Directorate of Outcome

Outcome Report(Event/Activity Organized @ AUH)

1. General Information

Date:30th March 2022
Event Type: Seminar Series
Event Title: Sensitized Solar Cell: A Potential Light Harvesting Technology

Event Theme: Research Seminar

Venue:MS Teams**,** Seminar series 2022
Web/Video Link of the https://teams.microsoft.com/l/meetup-join/19%3ag_XfCwXmijPj35p-CGh-4xSqHnkZwYiwhG-elk9HdHs1%40thread.tacv2/1648445416549?context=%7b%22Tid%22%3a%228d46a076-d093-416d-a57b-8692cde13bf8%22%2c%22Oid%22%3a%227ce44f60-41fc-4d76-abf2-4c5c0596742b%22%7d
Organized by: Department of Chemistry, Biochemistry and Forensic Sciences
Event Level: Institutional
Student Participation*: No. of Students from AUH (Course wise):-26M.Sc (AC); 7M.Sc(BC); 13 M.Sc(FS)
Faculty Participation*: No. of Faculty Members from AUH (Deptt. wise):- 2
Participation from outside AUH*: No. of Students & Faculty Members-1
(Enclose attendance sheets in given format)
Event Coordinator(s) with designation: Dr. Dipti Vaya (Associate Professor)

Details of Expert/Speaker/Resource Person/Judge:

SN	Country Name	Expert Name	Organization Name	Designation	Specialization	Contact No.	E-mail Id	CV of Expert (Yes/ No)	Major Areas where Amity can Collaborate with expert	Recommended by
1	India	Dr.Praveen Surolia	Manipal University. Jaipur	Associate Professor,	Solar Cell and Photocatalysis	9166861737	surolia pv2004@gmail.com	NA	NA	NA

Criteria of Inviting Resource Person/Judge/Speaker/Judge (Write a paragraph): The resource person was invited because he has expertise in solar cell synthesis and vast knowledge of photocatalysis.

Were the guest known in advance and if yes, from what previous interaction (Write a paragraph)?
No, guest interacted first time to students.

Outcome of the Event with Time Lines (Proposed/Achieved)

Envisaged Outcome	Tangible/ Intangible	Achieved/ Proposed	Target date & responsibilities (if proposed)	Details of outcome
1. **Outcome related to Academia Connect**				
a) Collaborations for Research Papers/Conference Papers/ Book Chapter etc.	NA	NA	NA	NA

b) Collaborations & MOU for Research Guidance [PhD, PG & UG (summer training, Dissertation)] & Projects/Use of Instruments etc.	NA	NA	NA	NA
c) Collaboration for Funded Projects	NA	NA	NA	NA
2. **Outcome related to Industry Connect**				
a) Placement	NA	NA	NA	NA
b) Collaborations for Research Papers	NA	NA	NA	NA
c) Collaborations & MOU for Research Guidance [PhD, PG & UG (summer training, Dissertation)] &Projects/Use of Instruments	NA	NA	NA	NA
d) Collaboration for Funded Projects	NA	NA	NA	NA
3. **Outcome related to Society Outreach**				
a) Benefit to society in terms of Health & Hygiene	NA	NA	NA	NA
b) Benefit to society in terms of Education	NA	NA	NA	NA
4. Outcome related to Students Learning &Grooming				
				Students learnt and understood about solar cell, and fabrication methods. They learnt many new types of solar cells like hybrid solar cells and organic cells. They learnt about Sensitized Solar cell (SSC). SSC cells are low cost and easy to fabricate.
5. Any other				
NA				

2. Event Report along with glimpses of the event *(Photographs)*

Seminar started with introduction of speaker (Dr. Praveen Surolia). The seminar entitled "Sensitized solar cells: A potential light harvesting technology" held on 30 March 202. Students learnt about solar cell, different device that directly converts the energy of light into electrical energy through the photovoltaic effect. They also understood it's different types.

They understood new types of solar cells like hybrid solar cells and organic cells. Organic cells comprises of many advantages: as it have low production cost, flexible, tunable color etc.

They also learnt about Sensitized solar cells (SSC). They are low cost, easy fabrication, and are transparent/colored. They are also understood about why we are choosing DSSC. They can generate up to 50% more power in indoor & diffused lighting conditions than the best offer alternative. Current research perspectives in area of DSSC were also discussed.

