PROF. RAVI TOTEJA | प्रो. रवि टोटेजा
Officiating Principal | कार्यवाहक प्राचार्य

ACHARYA NARENDRA DEV COLLEGE
University of Delhi | NAAC accredited: A Grade
आचार्य नरेंद्र देव कॉलेज
दिल्ली विश्वविद्यालय | एन.ए.ए.सी. मान्यता प्राप्त 'ए' ग्रेड

3.1 Resource Mobilization for Research

Supporting document for 3.1.1

Grants received from Government and non-governmental agencies for research projects / endowments in the institution during the last five years (INR in Lakhs).

3.1.1.1: Total Grants from Government and non-governmental agencies for research projects , endowments, Chairs in the institution during the last five years (INR in Lakhs)

Year	2021-22	2020-21	2019-20	2018-19	2017-18	Total
Amount (INR in Lakhs)	96.63	40.71	41.38	35.56	20.99	235.27

S.No.	Name of the Project/ Endowments/ Chairs	Year	Page No. of the proof
1.	Exposure-response assessment of Ambient Air Pollution (AAP) and Hg contamination in affected cities of India and Slovenia: A comparative study	2017-18	1-2
2.	Exposure-response assessment of Ambient Air Pollution (AAP) and Hg contamination in affected cities of India and Slovenia: A comparative study	2018-19	1-2
3.	Recombinant endolysins from mycobacteriophages: exploring their anti-Mycobacterial potential	2018-19	3-4
4.	Developing and documenting innovative practices for learning physics and biology through experimentation for children and young adults (Mentor: WoS-B)	2018-19	5-6
5.	UGC-Paramarsh	2019-20	7-8
6.	Developing and documenting innovative practices for learning physics & biology through experimentation for children & young adults.	2019-20	5-6
7	An investigational study on Mycobacteriophages and their enzymes as new drugs (IND) for treating tuberculosis	2019-20	9-11
8.	Recombinant endolysins from mycobacteriophages: exploring their anti- Mycobacterial potential	2019-20	3-4

Govindpuri, Kalkaji, New Delhi, 110019
गोविंदपुरी, कालकाजी, नई दिल्ली, ११००१९
+91-9811675982, 011-26294542, 11-26293224
principal@andc.du.ac.in
http://andc.du.ac.in

कार्यवाहक प्राचार्य / Officiating Principal
आचार्य नरेन्द्र देव कॉलेज (दिल्ली विश्वविद्यालय) / (University of Delhi)
गोविंदपुरी, कालकाजी, नई दिल्ली–110019
Govindpuri, Kalkaji, New Delhi-110019

9.	OER awareness and adoption in Indian Higher Education: A short survey	2019-20	12-16
10.	Developing and documenting innovative practices for learning physics & biology through experimentation for children & young adults.	2020-21	5-6
11.	Attractive Toxic Sugar Bait (ATSB) methods to control mosquitoes in different regions of Delhi and NCR	2020-21	17-20
12.	DNA barcoding for ciliate species identification of Delhi, India	2020-21	21-23
13.	An investigational study on Mycobacteriophages and their enzymes as new drugs (IND) for treating tuberculosis	2020-21	9-11
14.	Recombinant endolysins from mycobacteriophages: exploring their anti-Mycobacterial potential	2020-21	3-4
15.	Recombinant endolysins from mycobacteriophages: Exploring their anti-mycobacterial potential	2021-22	3-4
16.	An investigational study on Mycobacteriophages and their enzymes as new drugs (IND) for treating tuberculosis	2021-22	9-11
17.	Attractive Toxic Sugar Bait (ATSB) methods to control mosquitoes in different regions of Delhi and NCR	2021-22	17-20
18.	Developing and documenting innovative practices for learning physics and biology through experimentation for children and young adults	2021-22	5-6
19.	DNA barcoding for ciliate species identification of Delhi	2021-22	21-23
20.	Development of process and evaluation of electron suppression coating on the grids used in TWTs	2021-22	24-28
21.	Students Research Projects (Other than compulsory by the University) Elite Projects (Elite Projects)	2017-18	29-32
22.	Students Research Projects (Other than compulsory by the University) Elite Projects (Elite Projects)	2018-19	33-38

कार्यवाहक प्राचार्य / Officiating Principal
आचार्य नरेन्द्र देव कॉलेज / Acharya Narendra Dev College
(दिल्ली विश्वविद्यालय) / (University of Delhi)
गोविंदपुरी, कालकाजी, नई दिल्ली–110019
Govindpuri, Kalkaji, New Delhi-110019

PROF. RAVI TOTEJA | "SIT.m cl 'lil
Oificiating Principal I cJ514 I cf, 91i.l14

ACHARYA NARENDRA DEV COLLEGE
University of Delhi I NAAC accredited: A Grade
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23.	Students Research Projects (Other than compulsory by the University) Elite Projects (Elite Projects)	2019-2020	39-43
24.	Students Research Projects (Other than compulsory by the University) Elite Projects (Elite Projects)	2021-22	44-55
25.	Projects funded by DBT	2017-18	64-67
25.	Projects funded by DBT	2018-19	61-63
26.	Projects funded by DBT	2019-20	58-60
27.	Projects funded by DBT	2020-21	55-58
28.	Projects funded by DBT	2021-22	44-55

