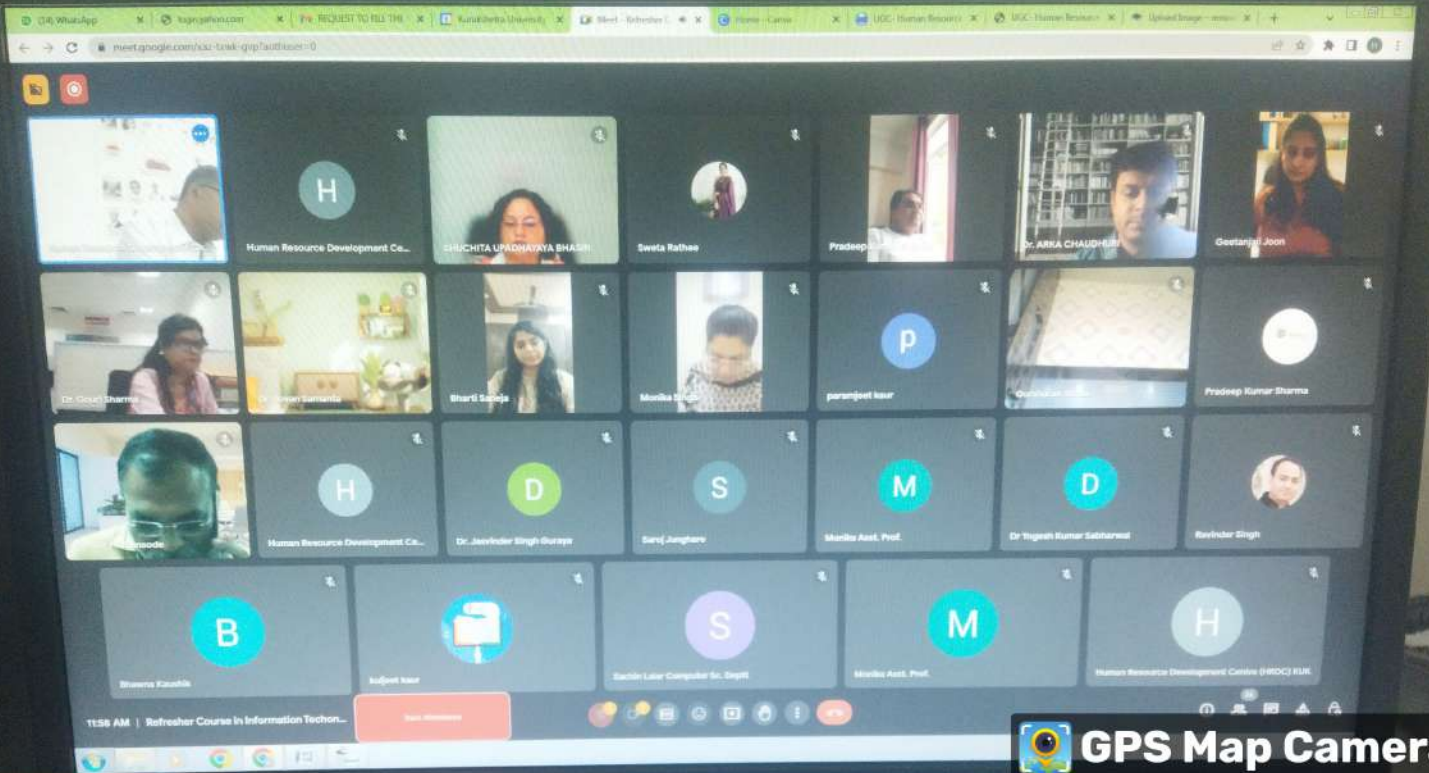


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Workshop on NEP orientation and sensitization



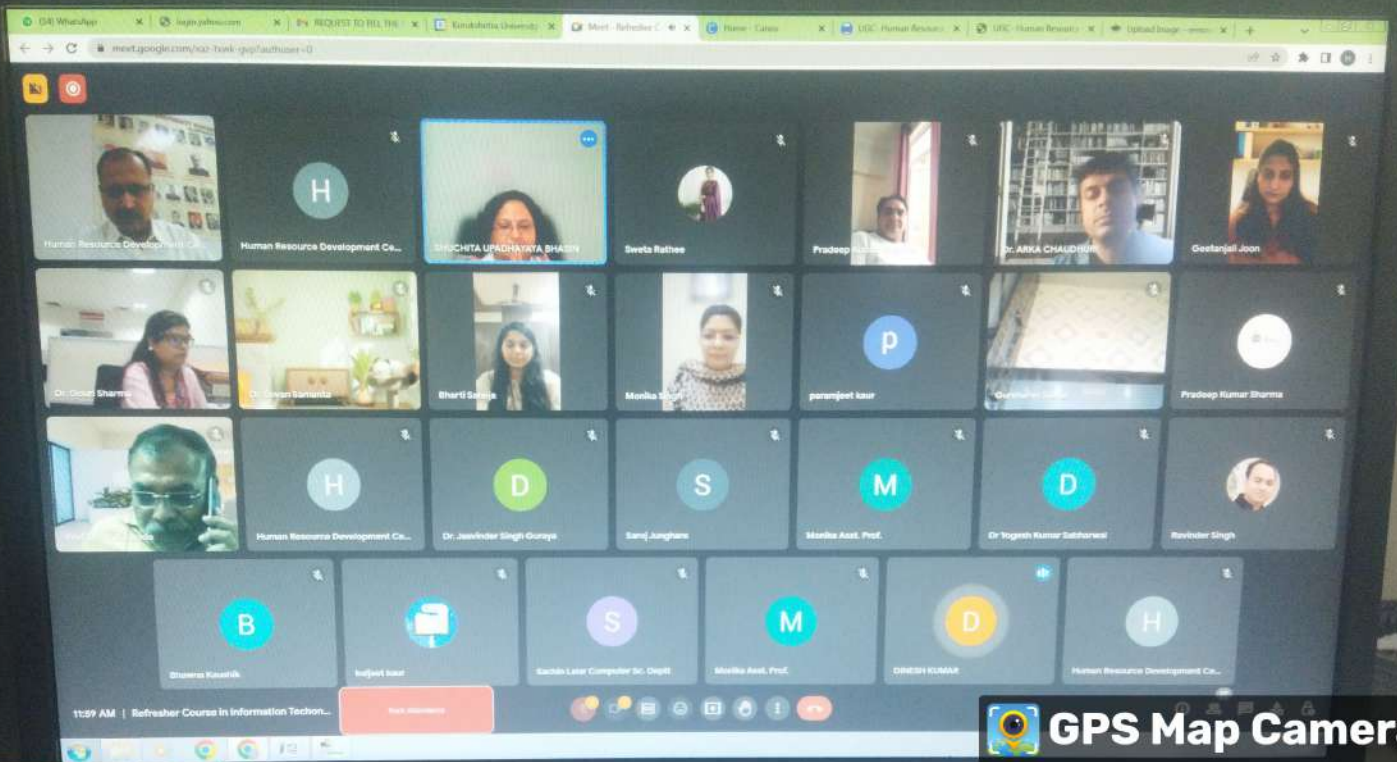
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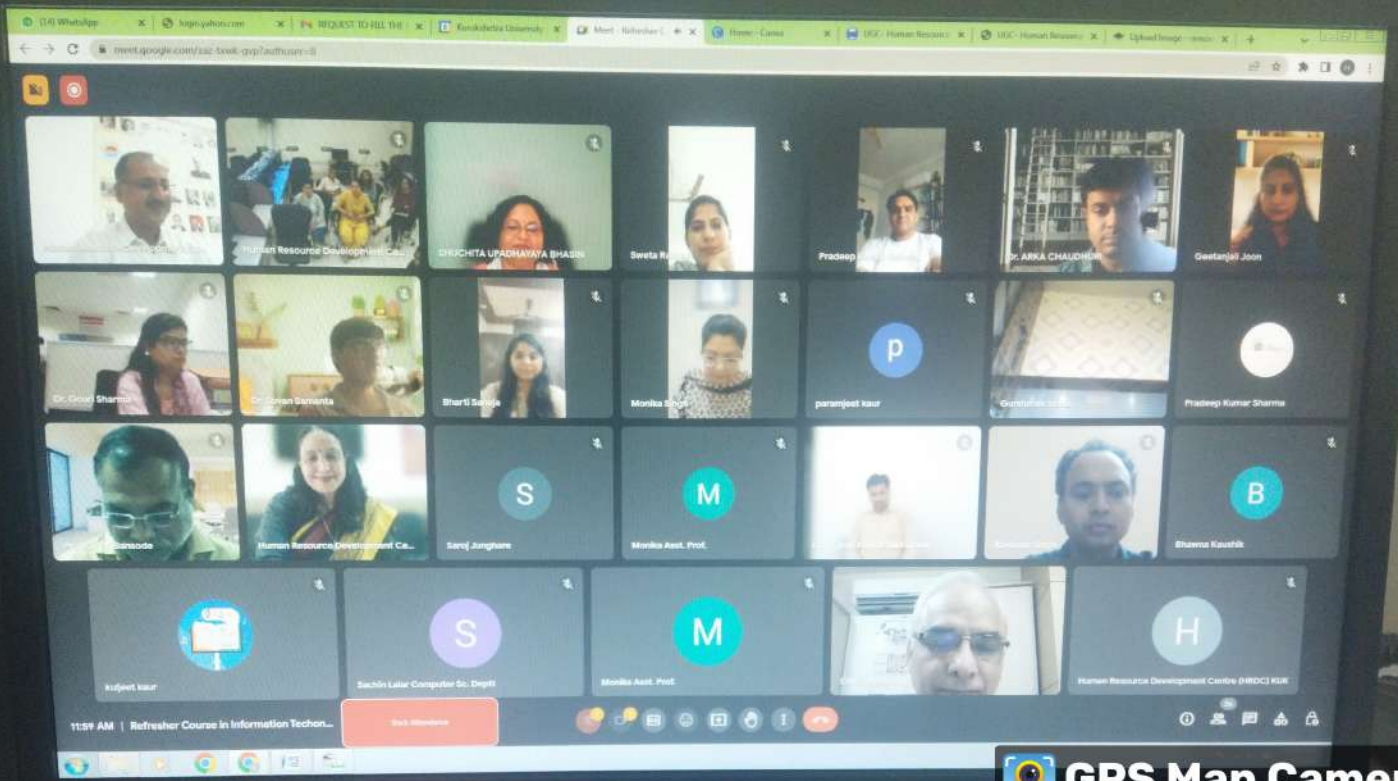
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Date	10 – 11.30	11.30 - 1	2 – 3.30	3.30 - 5
26-10-2023 Thursday	Prof. K.K.Aggarwal Prof. Anil Vashisht	Dr. Mohit Gambhir 98103 41200 mohitgambhir@gmail.com	Prof. Vikram Singh 09896003162 vikramsinghkuk@yahoo.com	SELF (Coordinators)
27-10-2023 Friday	Dr. Sahil Raj 7589000078 drsahil@pbi.ac.in	Dr. Sahil Raj 7589000078 drsahil@pbi.ac.in	Prof. Preeti Tandon 9425324241 pkhanna@iiitdmj.ac.in	Dr. Pradeep Mittal DCSA, KUK
28-10-2023 Saturday	Dr. Kawaljeet Singh 09815581403 singhkanwaljeet@pbi.ac.in, singhkawaljeet@rediffmail.com	Dr. Kawaljeet Singh 09815581403 singhkanwaljeet@pbi.ac.in, singhkawaljeet@rediffmail.com	Dr. Yashwant Singh 91-9418203623 yashwant.csit@cummu.ac.in,	Mr. Deepak Bansal Deputy Director General and State Informatics Officer deepak.bansal@nic.in
30-10-2023 Monday	Dr. Anita Singroha, DCRUST 97292 76806 nidhianita@gmail.com	Dr. Anita Singroha DCRUST 97292 76806 nidhianita@gmail.com	Dr. Pradeep Kumar USIC 9416412803 pardeepk@kuk.ac.in	Dr. Pradeep Kumar USIC 9416412803 pardeepk@kuk.ac.in
31-10-2023 Tuesday	Prof. Rajender Nath 9896084060 rnath2k3@gmail.com	Dr. Kamlesh Dutta 9459210951, 01972254424 kd@nith.ac.in	Dr. Shiraz Khurana 9466786100 shiraz.khurana@sharda.ac.in	Dr. Rajni Jain 98682 38821 rajnijain67@gmail.com Rajni.jain@icar.gov.in
01-11-2023 Wednesday	Mr. Sunil Dutt Sharma 61 412 801073 ozdelhibelly@yahoo.com	Mr. Sunil Dutt Sharma 61 412 801073 ozdelhibelly@yahoo.com	Prof. Rakesh 9896336145 rsagwal@gmail.com	Prof. Anil Mittal
02-11-2023 Thursday	Dr. Anita Dua 9896567175 ardua@kuk.ac.in	Dr. Bhagwan Singh 7027666480 bschaudhary@kuk.ac.in	Dr. Gaurav Gupta 9818978369 gupta.gaurav@deity.gov.in	Prof. Rajender Nath
03-11-2023 Friday	Prof. Mayank 97190 04462 qp@gkv.ac.in	Dr. Mani Madhukar 9560055140 manimad9@in.ibm.com	Prof. Aman Sharma 09418491140 sharmaas1@gmail.com	Dr. Sandeep Sood, 9465204534 sandeepsood@nitkkr.ac.in
04-11-2023 Saturday	Prof. Mayank 97190 04462 qp@gkv.ac.in	Dr. Mani Madhukar 9560055140 manimad9@in.ibm.com	Prof. Aman Sharma 09418491140 sharmaas1@gmail.com	Dr. Pradeep, USIC
06-11-2023 Monday	Prof. Manjula Chaudhary 98960 01727 manjulachaudhary@gmail.com	Prof. Anita Ganpati anitaganpati@gmail.com	Prof. Manu Sood 9418309695 soodm_67@yahoo.com	Prof. Rakesh Kumar
07-11-2023 Tuesday	Prof. Navneet Arora 9412307242 arorafme@ernet.iitr.in navneetroorkee@gmail.com	Prof. Navneet Arora 9412307242 arorafme@ernet.iitr.in navneetroorkee@gmail.com	MCQ	Dr. Amit Dua 9521752333 amit.dua@pilani.bits-pilani.ac.in
08-11-2023 Wednesday	Prof. M.N. Hoda 92120 22066 mca@bvicam.ac.in	Valedictory Prof. A.L. Sangal Prof. Dinesh		

Two-week online refresher course in Information Technology (October 26, 2023, to November 8, 2023) "Bridging Horizons: Integrating IT Innovations across Disciplines."

1	Dr. Mohit Gambhir	IIT, Jodhpur (Adjunct Faculty)	26-10-2023 Thursday	Inaugural Key note speaker
2	Prof. Vikram Singh Professor	Department of Computer Science and Engineering, Ch. Devi Lal University, Sirsa, Haryana	26-10-2023 Thursday	Cybercrimes and Indian cyberlaws
3	Dr. Sahil Raj Associate Professor	School of Management Studies, Punjabi University, Patiala	27-10-2023 Friday 10 – 11.30 11.30 - 1	Data Driven Decision Making
4	Prof. Preeti Tandon Professor	Computer Science & Engineering IIITDM, Jabalpur, M.P.	27-10-2023 Friday 2 – 3.30	Cross-pollination of ideas and solutions with AI
5	Dr. Pradeep Mittal	Department of Computer Sc. & Applications, K. U. Kurukshetra	27-10-2023 Friday 3.30 - 5	IPR: Intellectual Property Rights
6	Dr. Kawaljeet Singh, Director,	Computer Centre, Punjabi University, Patiala, Punjab	28-10-2023 Saturday 10 – 11.30 11.30 - 1	<ol style="list-style-type: none"> Experiences of working on plagiarizing Software Expounded Issues Concerning E-Content Development in Online Learning Mode in Context of NEP-2020
7	Dr. Yashwant Singh	Dept. of Computer Science & IT Central University, Jammu	28-10-2023 Saturday 2 – 3.30	Internet of Things (IoT) as an Emerging Technology and it's Applications
8	Mr. Deepak Bansal	Deputy Director General and State Informatics Officer Haryana	28-10-2023 Saturday 3.30 - 5	Advanced Services Delivery Mechanism in Next 5 Years
9	Dr. Anita Singroha	Department of Computer Engineering, Deenbandhu Chotu Ram University of Science and Technology, Murthal – Haryana	30-10-2023 Monday 10 – 11.30 11.30 - 1	<ol style="list-style-type: none"> Multidisciplinary aspects of Artificial intelligence Use cases of AI.
10	Dr. Pradeep Kumar USIC	Department of Instrumentation, K.U.Kurukshetra	30-10-2023 Monday 2 – 3.30 3.30 - 5	Digital Governance/e-Governance Power to Empower
11	Prof. Rajender Nath Professor	Department of Computer Sc. & Applications, K. U. Kurukshetra	31-10-2023 Tuesday 10 – 11.30	emerging technologies and impact on society
12	Dr. Kamlesh Dutta Associate Professor	Computer Science & Engineering Department, NIT, Hamirpur	31-10-2023 Tuesday 11.30 - 1	Multilingual approach to imparting Education in HEIs recommended by NEP 2020