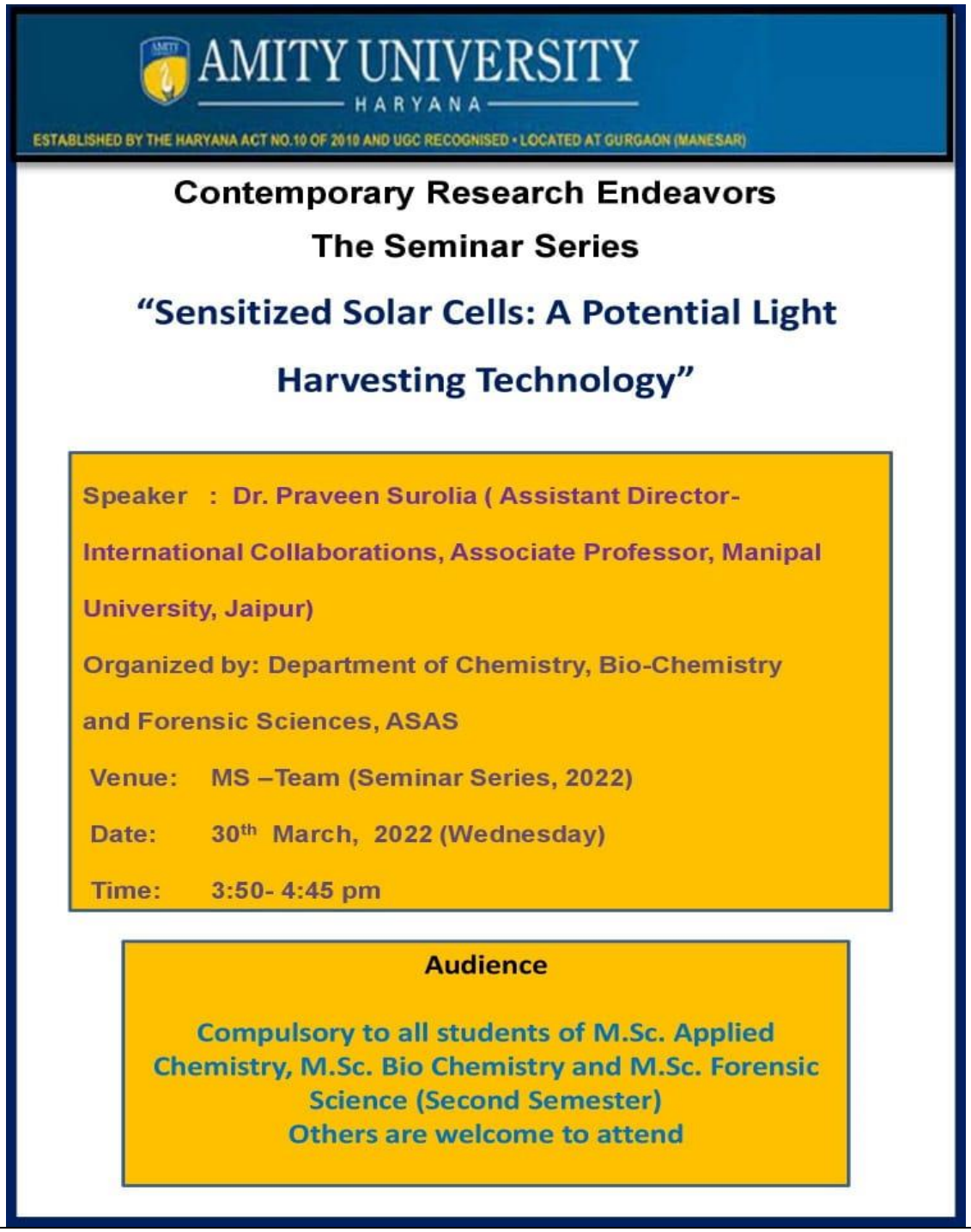
2.1 Future plan for utilizing the contacts developed with the Invited Guests : NA