Dr. Sada Nand Prasad
Convener, NAAC
Acharya Narendra Dev College

Prof. Ravi Toteja
Officiating Principal
Acharya Narendra Dev College

कार्यवाहक प्राचार्य / Officiating Principal
आचार्य नरेन्द्र देव कॉलेज / Acharya Narendra Dev College
(दिल्ली विश्वविद्यालय) / (University of Delhi)
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Govindpuri, Kalkaji, New Delhi-110019

(:) Govindpuri, Kalkaji, New Delhi, I10019 "-' +91-9811675982, principal@andc.du.ac.in
i11¥a:'3,ff, c.f>ltlchHRi, 99009 011-26294542, 11-26293224 © http://andcollege.du.ac.in

Dr. Jagdish Chander
Scientist – G/Adviser
TEL: 00-91-11-26967357/26590613/26590432
FAX: 00-91-11-26862418
E-mail: jchander@nic.in

भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
विज्ञान और प्रौद्योगिकी विभाग
टेक्नोलॉजी भवन, नया महरौली मार्ग
नई दिल्ली-110 016

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
TECHNOLOGY BHAVAN, NEW MEHRAULI ROAD
NEW DELHI-110 016

D.O. No. INT/Slovenia/P-09/2014

Dated November 24 2014

Dear **Dr. Chowdhuri,**

I am pleased to inform you that your project entitled ` **Exposure-response assessment of Ambient Air Pollution (AAP) AND Hg contamination in affected cities of India and Slovenia: A comparative study,** has been recommended for support with one short visit of upto a maximum of 10 days and a long visit of upto 30 days duration each year in each direction. The sending party shall cover all related costs connected with 'International travel to the state of the receiving party and back including lodging and boarding for person sent in pursuant of this project.

In order to issue formal sanction of the project, we request you to kindly send us the administrative and security/sensitivity clearance from your parent organization (Ministry/ Department). In case of Universities/Academic organization, the PIs should organise such clearance from concerned authority in their university/institute. We would also require information in the attached checklist and budget estimates in a separate sheet. Budget details (with proper justification) may be furnished keeping in view the following provisions:

I) **Airfare from place of work in India to place of visit in Slovenia by lowest economy class (indicate sector)**
II) **Medical Insurance & Visa Charges**
III) **Perdiem @US $50 per day for short term (up to 7 days) and US $ 40 per day for long term visit (more than 7 days)**
IV) **Accommodation in hotel (upto US $ 100 per night)**
V) **Local transport in Slovenia (upto US $ 25 per day) as per actuals.**

Since the project is only visit based, no grant under equipment, consumables, manpower etc. would be sanctioned. This should be kept in mind while filling details under serial no.4 in the checklist. Kindly acknowledge the receipt of this letter. An early reply would be highly appreciated.

With kind regards,

Yours sincerely,

(Jagdish Chander)

Encls. As above

Dr. Arijit Chowdhuri,
Acharya Narendra Dev College (University of Delhi),
Kalkaji- 110 019, New Delhi, India

No.INT/Slovenia/P-09/2014
Government of India
Ministry of Science & Technology
Department of Science & Technology
(International Division)

Dated 21 .05.2015

ORDER

Sanction of the President is hereby accorded for incurring an expenditure not exceeding **Rs. 16,11,375/- (Rupees sixteen lakh eleven thousand three hundred seventy five only)** in connection with the implementation of Indo-Slovenia Joint research project entitled **"Exposure-response assessment of Ambient Air Pollution . . . . . of India and Slovenia: A comparative study",** under the Indo-Slovenia programme of Cooperation to be implemented by Indian P.I. **Dr. Arijit Chowdhuri,** Astt. Professor, Acharya Narendra Dev College , University of Delhi, Kalkaji, New Delhi-19, in collaboration with Slovenian counterpart Dr. Milena Horvat, Head & Professor, Department of Environmental Science, Jozef Stefan Institute, Slovenia, for a total duration of three years from the date of receipt of initial grant . The break-up of approved expenditure is as indicated below and no reappropriation (from one budget head to the other) shall be allowed under this project.