13	Dr. Shiraz Khurana Associate Professor	Department of Computer Science and Engineering, Sharda School of Engineering & Technology, Sharda University.	31-10-2023 Tuesday 2 – 3.30	Augmented Reality Application Development using blippar/Unity				
14	Dr. Rajni Jain Principal Scientist	National Institute for Agricultural Economics Policy Research(NIAP), New Delhi	31-10-2023 Tuesday 3.30 – 5 pm	AI and IoT in Agriculture				
15	Mr. Sunil Dutt Sharma Chief Technology Officer	IBM Australia, 28 Sydney Avenue, Forrest, ACT 2603	01-11-2023 (10 TO 11.30) 01-11-2023 (11.30 TO 1)	Australia: Government Services-Integrating IT innovations				
16	Prof. Rakesh Kumar	Department of Computer Sc. & Applications, K. U. Kurukshetra	01-11-2023 2 – 3.30	Human Based Computation: Harnessing the Power of the Crowd				
17	Prof. Anil Mittal	University School of Management, K.U.Kurukshetra	01-11-2023 3.30 - 5	EVALUATION <table border="1"> <tr><td>Dr. (Ms) Monika</td></tr> <tr><td>Dr. Yogesh Kumar</td></tr> <tr><td>Dr. Bansode Pandurang Sidhappa</td></tr> <tr><td>Dr. Pradeep Kumar Sharma</td></tr> </table>	Dr. (Ms) Monika	Dr. Yogesh Kumar	Dr. Bansode Pandurang Sidhappa	Dr. Pradeep Kumar Sharma
Dr. (Ms) Monika								
Dr. Yogesh Kumar								
Dr. Bansode Pandurang Sidhappa								
Dr. Pradeep Kumar Sharma								
18	Prof. Anita Dua	Director, WSRC,,Kurukshetra University	02-11-2023 Thursday 10 – 11.30	NEP- multidisciplinary holistic education				
19	Prof. Bhagwan Singh	Department of Geophysics, Kurukshetra University,	02-11-2023 Thursday 11.30 - 1	Indian Space Programme				
20	Dr. Gaurav Gupta	Additional Director / Scientist 'E' Ministry of Electronics and Information Technology	02-11-2023 Thursday 2 – 3.30	Cyber UnSafe				
21	Prof. Rajender Nath	Department of Computer Sc. & Applications, K. U. Kurukshetra	02-11-2023 Thursday 3.30 - 5	EVALUATION <table border="1"> <tr><td>Mrs. Monika</td></tr> <tr><td>Dr. Jasvinder Singh</td></tr> <tr><td>Ms Paramjeet Kaur</td></tr> <tr><td>Ms Kuljit Kaur</td></tr> </table>	Mrs. Monika	Dr. Jasvinder Singh	Ms Paramjeet Kaur	Ms Kuljit Kaur
Mrs. Monika								
Dr. Jasvinder Singh								
Ms Paramjeet Kaur								
Ms Kuljit Kaur								
22	Prof. Mayank	H.O.D, Computer Science & Engineering Faculty of Engineering & Technology, Gurukul Kangri University, Haridwar.	03-11-2023(10 – 11.30) 04-11-2023 (10 – 11.30)	1. Innovations in Technologies 2. ChatGPT				
23	Dr. Mani Madhukar	Program Manager, Global University Programs, CSR for 11Academia, IBM In12dia Pvt. Ltd.	03-11-2023 (11.30 – 1) 04-11-2023 (11.30 – 1)	1. Blockchain for Enterprise 2. Cloud Computing				
24	Prof. Aman Sharma	Department of Computer Science, H. P. University, Shimla, Himachal Pradesh	03-11-2023 (2 – 3.30) 04-11-2023 (2 – 3.30)	1. Wariness in the digital world. 2. Referencing made easy with Mendeley.				

25	Prof. Pradeep Kumar	USIC	04-11-2023 (3.30 pm to 5 pm)	EVALUATION Dr. (Ms) Bharti Saneja Dr. (Ms) Bhawna Kaushik Mr. Ravinder Singh Dr. (Ms) Sweta
26	Prof. Manjula Chaudhary	Director Director, Centre for Distance and Online Education Kurukshetra University	06-11-2023	Ethics and Conduct in Educational Institutions
27	Prof. Anita Ganpati	Department of Computer Science, H. P. University, Shimla, Himachal Pradesh	06-11-2023 (11.30 – 1)	EVALUATION Dr. (Ms) Gouri Sharma Dr. Arka Chaudhuri Dr. Sovan Samanta Dr. Sanjib Kumar Nayak
28	Prof. Manu Sood	Department of Computer Science, H. P. University, Shimla, Himachal Pradesh	06-11-2023 (2 to 3.30 pm))	Recent trends in ICT
29	Prof. Rakesh Kumar	Department of Computer Sc. & Applications, K. U. Kurukshetra	06-11-2023 (3.30 to 5 pm))	EVALUATION Mrs. Saroj Junghare Mrs. Geetanajali Dr. (Ms) Gursharan Kaur Dr. Sandeep Kumar
30	Prof. Navneet Arora	Mechanical and Industrial Engg. Deptt. IITRoorkee , Uttarakhand	07-11-2023 10 – 11.30 11.30 - 1	Excellence in Teaching And expectations from a teacher.
31	MCQ		1 to 3.30	
32	Dr. Amit Dua	Department of Computer Science & Information Systems, Birla Institute of Technology & Science, Pilani- 333031, Rajasthan. India.	07-11-2023 3.30 - 5	Zero-Knowledge Proofs: The Future of Authentication
33	Prof. .M.N.Hoda	Director Bharati Vidyapeeth's Institute of Computer Applications &Management,(BVICAM), New Delhi	08-11-23 10 am to 11.30 am	The Art of Writing Quality Research Papers for High Impact Journal

**BRIDGING HORIZONS: INTEGRATING IT INNOVATIONS ACROSS
DISCIPLINES: HIGHLIGHTS FROM THE UGC-SPONSORED
ONLINE REFRESHER COURSE 2023**

A Comprehensive Refresher Course Report

Submitted by: Prof. Shuchita Upadhyaya (Course Coordinator)

Dr. Kanwal Garg (Course Co-Coordinator)

Inauguration, 1st day (October 26, 2023)

Kurukshetra, India- the UGC-Malaviya Mission Teacher Training Centre (formerly known as the UGC-Human Resource Development Centre) , in collaboration with the Department of Computer Science & Applications at Kurukshetra University, initiated an inspiring journey with the launch of a 2-WEEK ONLINE MULTIDISCIPLINARY REFRESHER COURSE IN INFORMATION TECHNOLOGY. Sponsored by the UGC, this immersive course, held from October 26th to November 8th, 2023, commenced with a grand inauguration on October 26th, 2023.

In a momentous opening session, Dr. Kanwal Garg, co-coordinator of this online refresher course, outlined the course theme. Prof. Preeti Jain, Director of UGC MMTTC Kurukshetra University, elucidated the mission of the UGC Malaviya Mission Teacher Training Center at Kurukshetra University. Prof. Shuchita Upadhyaya, the course coordinator, delved into the theme of the online refresher course and introduced the esteemed Chief Guest, Prof. K. K. Aggarwal.

Professor K.K. Aggarwal, an accomplished academic, served as the Founder Vice-Chancellor of Guru Gobind Singh Indraprastha University, Delhi, following his distinguished 27-year tenure at NIT, Kurukshetra. His progression led him to the role of Pro Vice-Chancellor at Guru Jambheshwar University before assuming the position of Founder Vice-Chancellor at Guru Gobind Singh Indraprastha University for a decade. Notably, his leadership extended to the National Board of Accreditation (NBA). His contributions to education earned him esteemed titles, including President roles at IETE and the Computer Society of India, among others. He holds the position of Academy Professor at AcSIR, and his publications and global recognition are extensive.

Prof. K. K. Aggarwal, the Chief Guest, illuminated the audience with his wisdom on multidisciplinary collaboration. He emphasized the immense opportunities arising from diverse

expertise, citing the example of an individual proficient in both electrical engineering and mathematics who can translate abstract concepts like Boolean algebra into tangible electrical signals. Prof. Aggarwal redefined IT, stating that it is not merely a subject but a tool designed to enhance the quality of users' lives. He discussed the dual nature of technology, delving into the positive aspects of Artificial Intelligence, ChatGPT, and mobile phones while cautioning against their potential negatives. His speech urged the audience to become leaders in technology, not slaves. He coined the phrase "CS (Computer Science) requires CS (Common Sense)" and advocated for a fusion of mathematics, philosophy, and innovation in IT.

Subsequently, Dr. Mohit Gambhir, as the Keynote speaker, highlighted the Smart India Hackathon's global impact in addressing coding challenges across India. Dr. Mohit Gambhir, President & CEO of Verispire Corp., USA, and an Adjunct Faculty at IIT Jodhpur, is a stalwart in fostering innovation and intellectual property culture. As the former founder and director of India's Innovation Cell, he led groundbreaking initiatives like the Smart India Hackathon, Toy Hackathon, and international events like the Singapore-India Hackathon. His influence extended to establishing 8000+ Institutions and Innovation Councils, framing national policies, and launching impactful projects like KAPILA. His global impact earned him prestigious awards, including the HUGS award from Harvard University Global Systems and recognition as a speaker at the World Book of Records event, acknowledging his significant contributions to global innovation and entrepreneurship.

Dr. Mohit Gambhir stressed the indispensable role of IT in every field, advocating for a two-way communication approach between teachers and students. Dr. Gambhir introduced the concept of 'no code AI,' highlighting the power of multidisciplinary collaboration to revolutionize the world. He passionately spoke about the Smart India HACKATHON program, a relentless 36-hour event fostering innovation.

Prof. Anil Vashisth, the Guest of Honor, Dean, of Academic Affairs, and Dean, of Sciences, at Kurukshetra University, highlighted the potential of interdisciplinary collaboration in amplifying research endeavors. He advocated for teachers to embrace IT and research, acknowledging both its positive and negative impacts. Prof. Anil Vashisth also discussed the National Education Policy (NEP), emphasizing the need for a balanced approach to maintain efficiency while integrating IT into education. Prof. Rakesh Kumar, Chairperson of the Department of Computer Science & Applications, K.U.K, presented the vote of thanks. The inauguration ceremony concluded on an inspiring note, igniting the passion for multidisciplinary collaboration, innovation, and responsible technology use among the

participants. As the course unfolds, it is poised to equip these enthusiastic learners with the knowledge and skills to shape a technologically advanced and socially responsible future. The participants, including faculties and students from diverse backgrounds, actively engaged with the esteemed guests, fostering a collaborative spirit that will undoubtedly enhance their understanding and expertise in the realm of Information Technology.

The evening session featured Prof. Vikram Singh, a Computer Science and Engineering Professor at CDLU Sirsa, with 31 years of teaching expertise and multiple administrative roles at the university. Prof. Singh's extensive experience includes leadership positions in academic, research, sports, and administrative departments. He boasts over 140 publications across journals, conferences, and books, and actively contributes to the editorial and advisory boards of several research journals.

Prof. Vikram Singh, delved into the dark alleys of cybercrime, educating the attendees about various cyber threats like phishing, website hacking, salami slicing, and Indian cyber laws. He shared real-world instances, including the notorious Nigerian and Aadhaar frauds orchestrated by individuals like Rachna Khaire. Prof. Singh demystified Ransomware, shedding light on this nefarious cyber-attack. The inaugural session witnessed engaging discussions on the evolving landscape of Information Technology, emphasizing its multidisciplinary applications.



2ND DAY (October 27, 2023)

Report: UGC-Malaviya Mission Teacher Training Centre Empowers Educators with Data-Driven Decision-Making Insights, 2nd day

UGC-Malaviya Mission Teacher Training Centre's 2-week ONLINE MULTIDISCIPLINARY REFRESHER COURSE IN INFORMATION TECHNOLOGY continued its second day with a series of enlightening sessions led by three esteemed speakers.

Morning Session 1: Data-Driven Decision Making (10:00 AM - 11:30 AM)

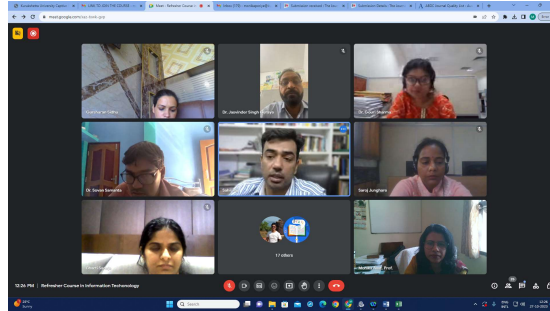
The day commenced with a compelling session by Dr. Sahil Raj, from Punjabi University, Patiala. Dr. Sahil Raj, an Associate Professor at Punjabi University's SMS (School of Management Studies), holds a Ph.D. in Information Systems, a Master's in Business Administration, and a Bachelor's in Engineering. With 20 years of professional experience, including 4 years in industry and 16 years in teaching, he specializes in Unstructured Data Analytics, Business Analytics, and Information Systems. Dr. Raj has published numerous books and contributed to global editions on Management Information Systems and related subjects. His extensive involvement in international projects and research, including being a Principal Investigator for a major project on Tourism Analytics funded by ICSSR, showcases his expertise in the field.

Dr. Sahil Raj shed light on the paramount importance of data in contemporary decision-making processes. Dr. Raj emphasized the transformation of raw data into actionable insights, guiding strategic business decisions in harmony with organizational objectives. He delineated the evolving nature of data and elucidated the distinctions between data and information. Participants gained invaluable insights into Transaction Processing Systems (TPS) and the diverse types of data, including structured and unstructured data. Dr. Raj provided practical examples, offering a real-world context to theoretical concepts.



Afternoon Session 2: Effective Research Practices (11:30 AM - 1:00 PM)

In the subsequent session, Dr. Sahil Raj delved into effective research practices, guiding participants through the intricacies of crafting application-oriented research questions and navigating the publication process. Dr. Raj underscored the significance of engaging introductions and thorough literature surveys in research papers. Participants were encouraged to explore emerging topics, utilize resources like Sci-Hub, and implement research using programming languages like R and Python.

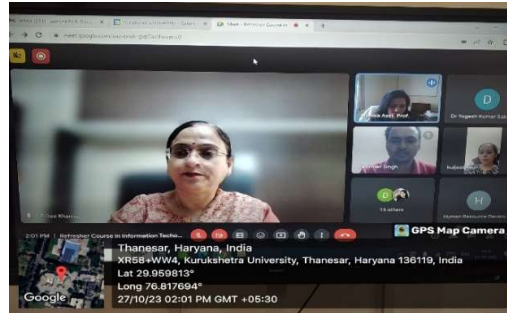


Afternoon Session 3: Cross-Pollination of Ideas and Solutions with AI (2:00 PM - 3:30 PM)

Dr. Pritee Khanna, a distinguished professor from PDPM Indian Institute of Information Technology, Design, and Manufacturing, Jabalpur, India, led an enlightening session on "Cross-Pollination of Ideas and Solutions with AI." Dr. Pritee Khanna, a completed her Master's and PhD at Kurukshetra University. Her expertise spans Image Processing, Computer Vision, and Computer-Aided Product Design. Recognized with UGC and JSPS fellowships, she's a senior member of IEEE and life member of IAENG, with over 100 publications in esteemed journals and conferences. She's led government, industry, and international projects, including developing a biometric authentication device for BRNS, Govt of India. Her recent accomplishment involves completing the Asi@Connect Project worth Euro 124,513. She's currently engaged in projects under Indo-Japan and DRDO, and she's an Associate Editor for reputable journals like Engineering Applications of Artificial Intelligence and SN Computer Science. Dr. Khanna's leadership extends to organizing conferences, workshops, and editing journal publications, along with her roles in Women Cell and Placement Cell at IIITDM Jabalpur.

Dr. Khanna passionately delved into the profound implications of Artificial Intelligence (AI) in contemporary society. She elucidated complex AI concepts, including natural language processing, image processing, and machine vision, with clarity and real-world examples. Dr. Khanna shared her invaluable experience in AI projects, highlighting its pivotal role in the successful soft landing of Chandrayaan-3. The session distinguished deep learning from machine learning, showcasing their practical applications and transformative potential in end-to-end learning processes. Dr. Khanna's engaging delivery and insightful examples provided attendees with a comprehensive understanding of AI's impact, emphasizing its relevance to daily life and societal advancement.

The sessions, marked by engaging discussions and interactive participation, left the participants enlightened and inspired, equipped with profound insights into data-driven decision-making and the transformative power of Artificial Intelligence.



Afternoon Session 4: Intellectual Property Rights and Innovation (3:30 PM – 5:00 PM)

Dr. Pradeep Kumar Mittal, an Associate Professor at Kurukshetra University's Department of Computer Science & Applications, led another enlightening session in the evening on the topic “Intellectual Property Rights”. Dr. Pradeep Kumar Mittal boasts an extensive academic background with a Ph.D. in Computer Science & Applications, backed by a dual Master's in Computer Science and Statistics. With 24 years of teaching prowess, he specializes in an array of subjects including Algorithms, Data Structures, and Programming. His achievements include excelling in NET and SET exams, receiving recognition from esteemed institutions, and attending professional development programs. Dr. Mittal's contributions extend to organizing workshops, chairing sessions at conferences, and publishing over 75 papers in prestigious journals. He holds patents with the Government of India, mentors Ph.D. and M.Tech. scholars, and actively participates in academic committees. His research interests span diverse areas like Optimization, Cloud Computing, and Machine Learning, cementing his stature as a seasoned academic and a valuable asset to the academic community.