2.2 Budget of the Event(Budget Sanctioned, Total Expenditure&Revenue Generated): NA

2.3 Details of Awards if Any:NA

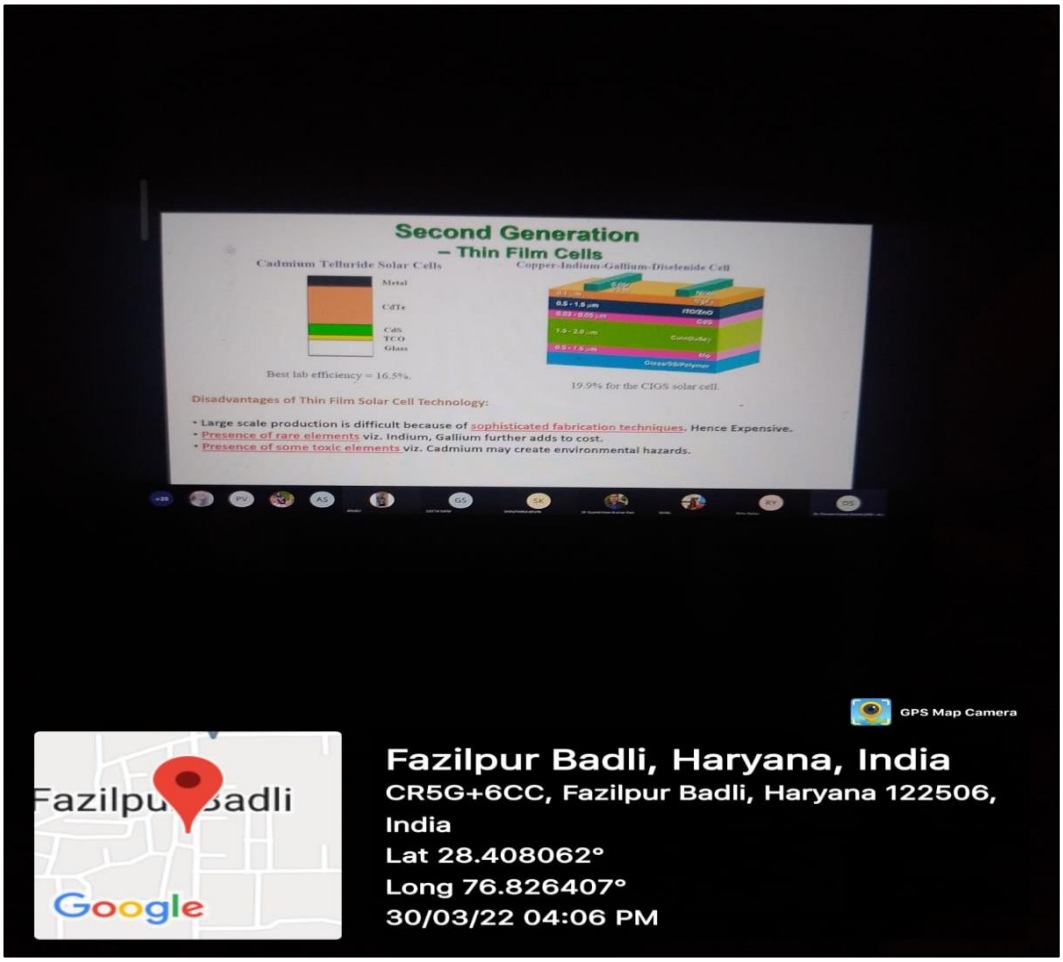
Awardee Details	Award / Position / Recognition Secured	Title of Innovation/ Start-up Secured the Award / Recognition	Award/Recognition/ Achievement Received for

