Miranda House
UNIVERSITY OF DELHI

Departmental Annual Report - 3

Departmental Activities: Curriculum and Beyond

Department: Physics

Academic Year: 2018 – 2019 (from 1.7.2018 to 30.6.2019)

Part A.1

Students undertaking project work/field work/internship as part of experiential learning component of coursework

Programme: B.Sc. (Hons) Physics
Semester: III
Paper: Basic Instrumentation Skills
Paper Code: 32223904
Faculty:
Dr. Mallika Verma, Dr. Rashmi Rakshit, Dr. Sanju, Dr. Monika Tomar,
Dr. Geeta Rani, Dr. Raishma Krishnan
Total students undertaking projects: 93

S No.	Roll No.	Name	S No.	Roll No.	Name
1	2017/651	Aarti	48	2017/358	Neetu Vashisth
2	2017/454	Aayushi Sharma	49	2017/824	Neha
3	2017/668	Aditi Singh	50	2017/1005	Neha Mondal
4	2017/815	Aditi Singh	51	2017/534	Nishu Khanchi
5	2017/5	Aiman Mushtaq	52	2017/631	Palak Awasthi
6	2017/296	Alka Yadav	53	2017/828	Pinki
7	2017/281	Amitha PV	54	2017/200	Pooja Meena
8	2017/168	Amrita N S	55	2017/392	Pooja Poonia
9	2017/369	Amrutha Suresh	56	2017/119	Poonam Devi
10	2017/503	Anjali	57	2017/402	Prachi Misra
11	2017/376	Anju	58	2017/228	Preeti
12	2017/14	Anmolreet Kaur	59	2017/144	Priya
13	2017/413	Annanya	60	2017/466	Priya
14	2017/151	Anshul Singh	61	2017/610	Priya
15	2017/511	Anu Sharma	62	2017/1448	Priyanka Yadav

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S No.	Roll No.	Name	S No.	Roll No.	Name
16	2017/377	Apurva Mahajan	63	2017/27	Priyanshi
17	2017/269	Arti Meena	64	2017/821	Rakshita
18	2017/849	Bhoomika	65	2017/1437	Raniya P
19	2017/1447	Chonghtham Jayshri	66	2017/55	Rashi Wadhwa
20	2017/1129	Devika Bhatnagar	67	2017/128	Rekha Meena
21	2017/774	Dipika Sharma	68	2017/94	Ritu Verma
22	2017/371	Garima Choudhary	69	2017/644	Sakshi
23	2017/726	Hanan Latheef P	70	2017/848	Samiksha Shukla
24	2017/164	Harsha	71	2017/264	Sandra R Babu
25	2017/1324	Himani Dobhal	72	2017/327	Sangeeta Ahirwar
26	2017/992	Himshikha Pathak	73	2017/835	Sanjana Taneja
27	2017/189	Jyotsna Madan	74	2017/1139	Sanjana Yadav
28	2017/727	Kalpana	75	2017/1197	Sarita Yadav
29	2017/775	Kanika	76	2017/526	Shambhvi Nigam
30	2017/504	Khushi Jagarwal	77	2017/669	Shikha Singh
31	2017/587	Kirti Bhatia	78	2017/603	Shikha Yadav
32	2017/22	Komal	79	2017/153	Shivani Yadav
33	2017/1146	Komal	80	2017/331	Shreshthi
34	2017/298	Krishna Chaudhary	81	2017/131	Shreya Nayak
35	2017/20	Krisnananda CP	82	2017/383	Shruti Sharma
36	2017/531	Kritika Bansal	83	2017/524	Simran
37	2017/1387	Lavanya Agrawal	84	2017/202	Simran Meena
38	2017/1120	Madhuri Prasad	85	2017/755	Sochannao Machinao
39	2017/111	Mahima Sarle	86	2017/991	Sonal
40	2017/4	Mamta Kurrey	87	2017/767	Srishti
41	2017/349	Manshi Rani	88	2017/116	Sudarshana
42	2017/533	Manya Jha	89	2017/133	Tamanna
43	2017/1308	Monalisha Patra	90	2017/583	Sudesh Kumari
44	2017/364	Monika	91	2017/732	Vaishali Verma
45	2017/647	Mukta	92	2017/351	Vishnu Priya G
46	2017/306	Mukta Rajput	93	2017/966	Priyanka
47	2017/2	Muskan Singhal			