Sl.No.	Budget Head	1st yr	2nd yr	3rd Year	total
1.	Number of visits (2 every year, one of 10 days by PI and one of up to 15 days by Student/Young researcher)	2 visits (25 days)	2 visits (25 days)	2 visits (25 days)	6 visits (75 days)
2.	Air Fare Int'l' air travel (shortest route) by lowest Economy class (to & fro) for visit of Indian participants to Slovenia including Domestic travel in India, Silver class medical insurance and visa fee @ Rs. 1,27,000/- per visit (Rs. 1,20,000 +2,000 +5000)	2,54,000	2,54,000	2,54,000	7,62,000
3.	Accommodation charges for stay in Slovenia @ US$ 100/- per day @ Rs. 65 per day	1,62,500	1,62,500	1,62,500	4,87,500
4.	Living allowance (per diem) @ US$ 50 for short term visit (7 days* USD 50) and US$ 40 per day for long term visits (15 days * USD 40) @ Rs. 65 per day	65,000	65,000	65,000	1,95,000
5.	Consumables and Contingencies	15,000	15,000	15,000	45,000
6.	Local Travel in Slovenia @ US$ 25 per day restricted to actual and on production of bills @ Rs. 65 per day	40,625	40,625	40,625	1,21,875
7	Total :- (2+3+4+5+6)	5,37,125	5,37,125	5,37,125	16,11,375

2. Sanction of the President is also accorded for release of initial grant of **Rs. 5,37,125 /- (Rupees five lakh thirty seven thousand one hundred twenty five only)** and the payment of this amount may be made to DDO, DST by means of electronic transfer(E-transfer) for the account of **Principal , Acharya Narendra Dev College , University of Delhi, Kalkaji, New Delhi-19**

-Name/Designation of account holder : **Acharya Narendra Dev College,Govindpuri, Kalkaji, N. Delhi- 110019.**
-Bank Account No. : **0156000100547016**
-Name of Bank & Address : **Punjab National Bank, 36, Krishna Market, Kalkaji, N.Delhi- 19.**
-IFSC Code : **PUNB0015600**

(This sanction order being 1st installment for implementation of this project, no UC/ SE is due from the grantee institute against this project at this stage)

Contd. . . P/2

FILE NO. EMR/2017/004051
SCIENCE & ENGINEERING RESEARCH BOARD(SERB)
(a statutory body of the Department of Science & Technology, government of India)

5 & 5A, Lower Ground Floor
Vasant Square Mall
Plot No. A, Community Centre
Sector-B, Pocket-5, Vasant Kunj
New Delhi-110070

Dated: 09-Oct-2018

ORDER

Subject: Financial Sanction of the research project titled **"Recombinant endolysins from mycobacteriophages: exploring their anti-Mycobacterial potential"** under the guidance of Dr. Urmi Bajpai, Biomedical Sciences, Acharya narendra Dev College , No.3, govind puri, kalkaji, new delhi, New delhi, Delhi-110019 - Release of 1st grant.

Sanction of **Science and Engineering Research Board (SERB)** is hereby accorded to the above mentioned project at a total cost of **Rs. 4670200/-** (Rs. Forty Six Lakh Seventy Thousand Two Hundred **Only)** with break-up of **Rs. *1279400/-* under Capital (Non-recurring) head** and **Rs.*3390800/-* under General (Recurring) head** for a duration of 36 months. The items of expenditure for which the total allocation of **Rs. 4670200/-** has been approved are given below:
The following budget may be considered for **Acharya Narendra Dev College, No.3, Govind Puri, Kalkaji, New Delhi**

S. No	Head	Total (in Rs.)
A	**Non-recurring**	
1	Equipment -> - 20 Deep freezer -> Cold cabinet 2-8°C -> Gel Rocker -> Microplate Reader	1279400
A'	*Total (Non-Recurring)*	***1279400***
B	**Recurring Items**	
1	Recurring - I : (Manpower) Recurring - II : (Consumables, Travel, Contingencies)	1216800 1750000
2	Recurring - III : (Overhead Charges)	424000
B'	*Total (Recurring)*	***3390800***
C	**Total cost of the project (A' + B')**	**4670200**

2. Sanction of the **SERB** is also accorded to the payment of **Rs. 1279400/-** (Rupees Twelve Lakh Seventy Nine Thousand Four Hundred only) under 'Grants for creation of capital assets' and **Rs. 1071000/-** (Rupees Ten Lakh Seventy One Thousand only) under 'Grants-in-aid General' to **THE PRINCIPAL, Acharya Narendra Dev College, No.3, Govind Puri, Kalkaji, New Delhi** being the first installment of the grant for the year 2018-2019 for implementation of the said research project.
3. The expenditure involved is debitable to **Fund for Science & Engineering Research (FSER)**
This release is being made under Core Research Grant. (PAC Biophysics, Biochemistry, Molecular Biology & Microbiology)

4. The Sanction has been issued to Acharya Narendra Dev College, No.3, Govind Puri, Kalkaji, New Delhi with the approval of the competent authority under delegated powers on **04 October, 2018** and vide Diary No. **SERB/F/7839/2018-2019** dated **08 October, 2018**

5. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at website (www.serb.gov.in).

6. Overhead expenses are meant for the host Institute towards the cost for providing infrastructural facilities and general administrative support etc. including benefits to the staff employed in the project.

7. While providing operational flexibility among various subheads under head Recurring-II, it should be ensured that not more than Rs. 1.5 lakh each should be spent for travel and contingency.

8. As per rule 211 of GFR, the accounts of project shall be open to inspection by sanctioning authority/audit whenever the institute is called upon to do so.

9. The sanctioned equipment would be procured as per GFR and its disposal of the same would be done with prior approval of SERB.