In his illuminating session, Dr. Pradeep Mittal provided a concise overview of Intellectual Property Rights (IPR), emphasizing their vital role in encouraging innovation. He covered patents, copyrights, trademarks, trade secrets, industrial designs, and plant breeders' rights, highlighting their significance in protecting creators' intellectual creations. Dr. Mittal emphasized the legal consequences for IPR violations, stressing the importance of upholding these rights. Attendees gained a clear understanding of IPR's impact on innovation and the necessity of respecting these rights in the creative and commercial spheres.

3rd DAY (October 28, 2023)

UGC-Malaviya Mission Teacher Training Centre Online IT Refresher Course: Day 3 Report.

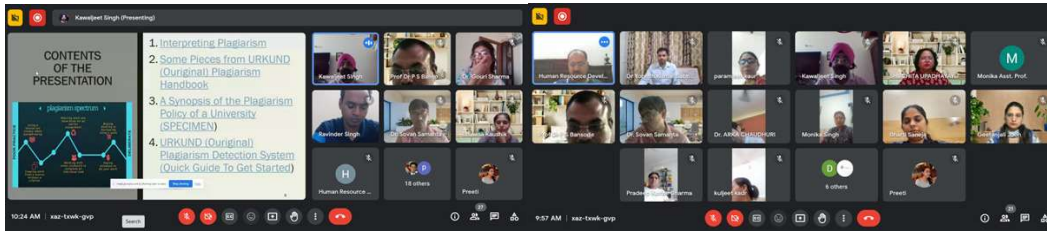
The third day of the UGC-Malaviya Mission Teacher Training Centre's refresher course was marked by insightful sessions from three resource persons, focused on education technology and governance frameworks, showcasing a commitment to educational excellence and innovation.

Morning Session (10:00 AM - 11:30 AM): "Computer and Telecommunication Technologies for Assessment Design and Implementation".

Resource Person: Dr. Kawaljeet Singh

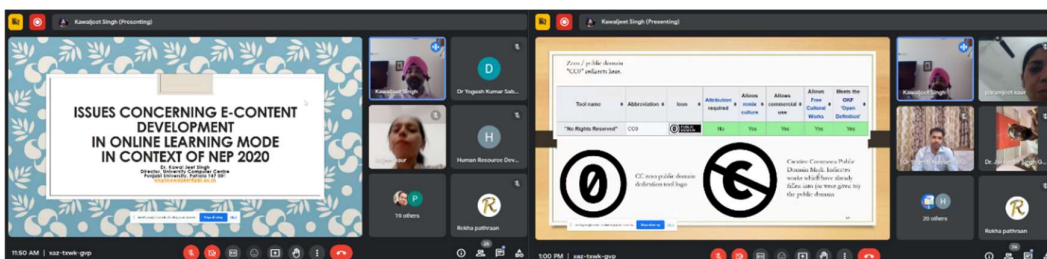
The resource person for morning session was Dr. Kawaljeet Singh. Dr. Kawaljeet is an accomplished professional managing diverse responsibilities at Punjabi University Patiala's Computer Centre. His expertise spans network management, cyber security, ERP implementation, entrance test administration, and website management. He has overseen e-Waste Management, eOffice implementation, and the NAD project in the University. With a rich administrative background, he served as a Professor & Head, held additional charges in various departments, and chaired committees at Guru Nanak Dev University and Punjab Technical University. Additionally, he's an esteemed academic, guiding numerous research scholars and publishing prolifically. His interests encompass Simulation & Modeling, Databases, Computer Science Theory, and Operating Systems, reflecting his 34+ years of teaching, administration, and research experience.

Dr. Kawaljeet Singh delved deep into the intricate issue of plagiarism in his first session in the morning. Dr. Singh's expertise illuminated the ethical concerns surrounding plagiarism in academic and professional spheres. Participants gained a profound understanding of the unethical use of someone else's work and the consequences of plagiarism. Advanced plagiarism detection tools like Urkund and Turnitin were introduced, emphasizing their pivotal role in maintaining academic integrity. Strategies for prevention, adherence to plagiarism policies, and the importance of proper attribution were discussed extensively, equipping participants with invaluable tools to combat plagiarism effectively.



Afternoon Session (11:30 AM - 1:00 PM): "Issues concerning E-Content development in online learning mode in context of NEP-2020".

Dr. Kawaljeet Singh's afternoon session provided a comprehensive overview of the National Education Policy (NEP) 2020 and its implications for online learning. The session began with an analysis of NEP 2020, focusing on its transformative initiatives in higher education, open and distance learning, and the integration of technology. Dr. Singh detailed the UGC regulations related to online and distance education, emphasizing the standards set for quality assurance. The discussion extended to the life cycle approach in education, advocating for a tailored educational experience catering to learners' diverse needs. E-content development challenges were dissected, including the creation, dissemination, and evaluation of digital educational resources. Dr. Singh introduced the ADDIE model, providing a structured framework for developing effective e-content. The session also highlighted open educational resources (OER) and stressed the importance of adhering to guidelines and quality standards in their creation.



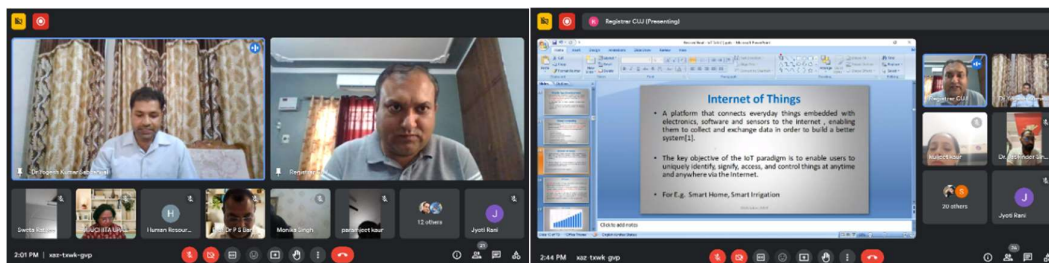
Afternoon Session (2:00 PM - 3:30 PM): "Internet of Things as an Emerging Technology and Its Applications"

Resource person: Dr. Yashwant Singh

Dr. Yashwant Singh's enlightening session in the afternoon explored the profound impact of the Internet of Things (IoT) on various sectors. Dr. Yashwant Singh, Head & Professor at Central University of Jammu, specializes in Internet of Things, Wireless Sensor Networks, and Cyber Physical Systems. He has published extensively in international journals and

conferences. His notable achievements include supervising research projects, guiding Ph.D. and M.Tech. students, securing substantial research grants and contributing significantly to academic conferences. Additionally, he holds various administrative roles, including Registrar (acting) and numerous coordination responsibilities within the university and beyond.

The session commenced with an overview of the evolution of computer science disciplines, emphasizing IoT's pivotal role. Participants gained insights into the transition from traditional wireless sensor networks to the intricate IoT ecosystem. Dr. Singh elucidated the vast scope of data collection facilitated by IoT devices and underscored the importance of advanced technologies like artificial intelligence (AI) and machine learning (ML) for efficient data analysis. The discussion delved into the historical evolution of industries, categorizing them into different stages, leading to the current era of cyber-physical systems. The societal evolution, transitioning from "Society 1.0" to the imminent "Society 5.0," was explored, showcasing IoT's role in enhancing various aspects of daily life. The session culminated with an overview of essential skills required by 2025, ranging from AI and ML to blockchain technology and cybersecurity.

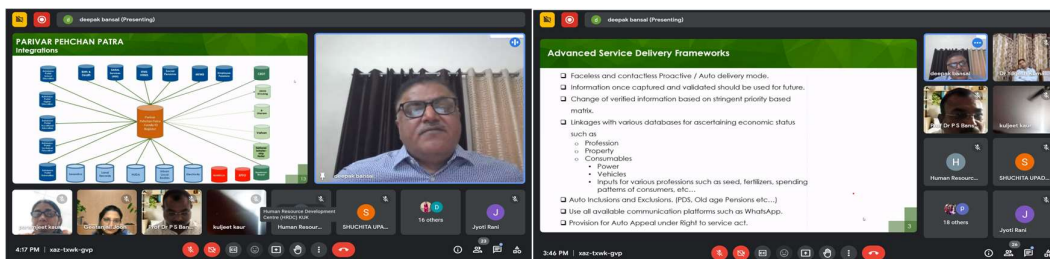


Evening Session (3:30 PM - 5:00 PM): "Advanced Services Delivery Mechanism in Next 5 Years"

Resource Person: Mr. Deepak Bansal

Dr. Deepak Bansal's thought-provoking evening presentation addressed the shortcomings in existing e-governance frameworks and proposed an innovative "Advanced Services Delivery Mechanism" for the next five years. Mr. Deepak Bansal, currently serving as Deputy Director General at the National Informatics Center, Ministry of Information Technology, Government of India, oversees various IT solutions and major projects in Haryana. He holds a Master's in Computer Application and has 36 years of extensive experience in IT development and implementation. Responsible for numerous key initiatives, including Parivar Pehchaan Patra

and SARAL Portal, he has received 82 national and state-level awards for his contributions to citizen-centric services and digital governance. Dr. Bansal meticulously outlined the flaws in current e-governance systems, including repetitive data capture and reliance on outdated technologies. He introduced a forward-thinking framework emphasizing faceless, contactless, and proactive service delivery. The proposed mechanism incorporated one-time data collection, seamless integration with diverse databases, automatic information processing, and utilization of communication platforms like WhatsApp for citizen engagement. Dr. Bansal spotlighted the successful implementation of this framework through the Parivar Pehchaan Patra (PPP), a dynamic database containing socio-economic details of families. Verification levels and benefits were elucidated, emphasizing proactive service delivery, reduced paperwork, and streamlined governmental processes. Integration with various systems such as SARAL, IFMS HRMS, and Urban-Local Bodies showcased the framework's adaptability and efficiency.



Conclusion:

The third day of the UGC-Malaviya Mission Teacher Training Centre's online IT refresher course was marked by intellectually stimulating sessions, empowering participants with in-depth knowledge and practical insights. These sessions not only heightened awareness but also equipped educators with essential skills and tools to navigate the evolving landscape of education technology and governance frameworks. The UGC-Malaviya Mission Teacher Training Centre continues to uphold its commitment to excellence, fostering a community dedicated to educational innovation and ethical practices.

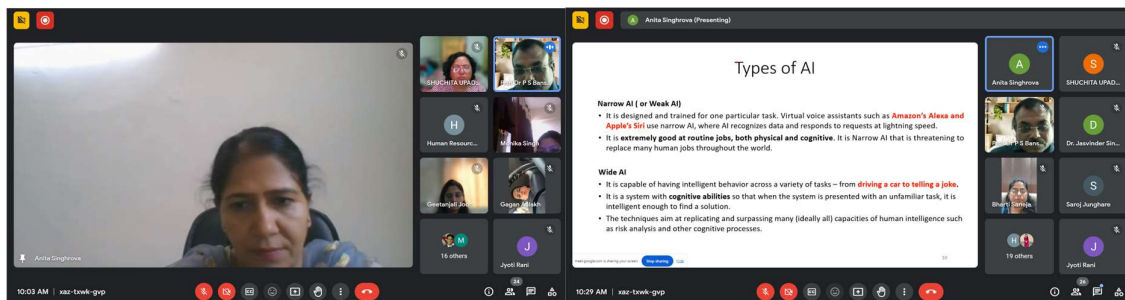
4th DAY (October 30, 2023)

UGC-Malaviya Mission Teacher Training Centre Online IT Refresher Course: Day 4 Report.

The course focused on two vital areas of technology - Artificial Intelligence (AI) and Digital Governance. Educators and professionals gathered to enhance their understanding of these cutting-edge fields.

Morning Session (10:00 AM - 11:30 AM): Multidisciplinary Aspects of AI

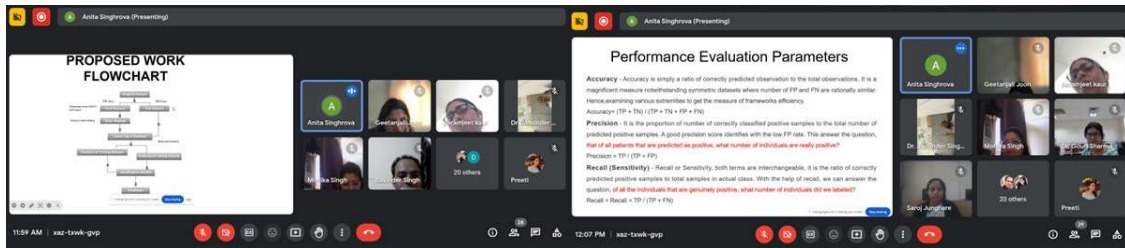
Led by Prof. Anita Singhrova, the morning session provided a deep dive into the diverse facets of Artificial Intelligence (AI). Dr. Anita Singhrova is a Professor in the Department of Computer Science and Engineering at Deenbandhu Chhotu Ram University of Science and Technology. With a Ph.D. from GGS Indraprastha University and an M.E. from Punjab Engineering College, she boasts 27 years of teaching experience and has been a pivotal figure in various academic roles at the university. Her expertise spans network security, mobile computing, IoT, wireless networks, and Artificial Intelligence, reflected in over 60 research contributions in esteemed national and international journals and conferences. Notably, she's been honored with the National Haryana Education Award in 2015 for her exceptional work in Information Technology and Computer Science. Dr. Singhrova has also chaired technical sessions in conferences and delivered expert lectures in numerous Faculty Development Programs and Refresher courses. Prof. Singhrova covered the types and applications of AI, highlighting its intricate relationship with Machine Learning (ML) and Deep Learning (DL). Attendees gained insights into AI's applications in healthcare, education, finance, and space exploration. The session emphasized the interconnected nature of AI, ML, and DL, showcasing their pivotal roles in various sectors.



Afternoon Session (11:30 AM – 1:00 PM): Machine Learning Algorithms and Classifiers

Prof. Anita Singhrova continued the discourse, focusing on machine learning algorithms and classifiers. Participants explored decision trees, random forests, support vector machines, k-nearest neighbors, naive bayes, and logistic regression. Prof. Singhrova highlighted the importance of accuracy, precision, and recall as evaluation metrics, offering valuable insights

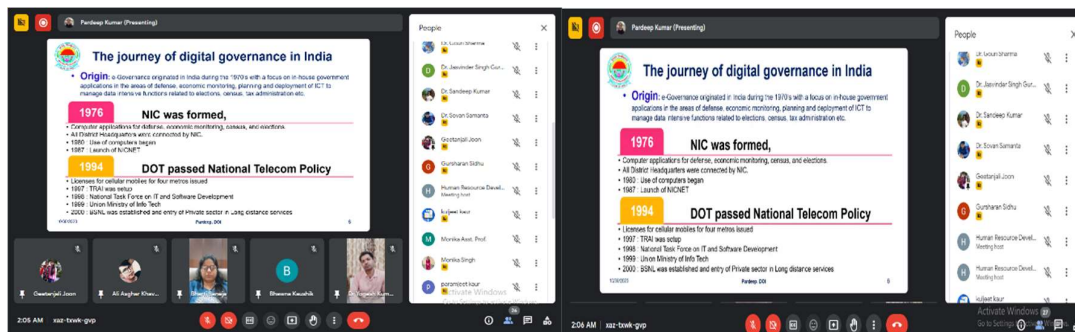
into their practical applications in diverse datasets and tasks. The session provided a nuanced understanding of these methods, essential for educators in the digital age.



Afternoon Session (2:00 PM – 3:30 PM): Digital Governance

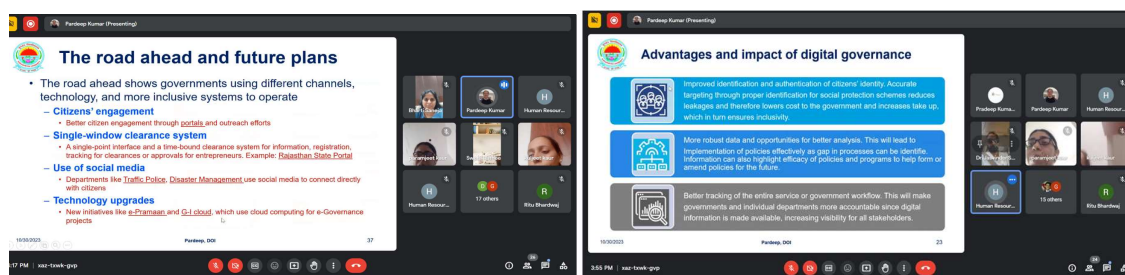
The following afternoon session from 2 pm to 3.30 pm was led by Prof. Pradeep Kumar, presenting "Power to Empower," offering insights into the realm of digital governance. Professor Pradeep Kumar, with an academic background including M.Sc., M.Phil. in Physics, and a Ph.D. in Engineering, is an esteemed faculty member at the Department of Instrumentation, Kurukshetra University. His expertise lies in Reliability Engineering, System Design, Embedded Systems, and IT and Computer Networks. Prof. Kumar has contributed significantly to both national and international journals, while also mentoring M.Tech students in their project work. His administrative roles have been extensive, serving as a nodal officer for RUSA, coordinator for various university projects, and holding positions like Director of Distance Education and I.T. Cell, and serving as a coordinator for TEQIP Phase-I.