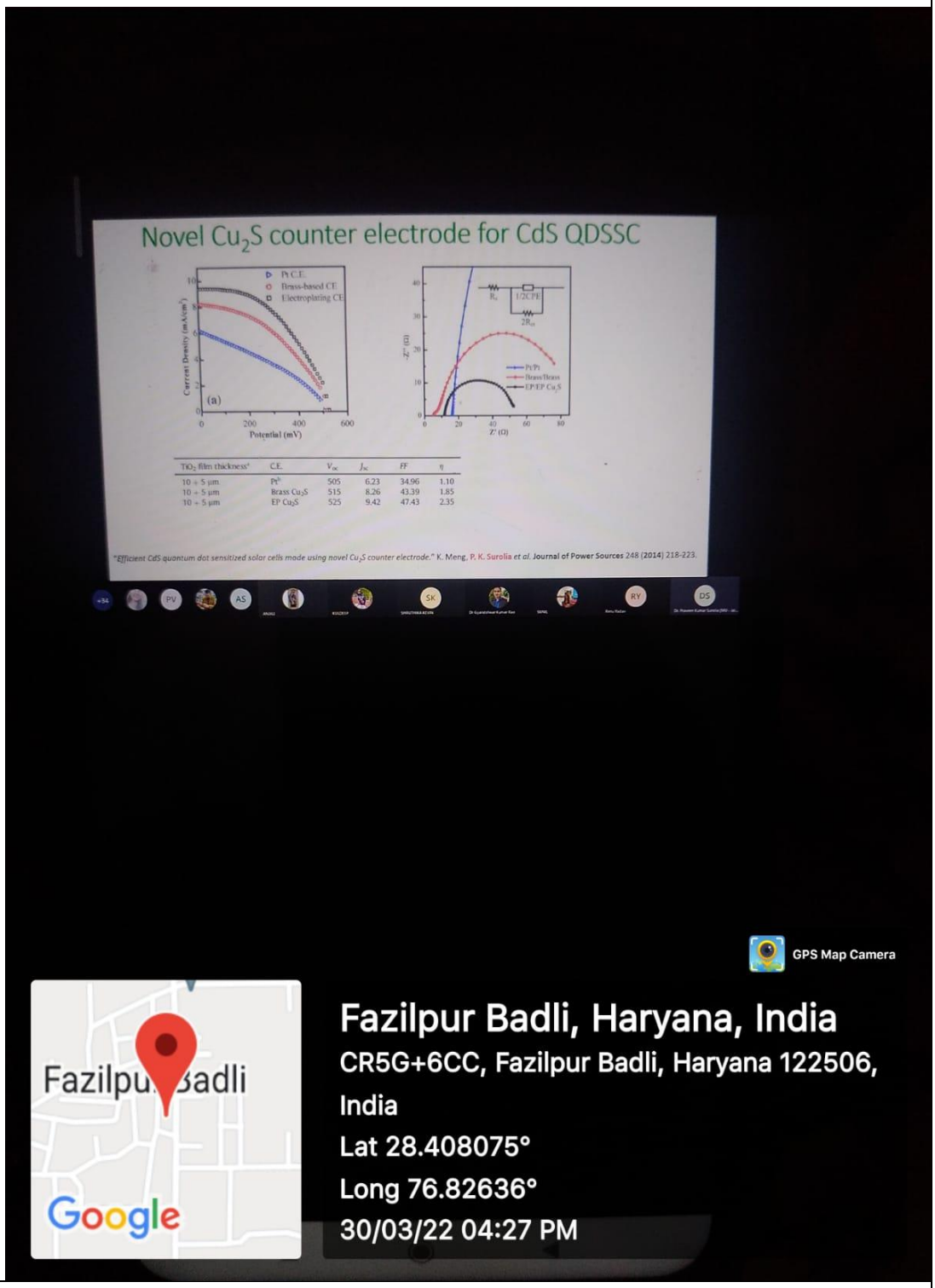
3.8 Photographs with caption *(also share high resolution JPEG files of photographs)*