10. The release amount of **Rs. 2350400/-** (Rupees Twenty Three Lakh Fifty Thousand Four Hundred only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

Account Name	**ANDC DST-SERB**

Account Number	0156000100586626
Bank Name & Branch	PUNJAB NATIONAL BANK KALKAJIKRISHNA MARKET, KALKAJI, NEW DELHI 11001926214313, 26441318
IFSC/RTGS Code	PUNB0015600
Email id of A/C Holder	principal@andc.du.ac.in
Email id of PI	urmibajpai@andc.du.ac.in

11.The institute will furnish to the SERB, New Delhi, separate Utilization certificate(UCs) financial year wise to the SERB for Recurring (Grants-in-aid General) & Non-Recurring (Grants for creation of capital assets) and an audited statement of accounts pertaining to the grant immediately after the end of each financial year.

12. The institute will maintain separate audited accounts for the project. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.

13. The project File no. EMR/2017/004051 may also be mentioned in all research communications arising from the above project with due acknowledgement of SERB.

14. The manpower sanctioned in the project, if any is co-terminus with the duration of the project and SERB will have no liability to meet the fellowship and salary of supporting staff if any. beyond the duration of the project

15. As this is the first grant being released for the project, no previous U/C is required.

16. The institute may refund any unspent balance to SERB by means of a Demand Draft favoring "FUND FOR SCIENCE AND ENGINEERING RESEARCH" payable at New Delhi.

17. The organization/institute/university should ensure that the technical support/financial assistance provided to them by the Science & Engineering Research Board, a statutory body of the Department of Science & Technology (DST), Government of India should invariably be highlighted/ acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report.

18. In addition, the investigator/host institute must also acknowledge the support provided to them in all publications, patents and any other output emanating out of the project/program funded by the Science & Engineering Research Board, a statutory body of Department of Science & Technology (DST), Government of India.

(Dr. Harish Kumar)
Scientist E
ms_bb@serbonline.in

To,
Under Secretary
SERB, New Delhi

Copy forwarded for information and necessary action to: -

1.	The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002
2.	Sanction Folder, SERB , New Delhi.
3.	File Copy
4.	**Dr. Urmi Bajpai** **Biomedical Sciences** **Acharya narendra Dev College , No.3, govind puri, kalkaji, new delhi, New delhi, Delhi-110019** **Email: urmibajpai@andc.du.ac.in** **Mobile: 919811299719** (Start date of the project may be intimated by name to the undersigned. For guidance, terms & Conditions etc. Please visit www.serb.gov.in.)
5.	**THE PRINCIPAL,** **Acharya Narendra Dev College, No.3, Govind Puri, Kalkaji, New Delhi** (Receipt of Grant may be intimated by name to the undersigned)

(Dr. Harish Kumar)
Scientist E
ms_bb@serbonline.in

No.DST/WOS-B/2017/213-ETD
Government of India
Ministry of Science & Technology
Department of Science & Technology
KIRAN DIVISION

Technology Bhawan
New Mehrauli Road
New Delhi-110016
Dated 12.12.2018

ORDER

Sub: Financial approval of the project under Women Scientist Scheme-B (WOS-B) entitled "**Developing and documenting innovative Practices for learning physics and biology Through experimentation for children and young adults."**

PI: Ms. Anshumala Gupta, Acharya Narendra Dev College, Govindpuri Kalkaji, New Delhi-110019.

Sanction of the President is hereby accorded to the above mentioned project at a total cost of₹ **14,70,000/-** (Rupees Fourteen Lac SeventyThousand only) for a duration of two years. Theitems of expenditure for which the total allocation of₹ **14,70,000/- (recurring)** has been approved for three years are given below:

Sl. No.	Heads	1st Year	2nd Year	Total
A.	***Non-Recurring* (Capital Items)**			
	Equipments:	----------	----------	----------
B.	***Recurring*(General)**			
	Fellowship for B.tech@₹30,000/-	3,60,000/-	3,60,000/-	7,20,000/-
	Consumables	20,000/-	20,000/-	40,000/-
	Contingencies	20,000/-	20,000/-	40,000/-
	Travel	20,000/-	20,000/-	40,000/-
	Other Cost (For field demonstration and audio/visual films & kits)	2,50,000/-	2,50,000/-	5,00,000/-
C.	**Overhead**	65,000/-	65,000/-	1,30,000/-
D.	**Total of Recurring Grant (B+C)**	**7,35,000/-**	**7,35,000/-**	**14,70,000/-**
E.	**GRAND TOTAL (A+D)**	**7,35,000/-**	**7,35,000/-**	**14,70,000/-**

2. Sanction of the grant is subject to the conditions as detailed in website www.dst.gov.in.

3. The sanction of the President is also accorded to the release of ₹ **7,35,000/-** (Rupees Seven Lac Thirty Five Thousand only) under "General Component" to **Principa**l, **Acharya Narendra Dev College, Govindpuri Kalkaji, New Delhi-110019**.,being the first installment of the grant for the year 2018-2019 for implementation of the above mentioned project.