Dr. Pradeep Kumar traced the historical evolution of digital governance in India, emphasizing key milestones such as the formation of the National Informatics Centre (NIC) and the National E-Governance Plan. He discussed the advantages of digital governance, including improved identification, robust data analysis, and enhanced tracking of government services. Challenges such as privacy and cybersecurity were addressed, emphasizing the need for public-private partnerships for successful implementation.



Session: 3:30 PM to 5:00 PM: Digital Governance contd.

Dr. Pardeep Kumar discussed the advantages and impact of Digital Governance. He outlined the journey of Digital Governance in India, highlighting initiatives such as PMJDY, Aadhar, and improved mobile connectivity. Success factors including cost reduction and ease of doing business were explored, alongside challenges such as privacy concerns. The session concluded with an engaging Q&A session, enabling participants to interact directly with the speaker.



Conclusion:

The UGC-Malaviya Mission Teacher Training Centre's refresher course provided a comprehensive exploration of AI and Digital Governance. Educators and professionals gained valuable insights into these transformative technologies. The event emphasized the interconnected nature of AI, ML, and DL, as well as the critical role of Digital Governance in India's progress. The engaging sessions and interactive discussions equipped participants with practical knowledge, empowering them to incorporate these advancements into their educational practices.

5th DAY (October 31, 2023)

UGC-Malaviya Mission Teacher Training Centre 2-Week Online Multidisciplinary Refresher Course in Information Technology, 5th day

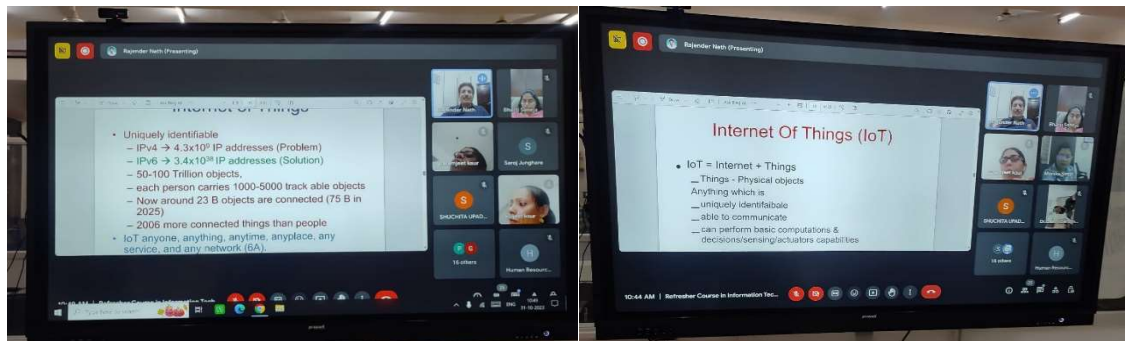
The UGC-Malaviya Mission Teacher Training Centre's 2-Week Online Multidisciplinary Refresher Course in Information Technology continued its enriching journey on its fifth day, delving into a diverse range of topics, by four resource persons, that provided profound insights into emerging technologies, multilingual education challenges, augmented reality applications, and modern agricultural practices. The course held to empower educators with cutting-edge knowledge and practical insights to enhance educational methodologies and agricultural practices in India.

Morning Session (10:00 AM to 11:30 AM): Emerging Technology and Impact on Society

Resource Person: Dr. Rajender Nath

The morning session of day 5 was led by Prof. Rajender Nath. Prof. Rajender Nath is a Floating Faculty Professor at Kurukshetra University's Department of Computer Science & Applications. With a Ph.D. in Software Reusability, he boasts over 35 years of teaching experience, actively contributing to research with over 115 published papers. His guidance has steered 15 Ph.D. candidates and aided around 300 students with their theses and projects. Dr. Rajender Nath has showcased his expertise through numerous talks, chaired technical sessions at conferences, and honed interests in diverse areas like Cloud Computing, Internet of Things, and more. He has received recognition from IIT Bombay and actively contributes to projects under MHRD, notably as the central coordinator for the Spoken Tutorial Project. His administrative roles span departmental leadership, university committees, and editorial responsibilities for academic journals. Additionally, he holds esteemed memberships, such as a lifetime association with the Computer Society of India.

Dr. Rajender Nath's session commenced by tracing the evolutionary journey of computing technology, spanning from the first generation to the current fifth generation. He elaborated on the remarkable advancements in computing, including the evolution of computer sizes from massive buildings to nano-scale devices. Dr. Nath provided insights into world-leading supercomputers, emphasizing the significance of Frontier (USA) and AIRAWAT (India) in the global technological landscape. The session also delved into the transformative potential of the Internet of Things (IoT) and the integration of robotics and artificial intelligence. Dr. Nath concluded with a thought-provoking message: "Technology is a useful servant but a dangerous master," emphasizing the ethical responsibility associated with technological progress.

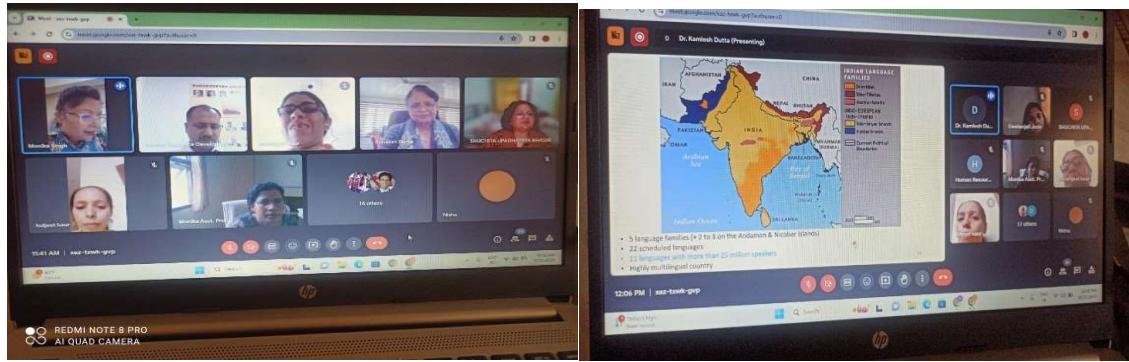


Morning Session (11:30 AM to 1:00 PM): Challenges and Opportunities of Multilingual Education under NEP 2020

Resource Person: Dr. Kamlesh Dutta

Dr. Kamlesh Dutta, an Associate Professor in NIT Hamirpur's Computer Science & Engineering Department, boasts a rich academic background from prestigious institutes like Vladimir State Technical University, IIT Delhi, and Guru Gobind Singh Indraprastha University. With over a decade of teaching experience, she specializes in Natural Language Processing, Information Security, and Software Engineering, evidenced by her extensive research contribution of over 35 SCI and SCOPUS indexed journal papers and 30 conference presentations. Her mentorship has steered several Ph.D. and M.Tech. scholars to successful research outcomes, supervising eight Ph.D. candidates. Dr. Dutta's expertise extends to diverse projects funded by various agencies, particularly in mobile network security and language processing domains. She actively enriches academia by organizing events on groundbreaking topics like Artificial Intelligence, Cloud Computing, and Networking. Her international exposure includes training programs in Singapore and Australia, along with paper presentations across South Asian countries and Europe. Dr. Dutta's achievements include accolades for contributions to the Cisco Networking Academy Program, multiple best paper awards, and recognition for innovation and accreditation efforts. Her consultancy services, notably for initiatives like IPV6 Consultancy Services for RINL, and Visakhapatnam Steel Plant, underline her versatility and dedication in the field.

Dr. Kamlesh Dutta's presentation focused on the intricate challenges of implementing multilingual education in India. She highlighted the complexities of linguistic diversity in classrooms, emphasizing the need for teachers to be proficient in multiple languages. Dr. Dutta discussed the advantages of education in the mother tongue, instilling pride in one's language and culture. She stressed the critical role of multilingualism in India's global competitiveness, advocating for accelerated research using AI-based technology to create inclusive and culturally sensitive educational content.

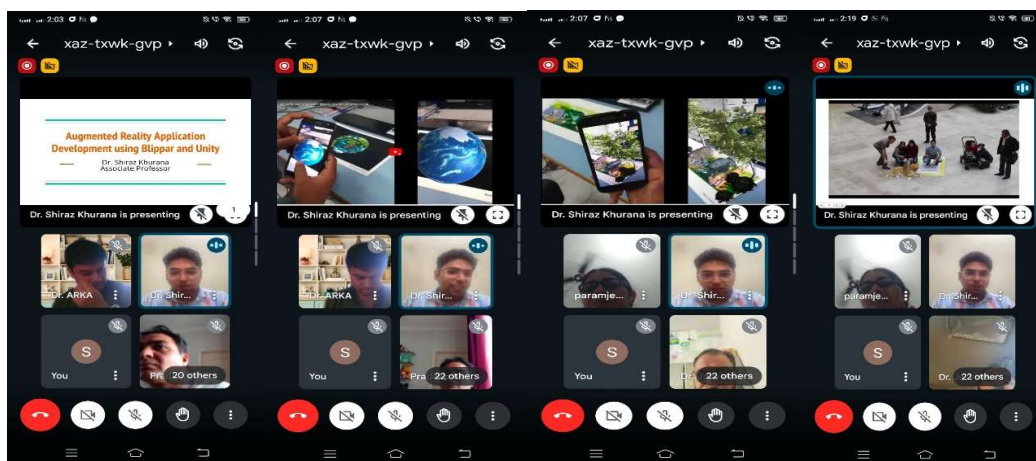


Afternoon Session (2:00 PM to 3:30 PM): Augmented Reality Application Development

Resource Person: Dr. Shiraz Khurana

Dr. Shiraz Khurana is working as an Associate Professor at Sharda University. He is having more than 12 years of teaching experience both India and Abroad. He is actively working as emerging technologies such as virtual reality, augmented reality, and computer vision. He has guided multiple projects for various MNCs across the world. He has got good hands-on experience in working with different tools in computer science such as: Unity, Selenium. He has delivered more than 15 expert lectures in AICTE Sponsored STTP, FDP at eminent universities and institutes. He has published more than 13 research paper and 7 patents (5 National and 2 International). He was the mentor of winning team of Smart India Hackathon in 2017 and 2020.

Dr. Shiraz Khurana's session demystified the world of Augmented Reality (AR), providing a comprehensive overview of its history, practical applications, and development tools. The session explored the vast potential of AR in various fields, from education to healthcare, gaming, and marketing. Dr. Khurana demonstrated the application development process using platforms like Blipper and Unity, showcasing the seamless integration of digital and physical worlds. Participants engaged in hands-on activities, gaining practical insights into creating immersive AR experiences.



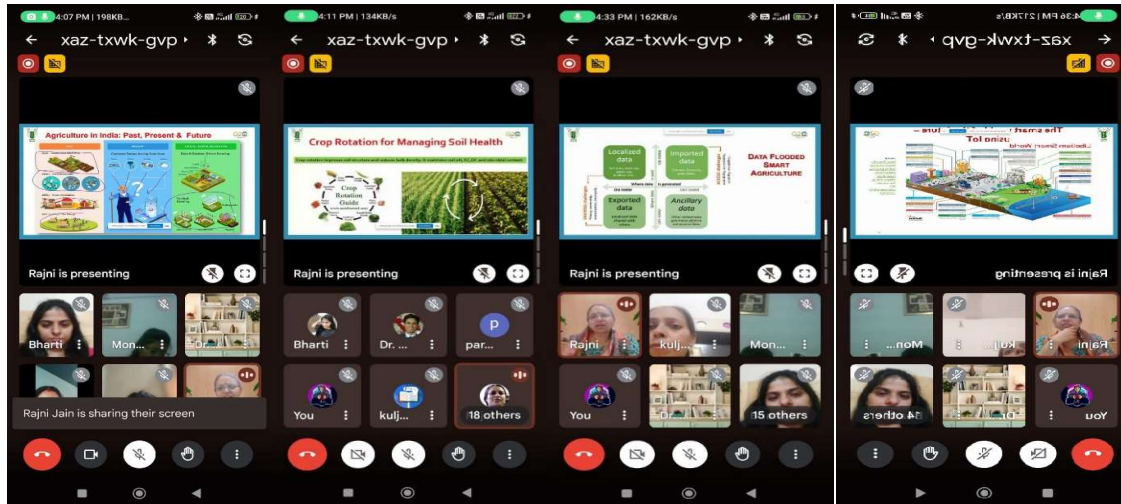
Afternoon Session (3:30 PM to 5:00 PM): Indian Council of Agricultural Research (ICAR) and Modern Agricultural Practices

Resource Person: Ms. Rajni

Dr. Rajni Jain is a Principal Scientist at the National Centre for Agricultural Economics and Policy Research (NCAP), affiliated with the ICAR in Delhi, India. Her academic journey includes a Ph.D. in Computer Science from Jawaharlal Nehru University and an M.Sc. in Computer Application, where she earned a gold medal for academic excellence. With a background in Physics Hons. from Hansraj College, Delhi University, she joined NIAP as a Scientist in 1996 and currently serves as a Principal Scientist. Dr. Jain's significant contributions as an agricultural researcher span methodologies for optimal crop plans, data management frameworks for farmer surveys, decision support systems, and information system design. She manages IT needs at ICAR-NIAP and is an esteemed faculty member at the ICARIARI, guiding M.Sc. and Ph.D. students in Computer Application. Her research interests encompass data mining applications, decision support systems in agriculture, crop planning models, and agricultural productivity. She has conducted numerous training programs for capacity development in the National Agricultural Research system and has a prolific record of contributions to national and international journals, conferences, workshops, and seminars.

Ms. Rajni's session illuminated the transformative role of the Indian Council of Agricultural Research (ICAR) in addressing urbanization challenges in agriculture. The discussion delved into the integration of Information and Communication Technology (ICT), the Internet of Things (IoT), and Artificial Intelligence (AI) in modern agricultural practices. Ms. Rajni highlighted precision farming techniques, emphasizing the use of sensors, drones, and data analytics for data-driven decision-making. The session also explored innovative agricultural

practices like hydroponics and aeroponics, demonstrating sustainable alternatives for crop cultivation. Ms. Rajni emphasized the significance of social media platforms and mobile applications like Plantix in disseminating agricultural knowledge and fostering community engagement among farmers.



Conclusion:

The 2-Week Online Multidisciplinary Refresher Course in Information Technology concluded its fifth day with an enriching and informative series of sessions. Participants gained in-depth knowledge about emerging technologies, multilingual education challenges, augmented reality application development, and modern agricultural practices. The course not only expanded the participants' understanding of these topics but also equipped them with practical skills and strategies to implement these insights in their educational and agricultural contexts. The event highlighted the importance of continuous learning and innovative approaches in the ever-evolving landscape of technology and education.

6th DAY (November 1, 2023)

UGC-Malaviya Mission Teacher Training Centre's 2-Week Online Multidisciplinary Refresher Course In Information Technology, 6th Day

The UGC-Malaviya Mission Teacher Training Centre successfully continued its highly anticipated 2-week online refresher course in Information Technology (IT) on November 1, 2023. The event showcased talks from two eminent resource persons, which provided an enlightening exploration of Information and Communication Technology (ICT) innovations,

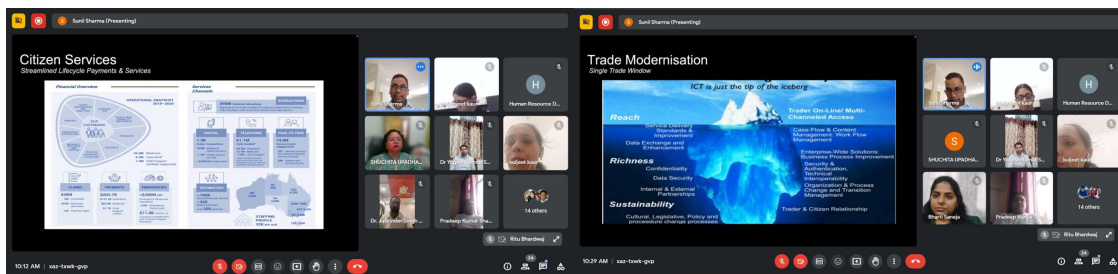
Human-based Computation, and the pivotal role of Information Technology in decision-making processes.

Morning Session (10:00 AM - 11:30 AM): Government Services – Integrating ICT Innovations

Resource Person: Mr. Sunil Dutt Sharma

Mr. Sunil Dutt Sharma holds the position of Chief Technology Officer (CTO) for National Security at IBM, offering strategic counsel and steering technological directives for federal agencies in Australia's national security domain. His role involves guiding these agencies to align technology with their strategic objectives, emphasizing the value derived from technological innovation across diverse domains such as hybrid cloud, cybersecurity, data analytics, AI, integration, supply chain optimization, and enhancing customer experiences. A distinguished alumnus of KU, Sunil graduated as the topper from the 1987 MCA batch. With three decades of residence in Australia, he boasts extensive expertise in account management, strategic planning, as well as sales and business development.

Mr. Sunil Dutt delivered a captivating session on "Government Services – Integrating ICT Innovations." He provided in-depth insights into Australia's myGov platform, emphasizing its user-friendly design and robust security features. Participants gained valuable knowledge about myGov's role as a unified platform for essential government services, including healthcare, education, and trade modernization. Mr. Sharma addressed intricate aspects of ICT, including data connectivity and cybersecurity measures in tax collection processes.