Programme: B.Sc. (Hons) Physics, CBCS
Semester: IV
Course: SEC
Paper: Renewable Energy and Energy Harvesting
Paper Code: 32223905
Faculty:
Dr. Rashmi Rakshit, Dr. Geeta Rani
Dr. Sunita Singh, Dr. Ambuja Jaiswal
Dr. Sonam Singh, Dr. Nirmala Saini
Dr. Harjeet Kaur, Dr. Raishma Krishnan
Total students undertaking projects: 93 (same set of students as listed above)

Part A.2

Students undertaking project work/field work/internship (beyond the requirements of coursework)

A.2.1

Following students of B.Sc. (Hons) Physics participated in the 6-weeks long DSKC Summer Workshop 2018, held from 7 June to 13 July 2018 and successfully completed their projects.
See for more info:
https://mirandahouse.ac.in/uploads/dskc/summerworkshop/2018%20DSKC%20Summer%20Workshop%20Report.pdf

S. No	Name	Year	Project Title
1	Himani	II Year	Arduino Mobile
2	Chinkey	II Year	Arduino Mobile
3	Komal	II Year	Automated Waste Segregator; Automated Waste Segregator
4	Monika	II Year	Automated Waste Segregator; Automated Waste Segregator
5	Aditi Singh	II Year	Automated Waste Segregator; Automated Waste Segregator
6	Mukta	II Year	Automated Waste Segregator; Automated Waste Segregator
7	Dipika Sharma	I Year	Automated Waste Segregator; Automated Waste Segregator
8	Harsha	I Year	Theremin (Proximity Sensor)
9	Khushbu	II Year	IOT Based Homs Automation and smart doorbell system
10	Kritika	II Year	IOT Based Homs Automation and smart doorbell system

S. No	Name	Year	Project Title
11	Anmol	II Year	IOT Based Homs Automation and smart doorbell system
12	Ananya Kumari	II Year	Classical Mechanics experiments by the use of Tracker
13	Shikha Yadav	II Year	Classical Mechanics experiments by the use of Tracker
14	Sanjana Yadav	II Year	Classical Mechanics experiments by the use of Tracker
15	Sudarshana Yadav	II Year	Classical Mechanics experiments by the use of Tracker
16	Anmolreet Kaur	I Year	Diffusion Cloud Chamber
17	Garima Choudhary	I Year	Diffusion Cloud Chamber
18	Anjali	I Year	Diffusion Cloud Chamber
19	Jyotsna Madan	I Year	Diffusion Cloud Chamber
20	Rashmi Wadhwa	I Year	Quark Net Cosmic Ray Muon Detector
21	Shivani Yadav	I Year	Quark Net Cosmic Ray Muon Detector
22	Sakshi	I Year	Quark Net Cosmic Ray Muon Detector
23	Shambhvi Nigam	I Year	Quark Net Cosmic Ray Muon Detector
24	Sonal	I Year	Quark Net Cosmic Ray Muon Detector
25	G. Vishnupriya	I Year	Quark Net Cosmic Ray Muon Detector
26	Sochannao Machinao	I Year	Quark Net Cosmic Ray Muon Detector
27	Manshi Rani	I Year	Fabrication of Low Cost $\boldsymbol{PM2.5}$ Sensor Based on Optical Sensing
28	Krishnananda CP	I Year	Fabrication of Low Cost $\boldsymbol{PM2.5}$ Sensor Based on Optical Sensing
29	Kanika	I Year	Fabrication of Low Cost $\boldsymbol{PM2.5}$ Sensor Based on Optical Sensing
30	Krishna Chaudhary	I Year	Fabrication of Low Cost $\boldsymbol{PM2.5}$ Sensor Based on Optical Sensing
31	Chongtham Jayshri	I Year	Fabrication of Low Cost $\boldsymbol{PM2.5}$ Sensor Based on Optical Sensing
32	Rajdeep Kaur	II Year	Acetone Sensor
33	Yachika	II Year	Acetone Sensor
34	Manikarnika	II Year	Acetone Sensor