4. This sanction is subject to the condition that the grantee organization will furnish to the Department of Science & technology, financial year wise Utilization Certificate (UC) in the proforma prescribed as per GFR 2017 and audited statement of expenditure (SE) along with up to date progress report at the end of each financial year duly reflecting the interest earned / accrued on the grants received under the project. This is also subject to the condition of submission of the final statement of expenditure, utilization certificate and project completion report within one year from the scheduled date of completion of the project.

5. The grantee organization will have to enter & upload the Utilization Certificate in the PFMS portal besides sending it in physical form to this Division. The subsequent/final installment will be released only after confirmation of the acceptance of the UC by the Division and entry of previous Utilization Certificate in the PFMS.

6. If the grant has been released under capital head through separate sanction order under the same project for purchase of equipment(s), separate SE/UC has to be furnished for the released Capital head grant.

7. The grant-in-aid being released is subject to condition that:-

(a) A transparent procurement procedure in line with the Provisions of General Financial Rules 2017 will be followed by the Institute/ Organization under the appropriate rules of the grantee organization while procuring capital assets sanctioned for the above mentioned project and a certificate to this effect will be submitted by the Grantee organization immediately on receipt of the grant.

(b) While submitting Utilization Certificate/Statement of Expenditure, the organization has to ensure submission of supporting documentary evidences with regard to purchase of equipment/capital assets as per the provisions of FR 2017. Subsequent release of grant under the project shall be considered only on receipt of the said documents.

Contd..p/-2

8. The Grantee Institute (GI) will maintain separate audited as per GFR 2017 Rule 230 (8) account for the project and the entire amount of grant will be kept in an interest bearing bank account. For Grants released during F/Y 2017-2018 and onwards interest and other earnings, against released Grant shall be remitted to Consolidated Fund of India, immediately after finalization of accounts, as it shall not be adjusted towards future release of Grant. A certificate to this effect shall have to be submitted along with statement of expenditure/utilization certificate for considering subsequent release of grant/closure of project accounts. GI should also follow Rule 230 (17) of GFR 2017concerning to reservation of SC/ST/OBC, if applicable.

9. DST reserves sole rights on the assets created out of grants. Assets acquired wholly or substantially out of government grants (except those declared as obsolete and unserviceable or condemned in accordance with the procedure laid down in GFR 2017), shall not be disposed of without obtaining the prior approval of DST.

10. The Principal Investigator under Women Scientist Scheme is not permitted to withdraw any emoluments/ salary/fellowship from any other source/project either supported by DST or by any other funding agency.

11. The account of the grantee organization shall be open to inspection by the sanctioning authority and audit (both by C& AG of India and Internal Audit by the Principal Accounts Office of the DST), whenever the organization is called upon to do so, as laid down under Rule 236(1) of General Financial Rules 2017.

12. Due acknowledgement of technical support / financial assistance resulting from this project grant should mandatorily be highlighted by the grantee organization in bold letters in all publications / media releases as well as in the opening paragraphs of their Annual Reports during and after the completion of the project.

13. Failure to comply with the terms and conditions of the Bond will entail full refund with interest in terms of Rule 231 (2) of GFR 2017.

14. The expenditure involved is debitable to Demand No.84, Department of Science & Technology for the year 2017-18:

3425 Other Scientific Research (Major Head)
60 Others (Sub-Major Head)
60.200 Assistance to other Scientific Bodies (Minor Head)
68 Science and Technology Institutional and Human Capacity Building (Sub Head)
01 Disha Programme for Women in Science
68.01.31 **Grants-in-aid General** for the year 2018-2019 **(Voted)**
(Previous: Disha Programme for Women in Science 3425.60.200.55.01.31)

15. The amount of **₹ 7,35,000/-** (Rupees Seven Lac Thirty Five Thousand only) will be drawn by the Drawing and Disbursing Officer, DST and will be disbursed to The**Principal**, **Acharya Narendra Dev College, Govindpuri Kalkaji, New Delhi-110019**., The bank details for electronic transfer of funds through RTGS are given below:-

Institute name	: Acharya Narendra Dev College
Bank Name	: Punjab National Bank
Account No	: 0156000100586644
Branch	: Krishna Market, Kalkaji, New Delhi-19
IFSC code	: PUNB0015600

16. As per Rule 234 of GFR 2017, this sanction has been entered at S. No.464in the register of grants maintained in the **KIRAN Division** for scheme **(KIRAN: WOS-B)**.

17. This issues with the concurrence of IFD Vide their Concurrence Dy.No)/**2844**/2018-19 dated 24.09.2018.

(Vandana Singh)
Scientist-E

Copy for information and necessary action to:-

1. The Director of Audit (CW & M-II), AGCR Building, IP Estate, New Delhi-110 002.
2. Copy with two spare copies of the sanction to the Drawing & Disbursing Officer, DST, Cash Section.
3. Principal, Acharya Narendra Dev College, Govindpuri Kalkaji, New Delhi-110019.
4. Ms. Anshumala Gupta,Department of Zoology, Acharya Narendra Dev College, Govindpuri Kalkaji, New Delhi-110019
5. Dr. Sarita Kumar, Associate Professor in Zoology,Acharya Narendra Dev College, Govindpuri Kalkaji, New Delhi-110019
6. Pay & Accounts Officer, DST, New Delhi.
7. IFD, DST, New Delhi
8. Sanction Folder.