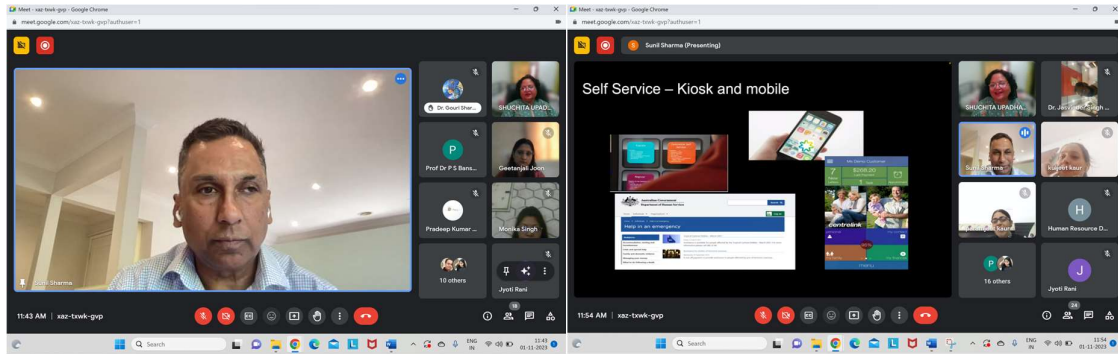


Afternoon Session (11:30 AM - 1:00 PM): Govt. Services Integrating ICT Innovations

Resource Person: Mr. Sunil Dutt Sharma

The second session again featured Mr. Sunil Dutt Sharma, who delved into disaster management, cognitive processing, border management, and the challenges associated with biometrics. Attendees were enlightened about the evolution of disaster management and the pivotal role of ICT in providing swift services during crises. Mr. Sharma discussed cognitive capture processes, shedding light on the integration of biometric facilities in global border

management. The session concluded with a robust discussion on addressing biometrics' vulnerabilities and the significance of data protection standards.

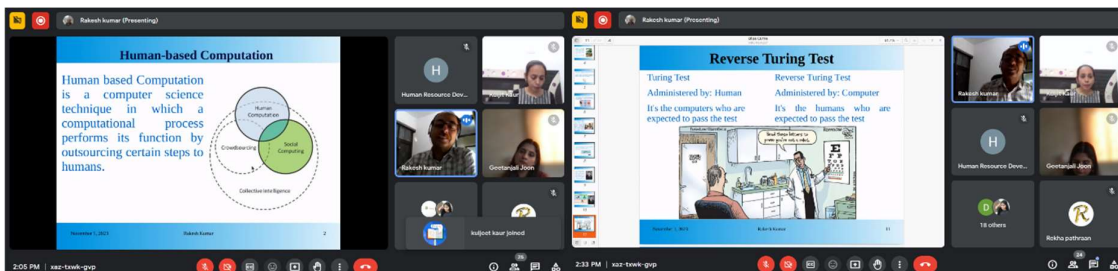


Afternoon Session (2:00 PM - 3:30 PM): Human-Based Computation: Harnessing the Power of the Crowd

Resource Person: Prof. Rakesh Kumar

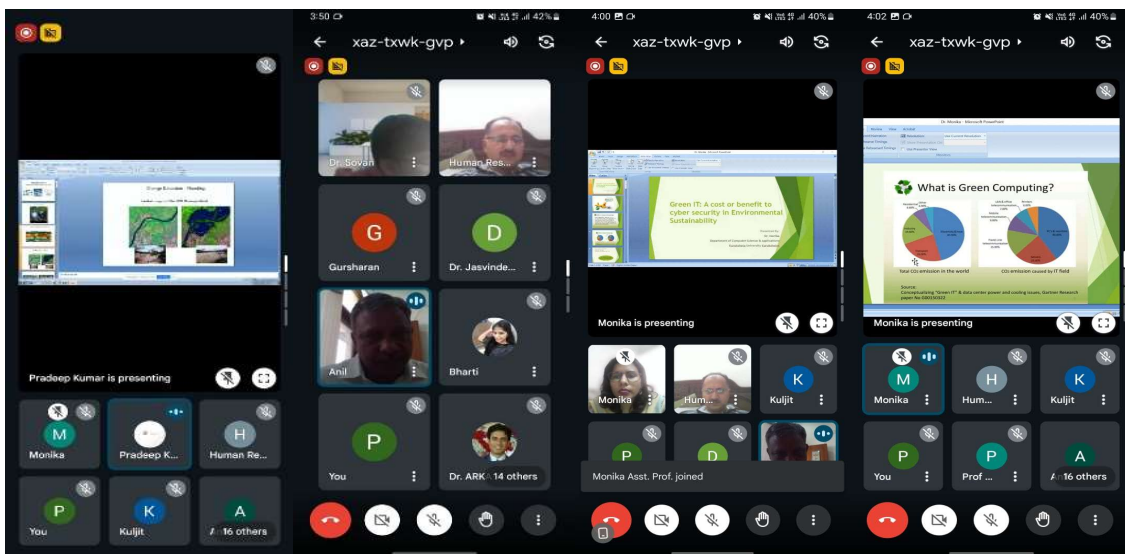
Dr. Rakesh Kumar, a seasoned Professor at Kurukshetra University, brings 31 years of teaching experience, holding a Ph.D. in Information Retrieval Systems, multiple scholarly publications, and substantial contributions to curriculum development and university committees. He's involved in diverse roles within the university and has delivered lectures at national and international conferences on subjects like Artificial Intelligence and Software Engineering.

Professor Rakesh Kumar led an engaging session on "Human-Based Computation," exploring the symbiotic relationship between humans and machines. Attendees gained profound insights into the innovative nature of Human-based Computation, contrasting it with traditional computing approaches. Prof. Kumar discussed crowdsourcing, CAPTCHA's evolution, and the groundbreaking contributions of Alan Turing to computer science. The session provided a comprehensive overview of HBC's foundations, practical applications, and influential figures in the realm of computing and artificial intelligence.



Afternoon Session (3:30 PM - 5:00 PM): Technology Impact: Insights into Social Media, Remote Sensing, and Green IT

The day's final session featured seminar presentations by participants, assessed by Prof. Anil Mittal. Dr. P.S. Bansode's study extensively delved into the impact of social media on adolescents, emphasizing its influence on psychological well-being, personality, and motivation, stressing the need for vigilant supervision due to the prevalence of inappropriate content. Dr. Pradeep Kumar Sharma's seminar comprehensively covered remote sensing, discussing its applications in weather monitoring, change detection, and the technical aspects involved. Additionally, Dr. Monika highlighted "Green IT" and its eco-friendly tech solutions, while Dr. Yogesh focused on the transformative role of IT in remote sensing across fields like agriculture, disaster management, and environmental monitoring.



Conclusion:

The UGC-Malaviya Mission Teacher Training Centre's refresher course provided a comprehensive and immersive understanding of ICT innovations, Human-based Computation, and the integration of Information Technology in decision-making processes. Participants left the event enriched with cutting-edge knowledge and practical insights, ready to apply these learnings in their professional spheres. The course's success underscores the critical importance of embracing technological advancements in shaping a digitally empowered future.

7th DAY (November 2, 2023)

UGC-Malaviya Mission Teacher Training Centre's Multidisciplinary Refresher Course in Information Technology: 7th Day Report

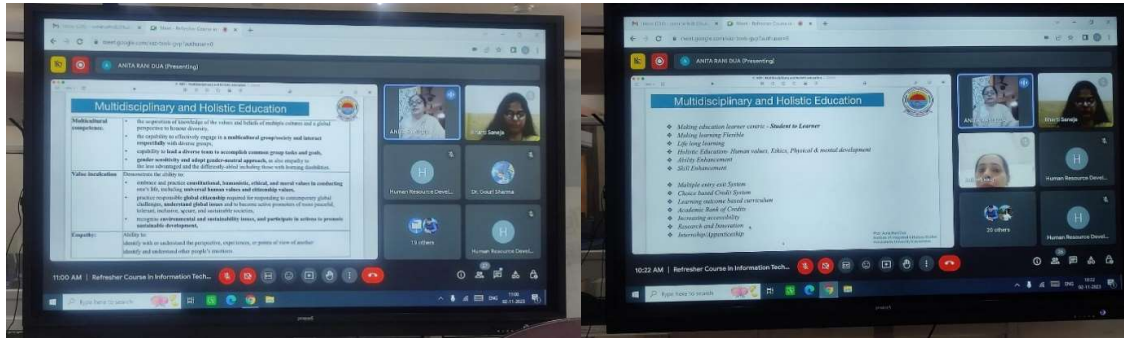
The UGC-Malaviya Mission Teacher Training Centre's two-week Online Multidisciplinary Refresher Course in Information Technology, hosted by DCSA, Kurukshetra University, entered its seventh day with enriching sessions from three Resource Persons, providing attendees with profound insights into multidisciplinary education, space science, digital security, and advancements in information and communication technology (ICT) and agriculture.

Morning Session (10:00 AM to 11:30 AM): Multidisciplinary and Holistic Education

Resource Person: Prof. Anita Rani Dua

The day began with a stimulating presentation by Professor Anita Rani Dua. Dr. Anita Rani Dua, a Professor in Biochemistry and Director at WSRC, Kurukshetra University, possesses extensive academic and professional experience spanning over three decades. She earned her Ph.D. in Biochemistry from CCS Haryana Agricultural University, Hisar, India, focusing on the effects of chromium on seed germination and carbon metabolism in peas. Dr. Dua's scientific interests primarily revolve around antioxidants and cell signalling, exploring areas such as in vitro antioxidant activities of Indian spices and enhancing antioxidant defence systems in human lymphocytes. She has contributed significantly to research, securing multiple research grants and conducting projects on topics related to antioxidant defence mechanisms, chronic disease prevention, and technology development. With a plethora of publications in esteemed journals, she has been an active contributor in the field of biochemistry, exploring aspects of plant physiology, antioxidant properties of various natural products, and the impact of phytochemicals on oxidative stress. Dr. Dua's commitment extends beyond research, with her involvement in various committees focused on curriculum design, implementation of educational reforms, and sustainable development initiatives at both Kurukshetra University and Ch Ranbir Singh University.

Prof. Anita Dua delved into the objectives of the National Education Policy 2020 (NEP 2020) and its implications for multidisciplinary education. Prof. Dua emphasized the integration of subjects, encouraging students to explore diverse fields. She elaborated on NEP 2020's approach to fostering critical thinking and creativity, underlining the importance of education that nurtures not only intellectual abilities but also physical and emotional well-being. Prof. Dua shared real-world examples, illustrating how multidisciplinary education prepares students for an evolving global landscape.



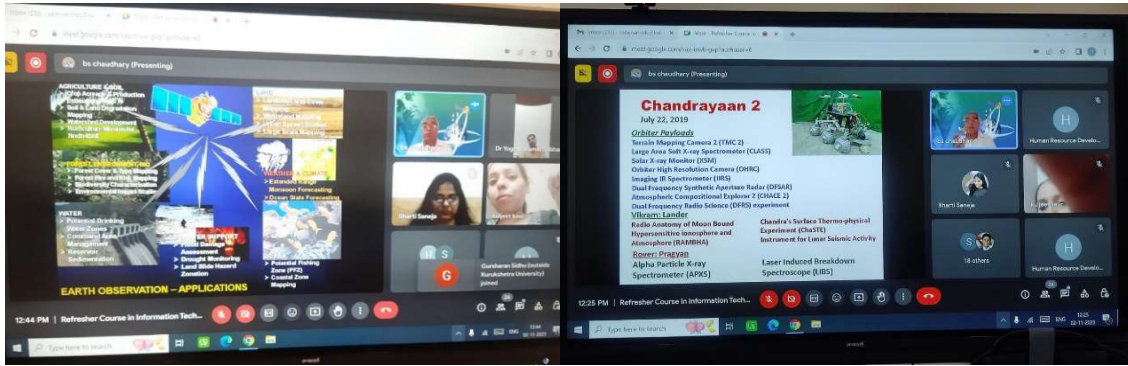
Morning Session (11:30 AM to 1:00 PM): Indian Space Programme

Resource Person: Prof. Bhagwan Singh Chaudhary

In the subsequent session, Professor Bhagwan Singh Chaudhary provided a comprehensive overview of India's space endeavors.

Dr. Bhagwan Singh Chaudhary, a Professor in the Department of Geophysics at Kurukshetra University, Haryana, India, boasts over 33 years of experience in Geospatial Technology for natural resources. His extensive career includes publishing over 80 research papers in esteemed national and international journals and conferences. Recognized for his contributions, he received the Best Research-Collaboration Award from Kurukshetra University in 2022. Starting as a Scientist at Haryana Space Application Centre (HARSAC) in 1990, he has undertaken numerous research, development, and consultancy projects sponsored by government and industry in the Geospatial Technology realm. Prof. Chaudhary's expertise has led him to fellowships, awards, and editorial roles, including being an Executive Editor of the IAH online journal and co-editing several books on Geospatial Technology and natural resource management. With a global academic footprint, he's visited various countries and supervised multiple PhD students in the field of geospatial technology with a focus on water resources.

Dr. Bhagwan Singh Chaudhary highlighted the evolution of India's space program, from early satellite launches to ambitious missions like Mangalyaan, Chandrayaan, and upcoming projects like Chandrayaan-3 and Shukryayaan. Dr. Chaudhary detailed the intricate technologies behind radar imaging satellites, emphasizing their applications in agriculture, forestry, and disaster management. He discussed India's contribution to global positioning systems and elucidated how space technology permeates various sectors, contributing significantly to national development.

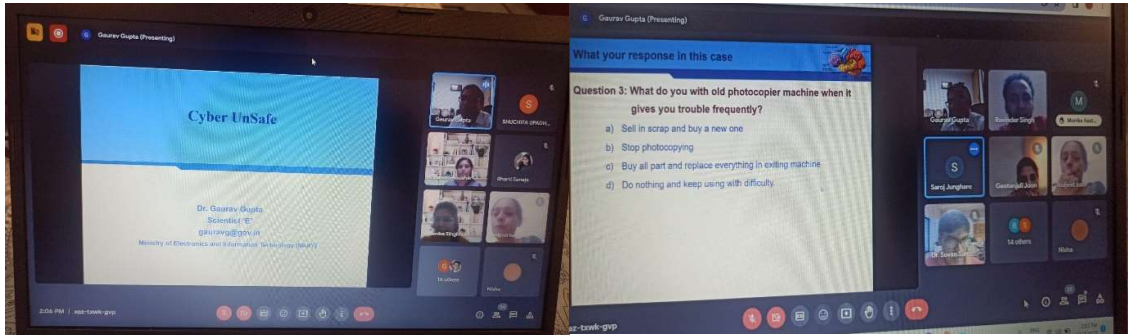


Afternoon Session (2:00 PM to 3:30 PM): Cyber Unsafe

Resource Person: Dr. Gaurav Gupta

Dr. Gaurav Gupta, currently an Additional Director/Scientist 'E' at the Ministry of Electronics & Information Technology (MeitY), is a pioneering figure in digital forensics. He holds the distinction of being the first in the country to earn a Ph.D. in Digital Forensics from Jadavpur University in 2009. Dr. Gupta's extensive 18-year research tenure focuses on detecting computer frauds and cyber-crimes. He received the ISCA Young Scientist Award in 2010 from Dr. A P J Abdul Kalam for his work on Digitized Document Fraud Detection. His expertise spans areas like scalable fraud detection solutions, portable digital forensics, authentication techniques, and advanced QR code technology. Previously, he contributed significantly to the Directorate of Forensic Science, Hyderabad, addressing key issues in digital forensics and developing solutions admissible in legal proceedings.

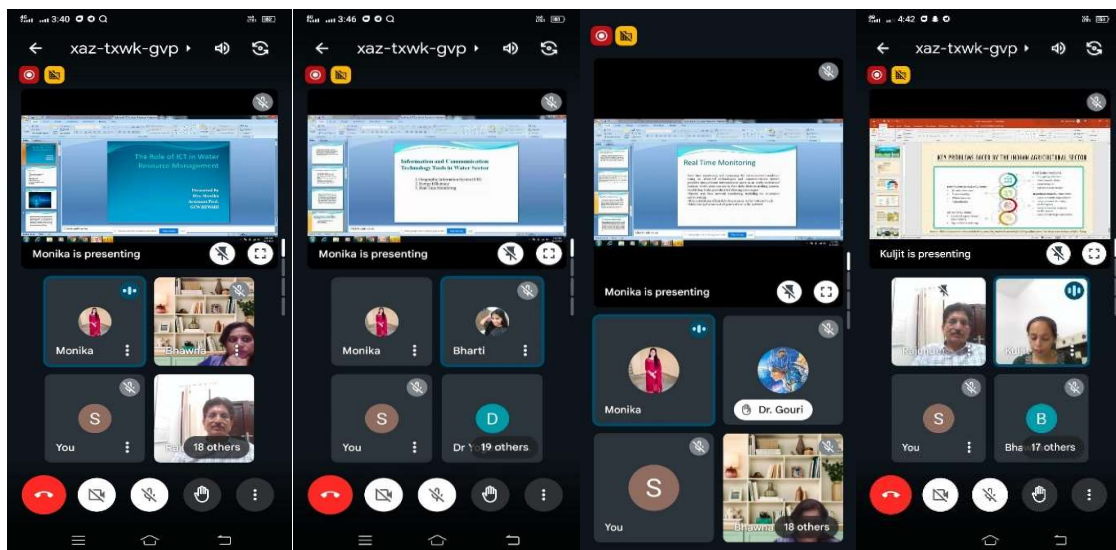
During the interactive session on digital security, Dr. Gaurav Gupta, a seasoned cybersecurity expert, engaged participants with practical insights into securing digital assets. Dr. Gupta explored topics such as data recovery apps, emphasizing the importance of digital shredding and secure disposal of electronic devices. He discussed the vulnerabilities of smart devices, providing tips on safeguarding personal information. Dr. Gupta demonstrated the power of digital disconnectivity, highlighting how momentarily disconnecting devices can thwart potential security threats. Participants actively participated in discussions, sharing their concerns and learning from real-world case studies presented by Dr. Gupta.