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A.2.2

Following students participated in summer workshops held in various research institutions

35.
Tamana Sharma, BSc (Hons) Physics, IV Semester
Project title: Business Analysis Internship
Period: Jun 2018 - Jul 2018
Company Name: Inbound Mantra
Supervisor: Mr. Rajagopalan Chandrashekhar

inbound mantra

11th June, 2018

Tamanna Sharma

Miranda House, University of Delhi

Dear **Tamanna**,

Subject: Offer of Appointment as **"Intern - Business Analysis"**

Welcome to Inbound Mantra.

This has reference to your application and discussion you had with Inbound Mantra (An Initiative of Pragmatic Learning Private Limited) (hereinafter called "Company"). We are pleased to offer you the position of **"Intern - Business Analysis"**. You will be operating from our Gurgaon Office in Delhi NCR.

You will be paid a stipend of ₹ 10,000.0 (Rupees Ten Thousand Only) per month.

The duration of your internship is as under:-

- Start date - 12th June, 2018
- End date - 20th July, 2018

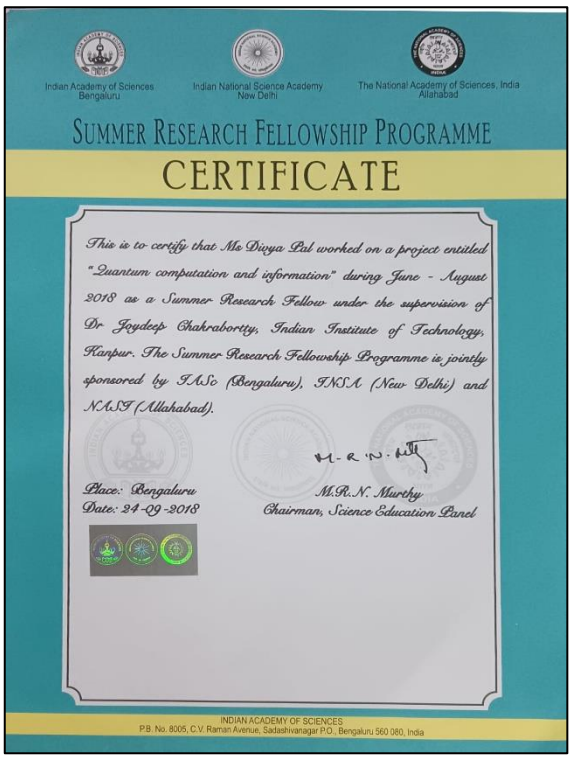
The terms and conditions of your appointment are as follow:-

1. You shall join us on 12th June, 2018
2. You are required to submit scanned copy of internship letter from your college one week prior to joining along with
   a. ID and Address Proof
3. On the day of joining, you are required to submit the original copy of internship letter issued from your college.

For Pragmatic Learning Private Limited
Versha Rajagopalan
Director

I agree to the above terms
Tamanna Sharma

36.
Divya Pal, BSc (Hons) Physics, VI Semester
Title: Quantum Computation and Information
Period: June - August 2018
Institution: IIT Kanpur, Kanpur
Supervisor: Dr. Joydeep Chakrabortty



Indian Academy of Sciences Bengaluru | Indian National Science Academy New Delhi | The National Academy of Sciences, India Allahabad

SUMMER RESEARCH FELLOWSHIP PROGRAMME

CERTIFICATE

This is to certify that Ms Divya Pal worked on a project entitled "Quantum computation and information" during June - August 2018 as a Summer Research Fellow under the supervision of Dr. Joydeep Chakrabortty, Indian Institute of Technology, Kanpur. The Summer Research Fellowship Programme is jointly sponsored by IASc (Bengaluru), INSA (New Delhi) and NASI (Allahabad).