(Vandana Singh)
Scientist-E

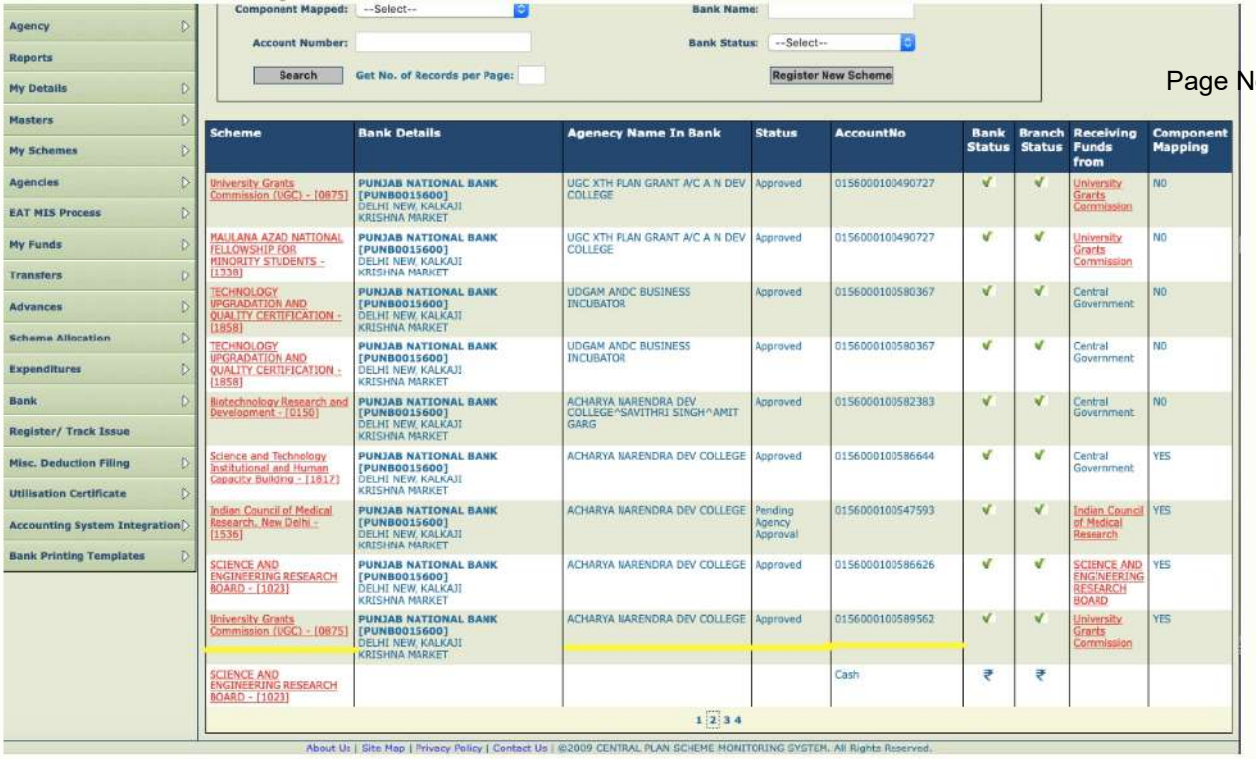
--------- Forwarded message ---------
From: **Paramarsh UGC**
<ugc.paramarsh@gmail.com>
Date: Tue, Jan 28, 2020 at 2:25 PM
Subject: UGC PARAMARSH regarding
To: <principal@andc.du.ac.in>

Sir

This is to inform you that the UGC Expert Committee allocated an amount of Rs.30,00,000/- to your institution. Hence, you are requested to submit the revised budget details to take further action in this regard.

regards,

Section Officer
IC Section
UGC
Phone:- 011-23604519



On 11-Mar-2020, at 2:22 PM, Paramarsh UGC <ugc.paramarsh@gmail.com> wrote:

Sir,

I would like to request you to send the screen shot of the PFMS approval so that it can be sent to Finance Bureau for release of funds.

Regards,

Section Officer
IC Section, UGC
Phone:- 011-23604519

भारतीय आयुर्विज्ञान अनुसंधान परिषद

Indian Council of Medical Resea...

Department of Health Research, Ministry of Health & Family ...
Government of India

Web based Submission,Processing & Mana...