Afternoon Session (3:00 PM to 5:00 PM): Advancements in ICT and Agriculture

The day's final session featured seminar presentations by participants, assessed by Prof. Rajender Nath.

Four participants shed light on the transformative impact of ICT in diverse sectors. Mrs. Monika elucidated the role of ICT in water resource management, emphasizing real-time monitoring and the dissemination of water quality data to the public. Dr. Jasvinder provided a comprehensive overview of technological interventions in agriculture, discussing precision farming, machine learning applications, and IoT-enabled crop monitoring. Paramjeet Kaur passionately discussed how IoT and assistive technologies empower individuals with disabilities, enabling them to lead independent lives and actively contribute to society. Kuljeet Kaur delved into the future of agriculture through smart farming, exploring IoT sensors, artificial intelligence algorithms, and their applications in optimizing agricultural practices and resource utilization.



Conclusion:

The seventh day of the UGC-Malaviya Mission Teacher Training Centre's Multidisciplinary Refresher Course was marked by in-depth explorations, enriching discussions, and interactive learning experiences. Participants left the sessions not only with theoretical knowledge but also with practical skills, ready to apply their newfound insights in their respective fields. The event showcased the pivotal role of education, space science, digital security, and ICT in shaping a sustainable and inclusive future.

8th DAY(November 3, 2023)

Report on the 2-Week Online Refresher Course in Information Technology, 8th day

The 2-week online refresher course in Information Technology, organized by MMTTC HRDC (Malaviya Mission Teacher Training Centre, Human Resource Development Centre) at Kurukshetra University, Kurukshetra, entered its eighth day with a series of enlightening sessions from four esteemed resource persons.

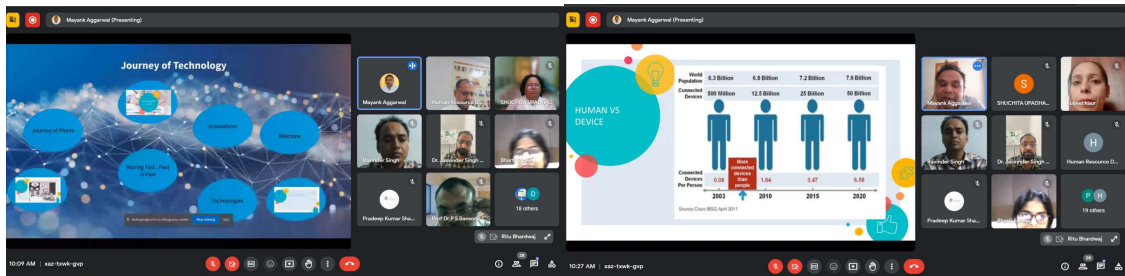
Morning Session (10:00 AM to 11:30 AM): IT and Innovations

Resource Person: Mr. Mayank Aggarwal

The morning session commenced with a stimulating lecture by Dr. Mayank Aggarwal, Professor & H.O.D, Computer Science & Engineering at Gurukul Kangri University, Haridwar. Prof. Mayank Aggarwal, Renowned as an IBM Cloud Consultant and Microsoft Azure Certified professional, boasts 20 years in academia and holds eight patents in areas spanning Blockchain, Cloud Computing, IoT, and AI. Proficient in delivering captivating talks, he showcased his expertise as a Science Communicator at the Indian Science Congress in 2014, advocating for the integration of science into daily life. With a stellar academic background and over 50 published papers, he's recognized for teamwork, having organized numerous successful conferences and workshops, including over 150 sessions in cloud computing and blockchain, some in collaboration with IBM. Honored with teaching awards, he's developed a MOOCS course on Blockchain and actively contributes to professional associations like CSI, IETE, and ISCA, contributing editorially to academic journals. Beyond academia, he engages in social initiatives with organizations like Red Cross and Bharat Vikas Parishad.

Dr. Aggarwal emphasized the importance of innovation in teaching through technology. He discussed the evolution of technology, highlighting innovation in teaching, human-device interaction, responsible social media usage, and emerging technologies like Artificial Intelligence, Virtual Memory, Cloud Computing, and Robotics. Participants were encouraged

to master technology, empowering them to integrate it effectively into their teaching methodologies while promoting responsible digital citizenship.



Afternoon Session (11:30 AM to 1:00 PM): Blockchain for Enterprise

Resource Person: Dr. Mani Madhukar

Dr. Mani Madhukar, Program Manager, Global University Programs, IBM India Private Limited, delivered an insightful presentation on blockchain technology. Dr. Mani, holds around 19 years of diverse experience in industry and academia. He's an Adjunct Professor at both Indira Gandhi Delhi Technical University for Women and Gurukul Kangri Vishwavidyalaya. With a Ph.D. in Computer Science & Engg and an executive program in management from the University of Virginia, his expertise spans Cloud, Blockchain, IoT, Data Science, DevOps, and IBM Watson. Dr. Mani has contributed chapters to books, published research papers in conferences and journals (including SCI publications), and writes blogs on various tech topics. He's an influential voice representing IBM in technology forums, mentors' online communities on Blockchain, and contributes to academic councils at universities. In his role, he fosters ecosystem development, aiding ISVs/startups in adopting IBM Cloud and Blockchain solutions, while also conducting enablement sessions and hackathons. His publications include chapters on IBM Watson for healthcare and Big Data and Earth Sciences in reputable publishers like IGI Global and Springer.

Dr. Mani elaborated on its core characteristics such as decentralization, security, transparency, and the concept of smart contracts. Dr. Madhukar discussed real-world applications in supply chain management, healthcare, finance, and identity verification. Participants gained valuable insights into the benefits and challenges associated with blockchain adoption, paving the way for informed decisions in integrating this technology into their respective fields.

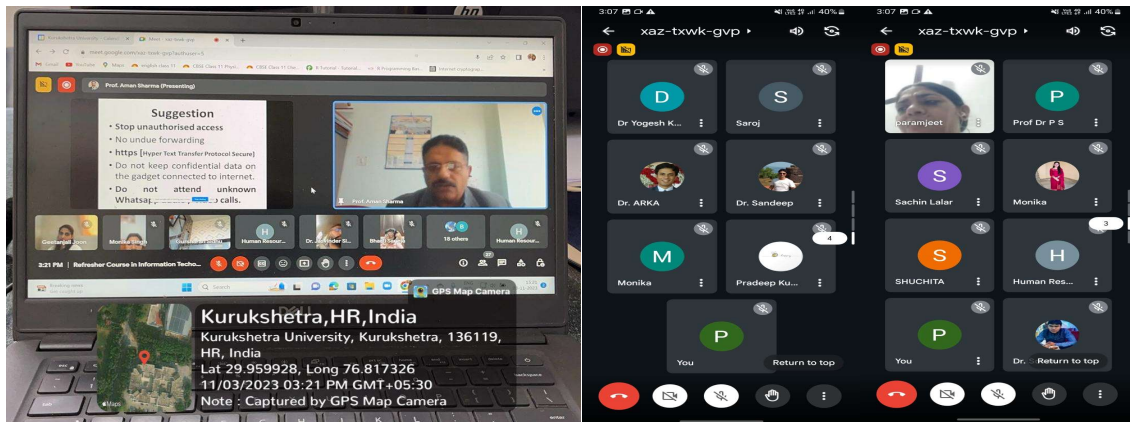


Afternoon Session (2:00 PM to 3:30 PM): Wariness in the Digital World

Resource Person: Dr. Aman Sharma

Prof. Aman Kumar Sharma, a Ph.D. holder in computer science from Himachal Pradesh University, boasts a specialization in software engineering. With a publication count exceeding 100 at national and international levels, he's represented India internationally in Dubai. His extensive involvement in chairing sessions, conferences, and workshops highlights his dedication to research and academia. Prof. Sharma has delivered over 100 lectures nationally, coordinated training programs, and developed software for H.P. University. With over 25 years of teaching experience at the Post Graduate level, he's contributed significantly to academia. He's credited with establishing the Himachal Pradesh Computer Science Association and coordinated computer-related courses at the Directorate of Correspondence Courses. His administrative prowess was evident during his tenure as Chairman of the Computer Science Department, where he achieved notable successes for the department.

Dr. Aman Sharma conducted an engaging session on online activities, internet security, hacking, and personal data vulnerabilities. He shared real-life examples and interactive scenarios to create awareness about cybercrimes and best practices for online safety. Dr. Sharma emphasized the importance of utilizing biometrics for identifying lost individuals, showcasing technological solutions to address everyday challenges. Participants left the session equipped with practical knowledge to promote cybercrime awareness to students and their families, fostering a safer digital environment.

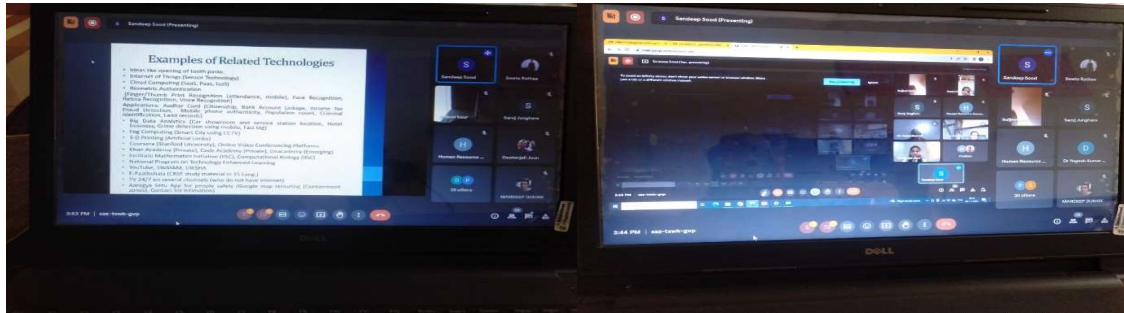


Afternoon Session (3:30 PM to 5:00 PM): Practical Aspects of Cloud Computing, IoT, and Data Analytics in the Indian Context

Resource Person: Dr. Sandeep Kumar Sood

Dr. Sandeep Kumar Sood, an Associate Professor at the National Institute of Technology, Kurukshetra, holds two patents published in the Indian Patent Office, Delhi. With extensive academic contributions, he boasts a significant number of publications in distinguished journals like Computers in Industry (Elsevier), IEEE Internet of Things Journal, and Artificial Intelligence Review (Springer). His published work in SCI/SCIE journals has a cumulative impact factor of 476.945. Dr. Sood has secured substantial research project funding totaling 56,91,000/-, leading projects on various themes like proactive resource provisioning in clouds, big data, IoT, and cloud computing applications, smart disaster management using IoT, intelligent healthcare systems, and AI-assisted frameworks for early flood prediction, showing his active engagement in cutting-edge research.

Dr. Sandeep Kumar Sood delivered a highly insightful session on the practical aspects of cloud computing, IoT, and data analytics within the Indian context. He shared real-life examples, including the utilization of Aadhar cards for theft detection, mobile technology for crime detection, Fastag implementation, and the role of CCTV cameras in modern security. Dr. Sood highlighted the transformative power of these technologies in various sectors, emphasizing their practicality and relevance in the daily lives of Indians. Participants were captivated by his deep understanding and real-world examples, leaving them informed and inspired to explore the applications of these cutting-edge technologies further.



Conclusion:

The eighth day of the refresher course proved to be highly informative and engaging, equipping participants with in-depth knowledge and practical insights into the latest advancements in Information Technology. The sessions, led by esteemed resource persons, empowered the participants to embrace technology responsibly, fostering digital literacy, security, and innovation in their professional endeavors.

9th DAY (November 4, 2023)

Report on the 9th Day of the Online Refresher Course in Information Technology

The 9th day of the 2-week online refresher course in Information Technology, organized by MMTTC HRDC (Malaviya Mission Teacher Training Centre, Human Resource Development Centre) at Kurukshetra University, Kurukshetra, was marked by insightful sessions led by three distinguished experts in the field.

Morning Session (10:00 AM to 11:30 AM): ChatGPT

Resource Person: Mayank Aggarwal

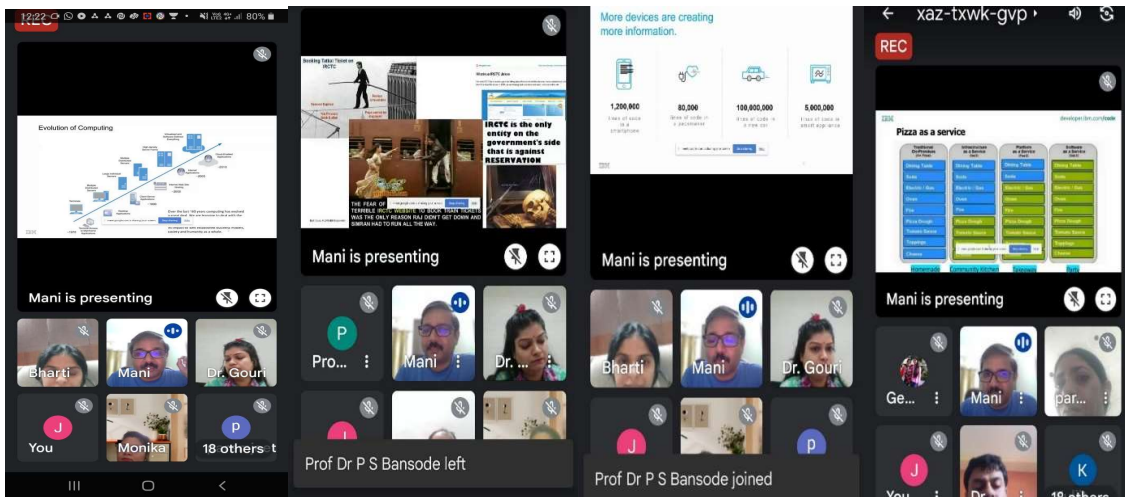
The day commenced with an enlightening session on ChatGPT, a sophisticated language model developed by OpenAI, conducted by Prof. Mayank Aggarwal. ChatGPT, based on the GPT-3.5 architecture, is designed for natural language understanding and generation. It was emphasized that ChatGPT's capabilities extend to chatbots, virtual assistants, content generation, and answering questions. Attendees gained profound insights into its applications and pivotal role in various conversational and text generation tasks.



Afternoon Session (11:30 AM to 1:00 PM): Cloud Computing

Resource Person: Dr. Mani Madhulkar

Dr. Mani Madhulkar, an expert in cloud computing, shed light on this transformative technology. Cloud computing, offering scalability, flexibility, and cost-efficiency, has revolutionized data and application management. Dr. Madhulkar delved into Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS), elucidating how these models have reshaped the IT landscape.

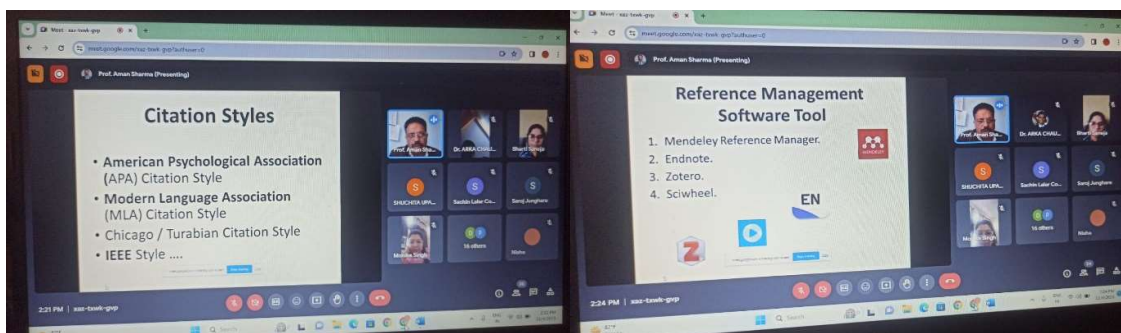


Afternoon Session (2:00 PM to 3:30 PM): Referencing Made Easy

Resource Person: Prof Aman Sharma

Prof. Aman Sharma discussed the paramount importance of research publication and the significance of proper referencing. He elaborated on various types of publications and citation styles (IEEE, MLA, Chicago), emphasizing the challenges and solutions associated with citations. Prof. Sharma particularly highlighted Mendeley, a reference management software

tool, explaining its functionalities and how it aids researchers in managing references, citations, collaboration, and PDF annotation.