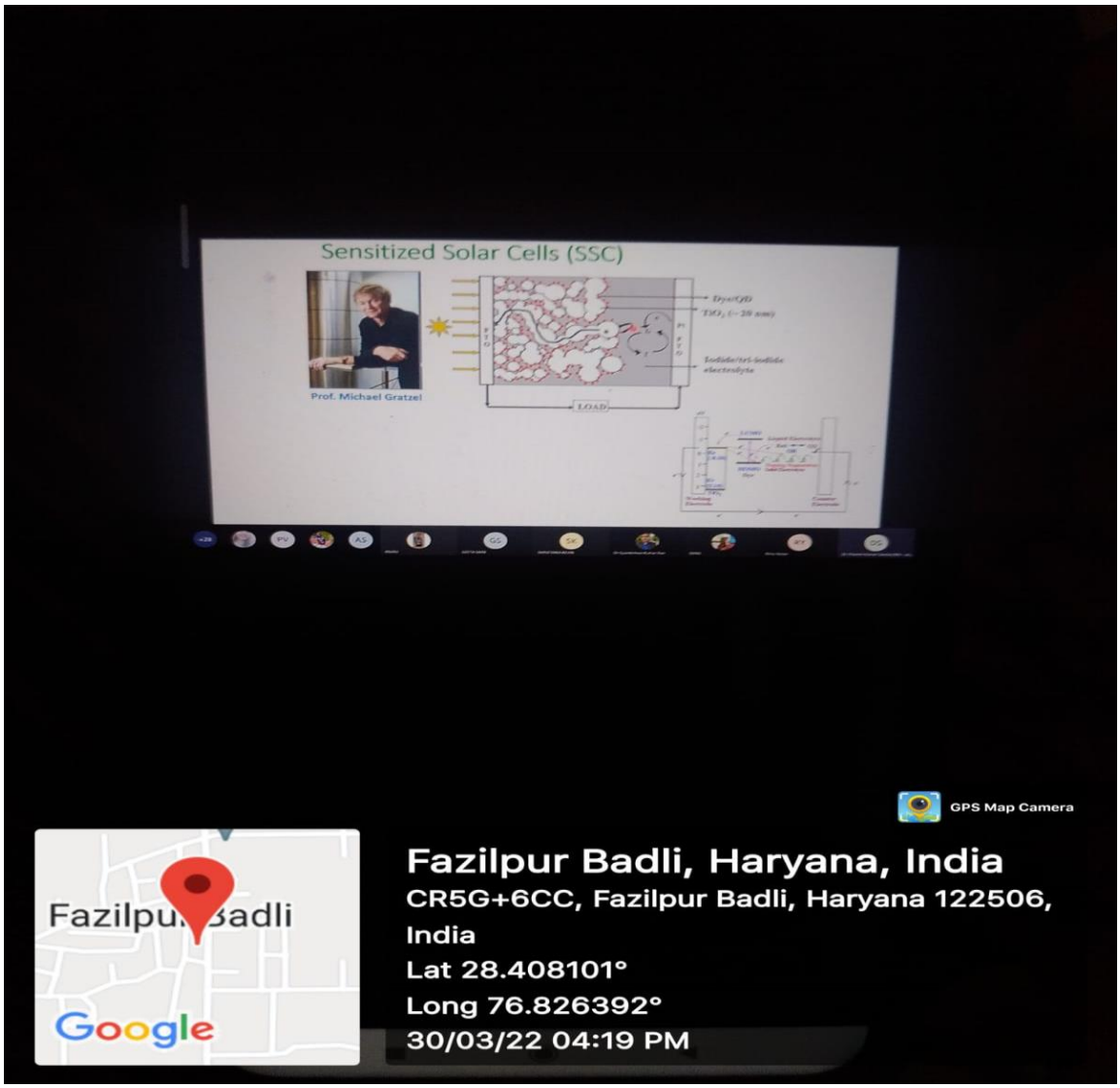
Event Flyer

Introduction


Second Generation
– Thin Film Cells
Cadmium Telluride Solar Cells
Metal
CdTe
CdS
TCO
Glass
Best lab efficiency = 16.5%.
Copper-Indium-Gallium-Diselenide Cell
19.9% for the CIGS solar cell.
Disadvantages of Thin Film Solar Cell Technology:
• Large scale production is difficult because of sophisticated fabrication techniques. Hence Expensive.
• Presence of rare elements viz. Indium, Gallium further adds to cost.
• Presence of some toxic elements viz. Cadmium may create environmental hazards.
GPS Map Camera
Fazilpur Badli, Haryana, India
CR5G+6CC, Fazilpur Badli, Haryana 122506, India
Lat 28.408062°
Long 76.826407°
30/03/22 04:06 PM
Google


Novel Cu_2S counter electrode for CdS QDSSC
Pt C.E.
Brass-based CE
Electroplating CE
Current Density (mA/cm²)
Potential (mV)
(a)
Pt/Pt
Brass/Brass
EP/EP Cu_2S
Z' (Ω)
-Z'' (Ω)
"Efficient CdS quantum dot sensitized solar cells made using novel Cu_2S counter electrode." K. Meng, P. K. Surolia et al. Journal of Power Sources 248 (2014) 218-223.
GPS Map Camera
Fazilpur Badli, Haryana, India
CR5G+6CC, Fazilpur Badli, Haryana 122506, India
Lat 28.408075°
Long 76.82636°
30/03/22 04:27 PM
Google