सत्यमेव जयते

User Home (/ICMR/proposerPage.do) | Proposal Submission | Full Proposals | Project | Update Profile (/ICMR/registrationAction.do?hmode=query) | Personal | Logout

Details of PI(s)

1. **Dr. Shripad A Patil** (shripadpatil@yahoo.com(Click To change PI))
   (National JALMA Institute of Leprosy and other Micobacterial Diseases, Agra, Uttar Pradesh)
   Registration Details | Resume | Co-PI Details

2. **Mr. Amit Misra** (amit_misra@cdri.res.in(Click To change PI))
   (Central Drug Research Institute, Lucknow, Uttar Pradesh)
   Registration Details | Resume | Co-PI Details

3. **Dr. Vikas Jain** (vikas@iiserb.ac.in(Click To change PI))
   (Indian Institute of Science Education and Research ,Bhopal, Bhopal, Madhya Pradesh)
   Registration Details | Resume | Co-PI Details

4. **Dr. Urmi Bajpai** (urmibajpai@andc.du.ac.in(Click To change PI))
   (Acharya Narendra Dev College, New Delhi, Delhi)
   Registration Details | Resume | Co-PI Details

Submission Details

Title:	An investigational study on Mycobacteriophages and their enzymes as new drugs (IND) for treating tuberculosis Edit Title
Proposal ID :	2019-1181
File Number:	5/8/5/38/2019-ECD-I
RFC Number:	ECD/Adhoc/66/2019-20 Dt. 07.10.2019
Submission Date:	06-03-2019
Duration of Project:	36 months
Project Start Date:	25-10-2019 Edit Start Date

Broad Area:-

emiology And Communicable
eases

Major Discipline:- TUBERCULOSIS & CHEST DISEASES

Is Ethical Clearance Required? No

Review Version:- F1 (Detailed file) Full Proposal Details

Concept Proposal Details

Pre-Proposal File Comments Dr. Manjula Singh

Full Proposal Details

Full Proposal Comments Dr. Manjula Singh

Program Officer's Review Details

Sl.No.	Program Officer Name	Program Officer Id	Date of Assign	Status	Comments	Transfer Assigments
1	Dr. Manjula Singh	drmanjulasingh	09-Apr-2019	Evaluated	View	

Click to view history of PO(s) Assigned

Institute wise sanctioned budget and remaining budget

PI	Institute	Sanctioned amount	Released amount	Remaining amount
Dr. Shripad A Patil	National JALMA Institute of Leprosy and other Micobacterial Diseases	Rs. 1698800.00	Rs. 2835800.00	Rs. -1137000.00

Required Documents

Project Budget

aaa (in Rs.)

Year	PI Name	Manpower	Equipment	Recurring	Travel	Overhead Charges	Total
Year : 1	Dr. Shripad A Patil	189600.00	0	200000.00	20000.00	0	409600.00
	Mr. Amit Misra	372000.00	0	300000.00	30000.00	33600.00	735600.00
	Dr. Vikas Jain	0	0	500000.00	30000.00	25000.00	555000.00

	PI Name	Manpower	Equipment	Recurring	Travel	Overhead Charges	Total
	Dr. Urmi Bajpai	372000.00	300000.00	400000.00	25000.00	38600.00	1135600.00
Year : 2	Dr. Shripad A Patil	189600.00	0	500000.00	30000.00	0	719600.00
	Mr. Amit Misra	259000.00	0	350000.00	30000.00	30000.00	669000.00
	Dr. Vikas Jain	0	0	500000.00	30000.00	25000.00	555000.00
	Dr. Urmi Bajpai	249600.00	0	250000.00	25000.00	25000.00	549600.00
Year : 3	Dr. Shripad A Patil	189600.00	0	350000.00	30000.00	0	569600.00
	Mr. Amit Misra	288000.00	0	500000.00	30000.00	40000.00	858000.00
	Dr. Vikas Jain	0	0	500000.00	30000.00	25000.00	555000.00
	Dr. Urmi Bajpai	280800.00	0	200000.00	25000.00	25000.00	530800.00

Total Budget (in Rs) : 78,42,400.00

Note:-If you want to see previously submitted/approved budget details, then click on link given below.

1. Sanctioned Budget
2. PRC Recommended Budget
3. Proposed Budget

Go Back

Designed, Developed and Maintained by C-DAC

creative commons

May 27, 2020
Dr. Sarita Kumar
saritakumar@andc.du.ac.in

Re: CC Community Activities Fund

Dear Sarita Kumar,

Summary: Commons Corporation ("CC") has awarded a Community Activities Fund project grant to Sarita Kumar (the "Grantee") in the total amount of USD $845. This letter agreement (the "Agreement") sets forth the terms and conditions of the grant award.

Payment Terms, Use of Funds: The grant will be paid in a single installment via wire transfer using the bank information provided by Grantee on page 4 of this Agreement. Upon receipt of the countersigned Agreement (including the bank information), CC will disburse the funds within a reasonable period of time, typically about 15 business days. Grant funds shall be used exclusively to support the project as set forth in the Grantee's approved proposal and budget, attached to this Agreement as Exhibit A.

No Pledge: This Agreement shall not be interpreted to create any pledge or any commitment by CC to make any other or further grants or contributions to Grantee or any other person or entity for this or any other project.

Reporting and Communications: Upon completion of the project, Grantee agrees to deliver to CC a final narrative report, no more than 2 pages, that describes the outcome of the project, the audiences reached and/or people impacted, and any lessons learned. Additionally, Grantee agrees to remain in reasonable contact with CC throughout the project, as well as respond to reasonable requests from CC about the project and its progression.