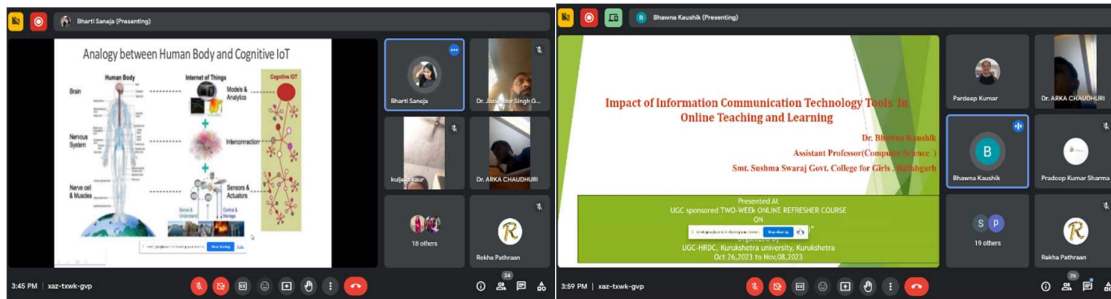


Afternoon Session (3:30 PM to 5:00 PM): The Impact of ICT in Online Teaching and Learning; IoT and Cybersecurity

Session Evaluator/.Resource Person: Prof. Pradeep Kumar

The day's final session featured seminar presentations by participants, assessed by Prof. Pradeep Kumar, Department of Instrumentation, Kurukshetra University. Dr. Bharti Saneja's seminar showcased the link between addiction and sustainable goals. Addressing addiction aligns with Sustainable Development Goals (SDGs) like ensuring health, reducing inequalities, promoting responsible consumption, and fostering global partnerships. IoT offers potential solutions for addiction detection, utilizing wearable devices and smart monitoring to aid in prevention efforts. Ms. Bhawna Kaushik's seminar emphasized the impact of Information Communication Technology (ICT) tools in online teaching and learning. Highlighting the transition from physical to digital realms, ICT's role during COVID-19 was pivotal, offering diverse tools like web-based training and virtual classrooms. It showcased how ICT tools revolutionize teaching methods, enhance educational quality, and facilitate tasks beyond education, illustrating the broad spectrum of ICT's applications. Mr. Ravinder Singh's seminar delved into the intersection of IoT and cybersecurity, highlighting the escalating use of IoT devices and the subsequent rise in cyber-attacks. The session emphasized understanding IoT vulnerabilities and implementing crucial measures to bolster IoT cybersecurity, crucial in safeguarding systems and networks from digital threats. The seminar presented by Ms. Sweta centered on the foundational role of technological inventions in human civilization. Each era has witnessed remarkable inventions contributing to human development and modernization. Understanding the historical evolution of technology is crucial in comprehending its impact on societal progress. The Stone Age marks the inception of human technological advancement, recognizing stone tools as the primitive form of human technology. The use of tools like cores,

flakes, and blades signified the inception of basic techniques that evolved into advanced methodologies.



In conclusion, the 9th day of the refresher course left participants enlightened and equipped with profound knowledge about ChatGPT, cloud computing, referencing, ICT tools in education, IoT, and cybersecurity. These sessions continue to empower educators and professionals, fostering a deeper understanding of Information Technology's evolving landscape.

10th DAY (November 6, 2023)

REPORT: 2-Week Online Refresher Course in Information Technology, 10th day

The 10th day of the 2-week online refresher course in Information Technology, organized by MMTTC HRDC (Malaviya Mission Teacher Training Centre, Human Resource Development Centre) at Kurukshetra University, Kurukshetra, showcased insightful sessions led by two distinguished experts, offering profound knowledge and expertise in various domains

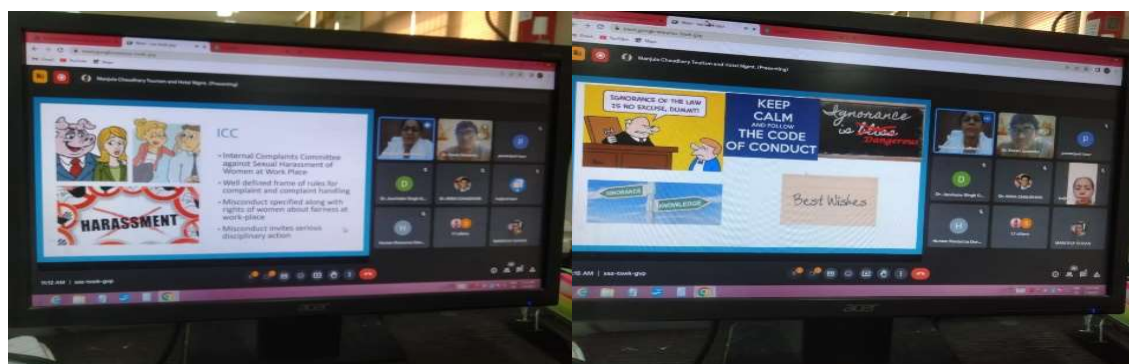
Morning Session (10:00 AM to 11:30 AM): Ethics and Code of Conduct in Educational Institutions

Resource Person: Professor Manjula Chaudhary

Professor Manjula Chaudhary, currently the Director at Kurukshetra University's Centre for Distance and Online Education, began the session by highlighting the vital role of ethics and codes of conduct in educational institutions. With a rich background at Kurukshetra University and the Indian Institute of Tourism and Travel Management, she's held various leadership roles, including Former Dean Academic Affairs and Professor at the Department of Tourism and Hotel Management. Her extensive engagements encompass positions like Director HRDC and Nodal Officer for initiatives such as RUSA and NEP 2020. Proficient in Tourism Management and Marketing, she's contributed significantly through publications, research projects, mentoring Ph.D. scholars, and organizing national and international conferences. Her expertise extends to serving as a Visiting Professor at IIM Sirmaur and a Domain Expert at TISS

Mumbai, while actively participating in crucial committees and memberships at both national and international levels.

Prof. Manjula emphasized the crucial role of ethics and codes of conduct in shaping a positive and ethical workplace environment. Professor Chaudhary delved into universal codes of conduct outlined by organizations like UNESCO and highlighted the evolving initiatives of the University Grants Commission (UGC) in promoting ethical values at Kurukshetra University. Her session resonated with the participants, instilling a deep understanding of the ethical foundation that underpins educational institutions.



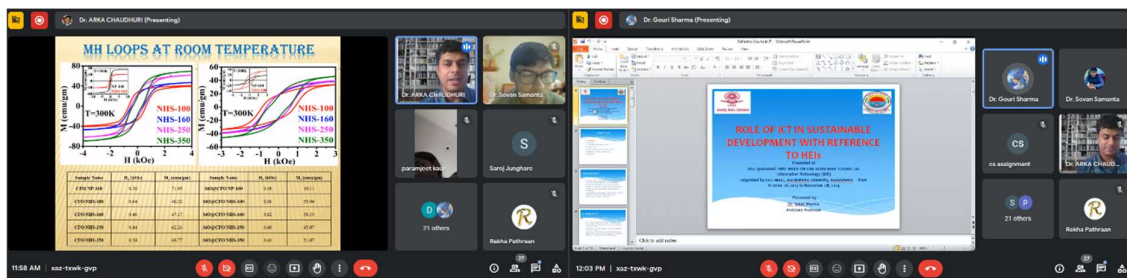
Afternoon Session (11:30 AM to 1:00 PM): Role of ICT in Sustainable Development with Reference to Higher Education Institutes, Ferrite Nano Hollow Spheres and Their Applications in Electromagnetics Shielding, A New Centrality Measure in Social Networks

The afternoon sessions provided a comprehensive exploration of cutting-edge topics in Information Technology by the participants and were evaluated and assessed by Prof. Anita Ganpati, Head, Department of Computer Science, H. P. University, Shimla, Himachal Pradesh. The first segment, presented by Ms. Gouri Sharma, on the topic of the role of ICT in Sustainable Development, offered participants valuable insights into the integration of Information and Communication Technology (ICT) in higher education institutions. Gouri Sharma's presentation emphasized the pivotal role of Information and Communication Technology (ICT) in modern society. ICT encompasses diverse technologies like mobile phones, the internet, and networks, reshaping how we work, learn, and connect globally. It drives innovation across sectors, facilitating efficiency in education, business, healthcare, government services, and global connectivity. This technology serves as a catalyst for innovation, economic growth, and societal progress. Discussions revolved around the transformative impact of ICT tools on

teaching, administration, and research, aligning educational practices with Sustainable Development Goals (SDGs).

Dr. Arka Chaudhuri's seminar explored the application of ferrite nano hollow spheres in electromagnetic shielding. The session on Ferrite Nano Hollow Spheres and Their Applications in Electromagnetics Shielding captivated the audience with its in-depth analysis. Participants delved into the synthesis and absorption theory of COFE₂O₄ nano hollow spheres, understanding their pivotal role in shielding against electromagnetic radiation. This session showcased the fusion of nanotechnology and electromagnetics, illuminating potential avenues for future research.

In the final segment, Mr. Sovan Samanta's seminar focused on A New Centrality Measure in Social Networks and explored the dynamic realm of social connections. Participants gained insights into various centrality measures and their applications, including the utilization of fuzzy logic and Information Technology (IT) to detect centrality in large social networks. This session highlighted the intricate interplay between technology and social interactions, offering a glimpse into the evolving landscape of social network analysis.



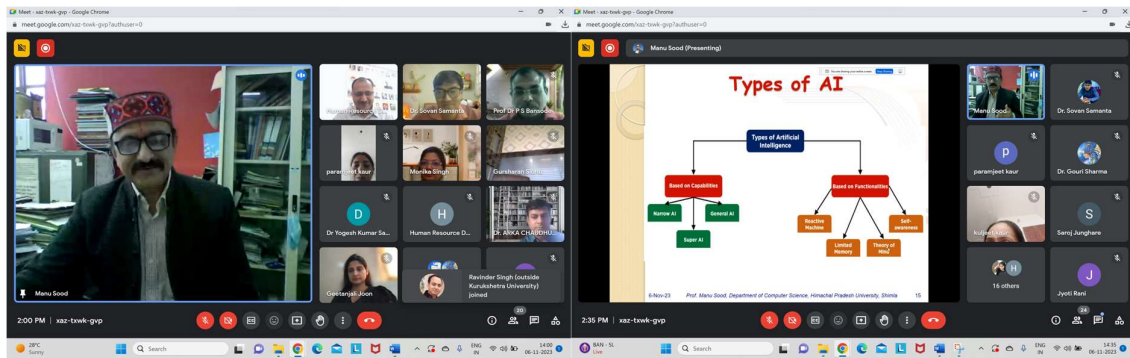
Afternoon Session (2:00 PM to 3:30 PM): Recent Trends in ICT

Resource Person: Prof. Manu Sood

Prof. Manu Sood's session provided a profound understanding of recent trends in Information and Communication Technology (ICT). Dr. Manu Sood, a seasoned professional with 35 years of experience, holds a Ph.D. in Computer Engineering and specializes in Software Engineering, Security in Ad Hoc Networks, and e-Learning. He's a professor at Himachal Pradesh University and currently chairs the Department of Data Science & Artificial Intelligence. With over 120 research publications, he's been actively involved in international conferences as a keynote speaker, technical session chair, and committee member, and has supervised numerous Ph.D. and M. Tech. students, demonstrating extensive contributions to academia and research.

The session commenced with the elucidation of the DIKW paradigm, emphasizing the transformation of raw data into actionable wisdom. Participants explored the realms of Artificial Intelligence (AI), distinguishing between Information Technology (IT) and ICT, understanding the intricacies of the Internet and the World Wide Web (WWW), and delving into the challenges and opportunities presented by Big Data.

Prof. Sood's insightful presentation illuminated the progressive journey from data to wisdom, stressing the importance of informed decision-making in the digital age. Participants gained a comprehensive overview of AI applications, grasped the distinctions between IT and ICT, and navigated the complexities of the digital landscape.



Afternoon Session (3:30 PM to 5:00 PM): Presentations by Dr. Geentali, Dr. Sandeep, and Dr. Saroj

Evaluator: Dr. Rakesh Kumar

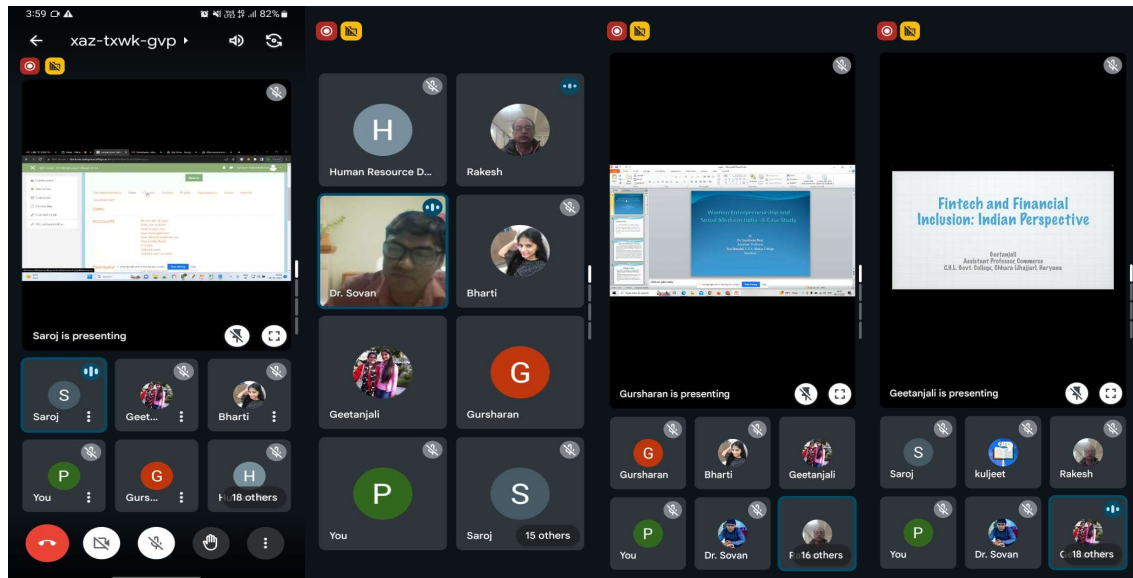
The day's final session showcased the diverse expertise of participants in IT domains:

Dr. Geentali explored "Fintech and Financial Inclusion," highlighting digital payments' transformative impact on extending financial services to underserved communities.

Dr. Sandeep discussed "IT Tools in Drug Design," emphasizing how computational methods enhance drug discovery and reduce costs in the pharmaceutical industry.

Dr. Saroj provided an extensive overview of Moodle, emphasizing its role in online learning and educational content management.

Evaluator Dr. Rakesh Kumar provided insightful feedback, enriching the session with valuable perspectives for future endeavours.



The 10th day of the refresher course epitomized knowledge exchange and expertise sharing, empowering participants with a comprehensive understanding of ethical standards, sustainable development through ICT, advancements in electromagnetics shielding, recent ICT trends, and innovative applications in diverse fields. The event continues to serve as a beacon of knowledge, fostering an environment of continuous learning and growth.

11th DAY(November 7, 2023)

Report: Online Refresher Course in Information Technology

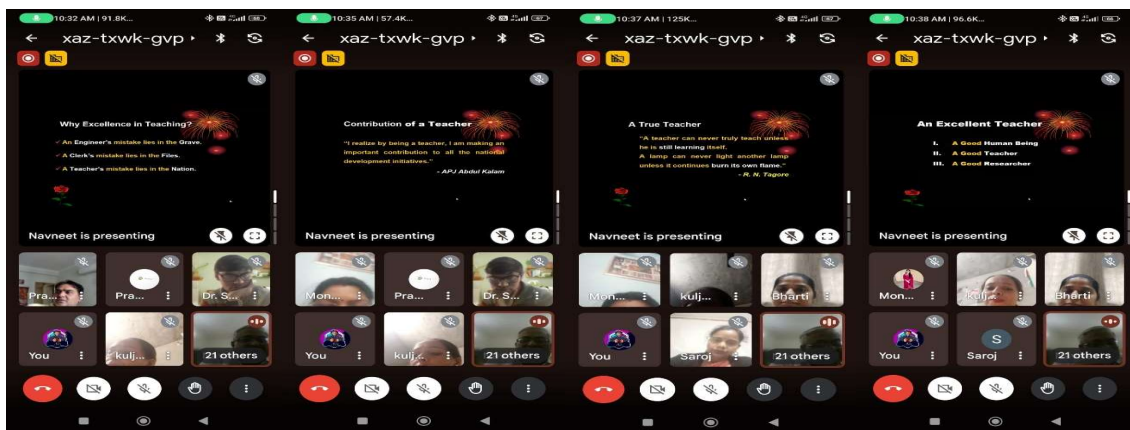
The 2-week online refresher course in Information Technology reached a pivotal point on its 11th day. Two distinguished experts, including Prof. Navneet Arora and Dr. Amit Dua, delved into profound discussions, providing participants with valuable insights into the teaching profession, expectations from educators, and the future of authentication through zero-knowledge proofs (ZKPs).

Morning Session (10:00 AM to 11:30 AM): "The Essence of Teaching"

Resource Person: Prof. Navneet Arora

Dr. Navneet Arora, a professor of Mechanical and Industrial Engineering at IIT Roorkee, has a stellar academic background with degrees from prestigious institutions. He got the University Gold Medal in his M.Tech. With over 145 research papers published and guiding numerous PhD students, his expertise extends across academia and research. Beyond his scholarly pursuits, he's deeply engaged in social activities, delivering hundreds of motivational talks, and driving initiatives promoting human values and ethics. Dr. Arora is an influential figure not just in academia but also in social initiatives and humanitarian efforts.