Place: Bengaluru
Date: 24-09-2018

M.R.N. Murthy
Chairman, Science Education Panel

INDIAN ACADEMY OF SCIENCES
P.B. No. 8005, C.V. Raman Avenue, Sadashivanagar P.O., Bengaluru 560 080, India

37.

Keshvi Tuteja, B.Sc. (Hons) Physics, II Semester

Laboratory Research: Nitrogen doped GaSb thin film deposition and its characterization
Period: 26 Jun 2018- 26 Jul 2018
Technologies Used: Radio Frequency Magnetron Sputtering system, UV Spectroscopy, Contact Angle Measurement system
Highlights: The research predominantly dealt with the thin film deposition via AC Radio Frequency Magnetron Sputtering Apparatus using different substrates and targets. The thin films were analyzed using various characterizing techniques such as X-Ray Diffraction, UV Spectroscopy, Contact Angle Measurement, etc. Apart from RF Magnetron Sputtering, other methods of thin film deposition such as anodization were also studied.
Mentor: Dr. Aloke Kanjilal, Associate Professor, Shiv Nadar University, India

SHIV NADAR UNIVERSITY

From,
Aloke Kanjilal, Ph.D.
Associate Professor, Department of Physics,
School of Natural Sciences, Shiv Nadar University,
NH-91, Tehsil Dadri, Gautam Budh Nagar,
Uttar Pradesh-201 314, India
Email: aloke.kanjilal@snu.edu.in
Tel.: +91-9958840640 (Cell)

Date: 31/07/2018

To whom it may concern

Ms. Keshvi Tuteja from Miranda House joined my group on 26th June 2018 for summer internship and worked here till 21st July 2018. As a project mentor, I am very much impressed with her involvement in research, especially dedication to learn physics and the related experimental approach. Working in a research environment with PhD scholars, she came to know how to work in a group, and improved her knowledge through academic discussion with my PhD students. Within this short time, she could able to learn thin film deposition by RF magnetron sputtering technique, followed by their characterization with the help of XRD, UV-Vis, AFM, etc. She also learnt data analysis and wrote a report based on her research exposure in my laboratory.

In my opinion, she is an intelligent, well-mannered, and a sincere student. She can express herself adequately in writing and speech in English. I wish best of luck for her future academic career.

With regards,

Aloke Kanjilal

Aloke Kanjilal

38.

Sarbani Chatterjee, B.Sc. (Hons) Physics, VI Semester

Project title: Stellar Spectroscopy
Period: June – August 2018
Summer school: Focus Area Science Technology Summer Fellowship (FAST-SF)
Institution: Indian Institute of Astrophysics (IIA), Indian Academy of Sciences (IASc)
Supervisor: Dr. Aruna Goswami

39.

Keshvi Tuteja, B.Sc. (Hons) Physics, III Semester

Radio Astronomy Winter School 2018
Period: 14 Dec 2018- 24 Dec 2018
Highlights: Got hands-on experience with radio telescopes and carried out various astronomical observations such as detecting 21 cm galactic Hydrogen Line using a horn antenna. Learned how to determine pointing Offsets and Beam Pattern for a 4-m radio telescope and gained familiarity with test and measuring instruments used while making

Radio Astronomy Winter School
2018

IUCAA

NCRA • TIFR

Certificate of Participation

This is to certify that Keshvi Tuteja has participated in **RADIO ASTRONOMY WINTER SCHOOL 2018**, jointly conducted by the **Inter-University Centre for Astronomy and Astrophysics, (IUCAA), Pune** and the **National Centre for Radio Astrophysics (NCRA)** of the **Tata Institute of Fundamental Research (TIFR), Pune**, during 14th to 24th December 2018.

During this school the participant has attended lectures on Astronomy and Astrophysics, participated in the Radio-Physics experiments and a quiz competition.

Neeraj Gupta
IUCAA

Subhashis Roy
NCRA-TIFR

astronomical observations. (Also, won the best project prize for the project on Johnson's noise in radio telescopes.)
Organising Institute: IUCAA, Pune
Mentor: There was no particular mentor, but a group of professors and their students.

Total number of students undertaking project work/field work/internship (beyond the requirements of coursework): 39