Synthesis



Current status

-

3.9 Scanned copy of attendance sheets

3.10Few Scanned feedback forms of participants NA

Attendance Sheet of Faculty Members (AUH)

Event Title: Sensitized Solar Cell:A Potential Light Harvesting Technology

Date:30th March,2022

S.No.	Participant Faculty Name	School	Designation	
1	Dr. Dipti Vaya	ASAS	Associate Professor	
2	Dr.Gyandshwar Kumar Rao	ASAS	Assistant Professor	

Name & Signature of the Event Coordinator

Attendance Sheet of Students (AUH)/Outside			
Event Title: Sensitized Solar Cell: A Potential Light Harvesting Technology **Date**:30th March,2022			
S.No.	**Participant Name**	**School**	**Programme & Semester**
1	JyotiYadav	ASAS	M.Sc. Chemistry
2	Reena	ASAS	M.Sc. Chemistry
3	Anjali	ASAS	M.Sc. Chemistry
4	Sushma	ASAS	M.Sc. Chemistry
5	Anjali	ASAS	M.Sc. Chemistry
6	SahilRathi	ASAS	M.Sc. Chemistry
7	Shalu	ASAS	M.Sc. Chemistry
8	DikshaGahlot	ASAS	M.Sc. Chemistry
9	Sanju Sharma	ASAS	M.Sc. Chemistry
10	Sunil	ASAS	M.Sc.Chemistry
11	Jyoti yadav	ASAS	M.Sc. Chemistry
12	Jatin yadav	ASAS	M.Sc. Chemistry
13	Mansi	ASAS	M.Sc. Chemistry
14	Sonam	ASAS	M.Sc. Chemistry
15	Priyanshu Vats	ASAS	M.Sc. Chemistry
16	Ameer aalam	ASAS	M.Sc. Chemistry
17	Chandankumar	ASAS	M.Sc. Chemistry
18	Lakshay	ASAS	M.Sc. Chemistry
19	Kuldeep	ASAS	M.Sc. Chemistry
20	Priyanka	ASAS	M.Sc. Chemistry
21	Ashish ahlwat	ASAS	M.Sc. Chemistry
22	Ritika gera	ASAS	M.Sc. Chemistry
23	Reenu kumari	ASAS	M.Sc. Chemistry
24	Akshay	ASAS	M.Sc. chemistry
25	Geeta saini	ASAS	M.Sc. Chemistry
26	Akshima	ASAS	M.Sc. Chemistry
27	NishaSaxena	ASAS	M.Sc. Biochemistry
28	Pratibha Gaur	ASAS	M.Sc. Biochemistry
29	Ashutosh	ASAS	M.Sc. Biochemistry
30	Ayesha begum	ASAS	M.Sc. Biochemistry
31	Garima k	ASAS	M.Sc. Biochemistry
32	Shruthikakevin	ASAS	M.Sc. Forensic science
33	Raghavendrakumaupadhya	ASAS	M.Sc. Forensic science
34	Yogita yadav	ASAS	M.Sc. Forensic science
35	Palak Singhal	ASAS	M.Sc. Forensic science
36	Ankita	ASAS	M.Sc. Forensic science
37	Pranav Raj	ASAS	M.Sc. Forensic science
38	Upasha Saini	ASAS	M.Sc. Forensic science
39	Prerna	ASAS	M.Sc. Forensic science
40	Akansha Saharan	ASAS	M.Sc. Forensic science
41	Aastha	ASAS	M.Sc. Forensic science
42	Divya	ASAS	M.Sc. Forensic science
43	Thomas Joseph	ASAS	M.Sc. Forensic science
44	Mayank kapoor	ASAS	M.Sc. Forensic science

45	Pallavi	ASAS	M.Sc. Forensic science
46	Manisha	ASAS	M.Sc. Forensic science
47	Renu Yadav	Ph.D Scholar	NCU , Gurugram

DiptiVaya

Name & Signature of the Event Coordinator

Dr. Supreet
Outcome Coordinator, ASAS

Amity School of Applied Sciences (ASAS) Gurgaon-122413 (INDIA) Amity University Haryana (AUH)

Prof. A. K. Yadav
Director, ASAS