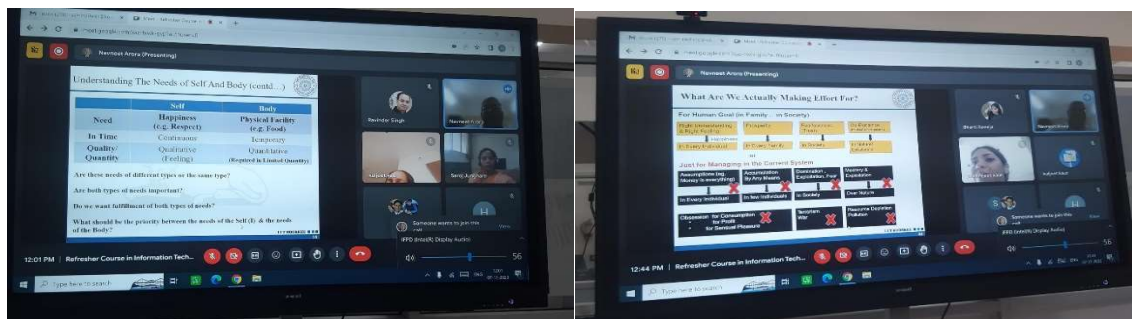
Professor Navneet Arora's session emphasized the fundamental importance of personal integrity and ethical values as the bedrock of achievement. He highlighted the critical role of teachers in instilling these values in students, drawing from personal experiences to underscore the challenges and virtues necessary for effective teaching. Quoting influential figures like Dr. A.P.J. Abdul Kalam and Swami Vivekananda, he reiterated the pivotal role of educators in molding both individuals and communities. Professor Arora concluded by emphasizing the multifaceted impact teachers have on students' intellect, character, and societal values, stressing their profound responsibility in shaping the future.



Afternoon Session (11:30 AM to 1:00 PM): "Expectations from a Teacher"

Resource Person: Prof. Navneet Arora

Dr. Navneet Arora's continued in the subsequent session, highlighting discourse on the teacher's role encapsulated diverse facets, spanning happiness across emotional, psychological, and spiritual realms. His points elaborated on guiding students toward prosperity in various dimensions, emphasizing personal growth and financial success. Delving into values, he underscored the educator's responsibility in instilling both personal ethics and societal principles, touching on family-oriented and society-driven values. Dr. Arora advocated for a Sanskar-based education, emphasizing cultural and ethical values as pivotal in nurturing holistic student development.



Afternoon Session (2:00 PM to 3:30 PM): Comprehensive Assessment through MCQs

Participants engaged in a comprehensive assessment using Google Forms, featuring multiple-choice questions related to the course topics. The assessment aimed to gauge participants' comprehension and retention of the material, providing valuable insights into their learning progress. Key session details included:

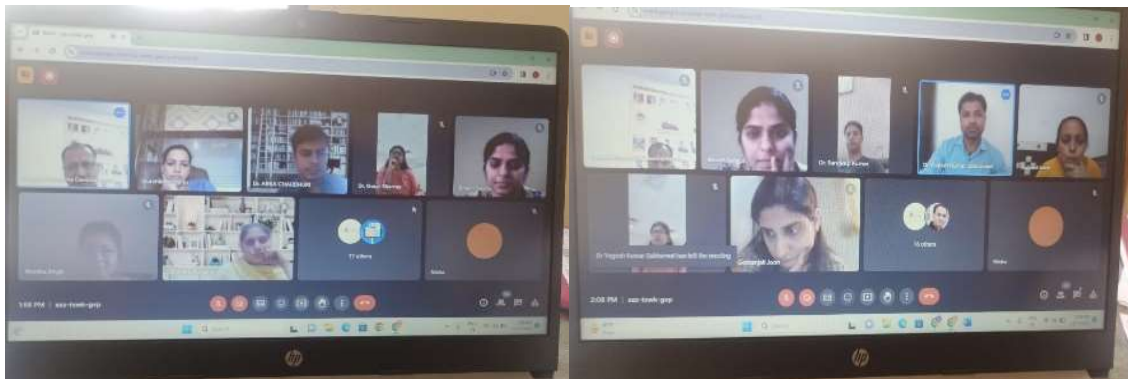
Platform: Google Forms were chosen for their user-friendly interface, accessibility, and automated response tracking.

Content: The assessment consisted of MCQs related to the topics covered in the refresher course over the past days.

Duration: The allotted time for completing the assessment was 30 minutes, carefully chosen for efficiency while ensuring participants had sufficient time.

Automatic Disconnection: Learners were disconnected automatically once the 30-minute time limit was reached.

Response Evaluation: Responses submitted by the learners were assessed to gauge their performance and understanding of the course content.

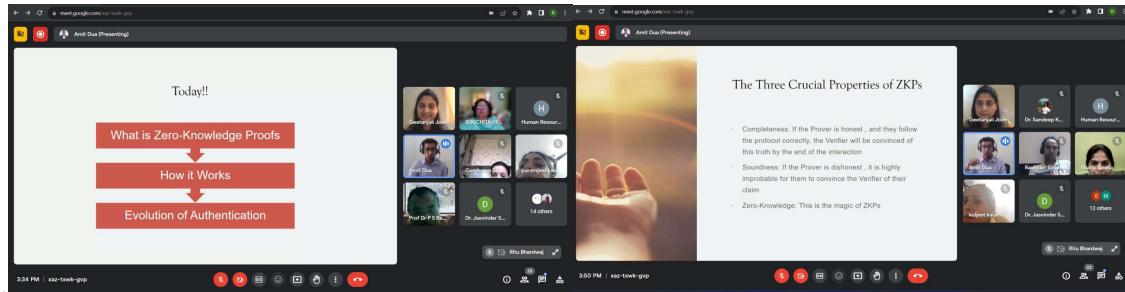


Afternoon Session (3:30 PM to 5:00 PM): "Zero-Knowledge Proofs: The Future of Authentication"

Resource Person: Prof. Amit Dua

Dr. Amit Dua, an Associate Professor at BITS Pilani, is a distinguished figure in Computer Science and Information Systems. His affiliations span from leadership roles in scientific research groups to being the CEO of Yushu Excellence Technologies Pvt. Ltd. He's an acclaimed author, recognized life coach, and expert in technologies like Blockchain, Machine Learning, and Cyber Hygiene. Dr. Amit's accolades include being honoured as a top life coach, and influential personality, and receiving an honorary doctorate for his contributions to education and technology. He's a passionate advocate for Blockchain training, aiming to impact millions of lives through his mission.

Professor Amit Dua presented an enlightening session on zero-knowledge proofs (ZKPs), diving into their cryptographic intricacies, types, and practical applications. He delved into the efficiency of non-interactive ZKPs, their crucial properties, and their role in ensuring data confidentiality across diverse domains like blockchain, healthcare, and secure cloud computing. Prof. Dua highlighted real-world implementations in leading platforms, stressing the transformative potential of ZKPs in revolutionizing information security and transaction Verification



Conclusion:

The 2-week online refresher course continued to serve as a dynamic platform for knowledge exchange, empowering educators and professionals with profound insights essential for navigating the complexities of the modern digital age. The varied sessions provided participants with a holistic perspective on teaching, expectations from educators, the role of Sanskar-based education, effective assessment methods, and the cutting-edge field of zero-knowledge proofs. The course remains a testament to the commitment to excellence in information technology education.

Valedictory, 12th DAY (November 8, 2023)

REPORT: Valedictory Day - 2-week Online Refresher Course in Information Technology

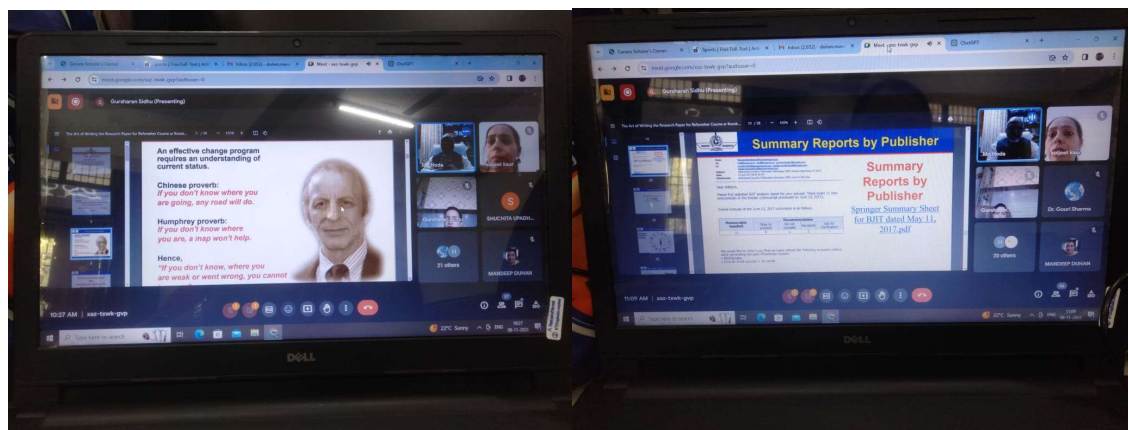
The culminating day of the 2-week online refresher course in Information Technology was marked by a rich and diverse program, featuring a morning session on "The Art of Writing Quality Research Papers for High Impact Journals" by M.N. Hoda, and a grand valedictory session from 12:00 noon to 1:30 PM.

Morning Session (10:00 AM to 11:30 AM): "The Art of Writing Quality Research Papers for High Impact Journals"

Resource Person: Dr. M.N. Hoda

M.N. Hoda, a seasoned professional in the field, led a session that aimed to equip participants with the skills and insights needed to produce high-impact research papers. Dr. M.N Hoda, a Professor of Computer Science and Founder Director at BVICAM, New Delhi, brings over 25 years of rich academic experience, having initially worked in the corporate sector as a Software Engineer. He serves as an Expert Member on various government committees and holds a significant role in the Academic Council of GGSIP University. Dr. Hoda's contributions extend to being the Founder Editor-in-Chief of the International Journal of Information Technology, publishing extensively in reputable journals and conferences. His achievements include roles as National President (ICT Section) of ISCA, Kolkata, and receiving prestigious awards for his remarkable contributions to Management and Computer Education.

During the 90-minute session, Mr. Hoda emphasized the importance of producing high-quality, original research papers while cautioning against practices like plagiarism. He discussed two contrasting approaches in research, highlighted journal acceptance processes, and identified common pitfalls leading to paper rejection. Outlining key components of a well-structured research paper, he stressed the significance of up-to-date references. Mr. Hoda concluded with a motivating message, leaving participants with practical insights and ethical considerations in academic writing.



Valedictory Session (12:00 noon to 1:30 PM): Celebrating Success and Empowering Educators

The valedictory session, a culmination of the 2-week refresher course, unfolded with a warm welcome speech by Dr. Kanwal Garg, co-coordinator of the course, expressing gratitude to all participants for their dedicated attendance. Prof. Shuchita Upadhyaya, the Coordinator of the course, took the stage to summarize the outcomes and learning achievements of the course.

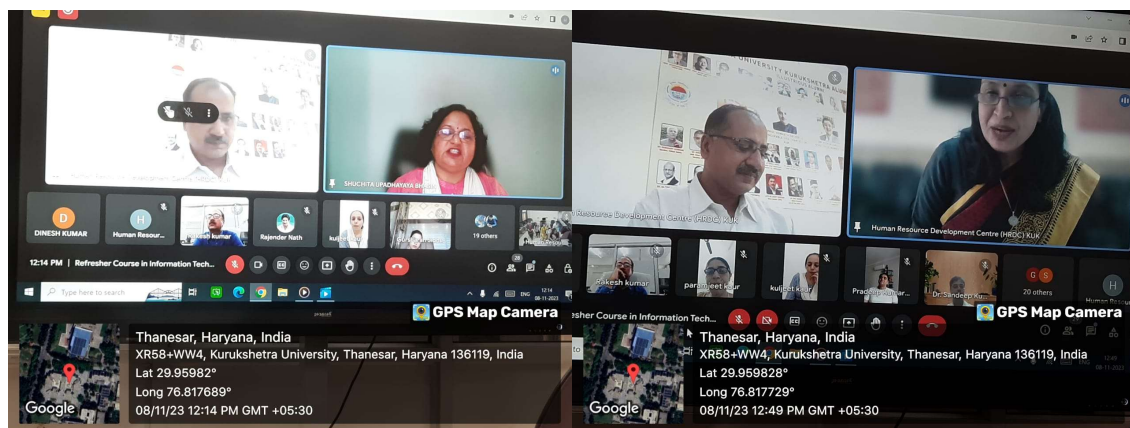
Participant Reflections: Prof. Upadhyaya invited participants to share their personal experiences and insights gained during the course. Attendees expressed how the knowledge gained would positively impact their teaching careers, fostering a sense of community and shared learning.

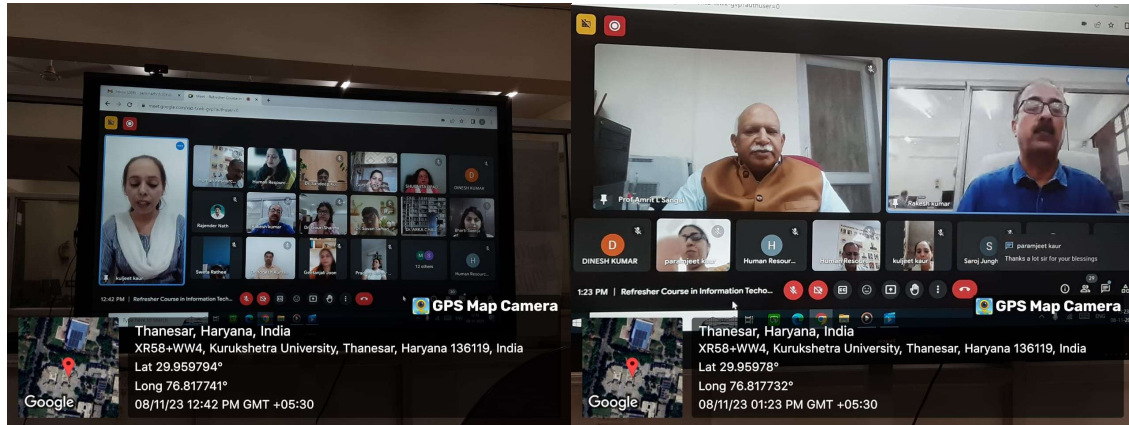
Acknowledgments and Thanks: Dr. Preeti Jain, Director of HRDC, KUK, extended heartfelt thanks to the course coordinators, chairman of DCSA, and keynote speakers for the successful completion of the course. She expressed a commitment to continue organizing similar courses in the future, underscoring the dynamic leadership of Dr. Preeti Jain.

Special Guests: The valedictory function was graced by the presence of Dr. Dinesh Kumar, Dean of Research and Development at KUK University, who discussed the implementation of the National Education Policy 2020 and the relevance of IT trends to the learners' jobs. Prof. Amrit L Sangal, the chief guest, director of the computer center and professor in the CSE department at NIT Jalandhar, shared insights on how research can shape students' careers and extended Diwali wishes to all attendees.

Gratitude and Conclusion: Prof. Rakesh Kumar, Chairman of DCSA KUK, expressed sincere gratitude to the chief guest, participants, coordinators, and dynamic leadership of Dr. Preeti Jain. The ceremony concluded on a patriotic note with the singing of the National Anthem.

Empowering Educators: The valedictory session marked the successful conclusion of the refresher course, empowering educators and professionals with invaluable knowledge and skills essential for their roles in the modern digital age. Participants left with enhanced expertise, a network of connections, and a renewed commitment to excellence in information technology education.





The valedictory day encapsulated the essence of the entire refresher course, providing participants with not only academic insights but also a sense of community and shared commitment to advancing in the ever-evolving field of Information Technology.



UGC-MALAVIYA MISSION TEACHER TRAINING CENTRE

(formerly known as UGC-Human Resource Development Centre)

KURUKSHETRA UNIVERSITY KURUKSHETRA

(Established by the State Legislature Act XII of 1956)

('A+' Grade, NAAC Accredited)

Sr. No. 1218

UGC-SPONSORED ONLINE MULTIDISCIPLINARY REFRESHER COURSE

CERTIFICATE OF PARTICIPATION

This is to certify that **Dr. Jasvinder Singh**, Assistant Professor of Punjabi, D.A.V. College, Cheeka (Kaithal) participated in the 2-Week Online Multidisciplinary Refresher Course in **Information Technology (An Initiative for Quality Enhancement in Teacher-Learning & Research)** from 26-10-2023 to 08-11-2023 and obtained Grade '**A**'.

(Prof. Shuchita Upadhyaya)
Course Coordinator

(Prof. Preeti Jain)
Director

(Dr. Sanjeev Sharma)
Registrar

Kurukshetra
Dated: 08-11-2023

The grading should be as follows:

- (i)** A+: 85 percent and above
- (ii)** A: 70 per cent to less than or equal to 84 percent
- (iii)** B: 60 per cent to less than or equal to 69 per cent
- (iv)** C: 50 per cent to less than or equal to 59 per cent
- (v)** F: Below 49 per cent

Those teacher participants who get F grades are required to repeat the programme after a gap of one year without financial commitment to UGC-HRDC.

The total marks are to be fixed at 100 and the same may be decided in the following manner:

- (i)** Overall response - 20
- (ii)** Seminars (in diverse topics mentioned in component A) - 20
- (iii)** Project/survey/others (topics like climate change, environment and social connect etc.) - 20
- iv)** ICT based teaching/ MOODLE/ Micro-teaching/participation - 20
- (v)** Multiple-choice objective tests -20