Code of Conduct: Grantee agrees to abide by the Creative Commons Global Network Code of Conduct throughout the project.

Unused Funds: Unless otherwise agreed in writing, Grantee agrees to return any unexpended or unaccounted-for funds to Creative Commons.

Records: Original receipts and invoices **must be maintained** by Grantee for six months after completion of the project and shall be made available to Creative Commons upon request.

211 Hope Street #1866
Mountain View, CA 94042
http://creativecommons.org

No Lobbying: Grantee confirms that the grant funds will not be used for the purposes of lobbying, carrying on propaganda, or otherwise attempting to influence legislation, as those purposes are defined by the United States Internal Revenue Code of 1986. If Grantee is in doubt about whether its proposed activities may constitute lobbying, Grantee must consult with Creative Commons prior to undertaking them.

Intellectual Property: Grantee agrees that all original copyrighted material produced pursuant to this grant will be made available under a Creative Commons Attribution 4.0 international license or CC0 public domain dedication. Grantee assumes the burden and expense of clearing all third party rights associated with such material, including with respect to any materials received or maintained in confidence, and/or any third party rights, including but not limited to copyrights, trademarks, and rights of privacy and publicity.

Publicity and Acknowledgement: The Grantee may publicly acknowledge CC as a financial supporter of the project in promotional materials and on its website, if applicable. CC hereby grants permission to Grantee to use the Creative Commons logo in connection with such public acknowledgement.

No Agency: The Grantee is solely responsible for all activities supported by the grant. Nothing in this Agreement creates a partnership, agency, joint venture, employment, or any other type of relationship. The Grantee shall not represent itself as an agent of CC for any purpose, and has no authority to bind CC in any manner whatsoever.

Indemnity: Grantee agrees, to the fullest extent permitted by law, to defend, indemnify, and hold harmless Creative Commons, its officers, directors, affiliates, employees, and agents, from and against any and all claims, liabilities, losses and expenses (including reasonable attorney's fees) directly, indirectly, wholly or partially arising from or in connection with any negligent act or omission of Grantee, its employees or agents, in applying for or accepting the grant, in expending or applying grant funds, or in carrying out the project as set forth in the proposal.

Entire Agreement: Grantee acknowledges and agrees that this Agreement represents the entire agreement between Grantee and Creative Commons with respect to the subject matter addressed herein. The terms of this Agreement may be modified only by a written agreement signed by both parties.

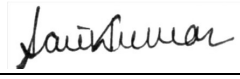
CREATIVE COMMONS CORPORATION

211 Hope Street #1866
Mountain View, CA 94042
http://creativecommons.org

creative commons

Name: Cable Green
Title: Interim CEO
Date: May 27, 2020

Agreed to and accepted on behalf of Grantee:



Name: Sarita Kumar
Date: May 29, 2020

211 Hope Street #1866
Mountain View, CA 94042
http://creativecommons.org

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Please provide the following information

Full name of your bank* *(do not use acronym)* PUNJAB NATIONAL BANK
Your bank's transit or branch code (if applicable)* PUNB0015600
Beneficiary name on the account *(do not use acronym)* ACHARYA NARENDRA DEV COLLEGE
Your IBAN or account number* 0156000100539822
Address of organization accepting the grant funds *(if applicable)* GOVINDPURI, KALKAJI, NEW DELHI-19

Please attest to the accuracy of the information above with your signature, or if you are accepting funds on behalf of your organization, the signature of the appropriate corporate officer of your organization:

Signature

Dr Ravi Toteja; May 29, 2020

Name (printed) & Date

Officiating Principal

Title

principal@andc.du.ac.in

Email Address (required)

If different from above signatory, please provide contact information for questions about Wire Transfer payments:

Wire Transfer Contact Name (printed)

Email Address (required)

211 Hope Street #1866
Mountain View, CA 94042
http://creativecommons.org

** If you have questions about this information, please contact your bank.*

Exhibit A:
OER Awareness and Adoption in Indian Higher Education: A Short Survey

Project description:
The project aims to conduct an online survey among academicians and learners in India regarding OER awareness, CC licenses and, adoption and utilization of these resources in teaching-learning process.

We aim to target about 200 faculty members and 500 students across UG & PG courses for their knowledge and perception about OER; extent of usage; and constraints faced by them. The survey will be conducted through online questionnaire and one-on-one online interactions.

The project will be conducted with the help of 15 undergraduate students and 05 postgraduate students who will use their network in different Universities across India in order to bring regional and cultural diversity in the data. The collected data will be collated and analyzed using adequate statistical tools.

The survey will be followed by a webinar targeted to make both – academicians / faculty and students, aware about the importance and adoption of CC and OER. The theme of the webinar will be based on the results of the survey, yet prime focus will be on the importance of OER and CC licenses, identification of suitable educational material with adequate license and its adoption in day-to-day teaching-learning process.

Budget:

- Students' incentives for dissemination of information, collection of data, follow-up within their network, collation of result, analysis, report making, organization of webinar, etc: USD 600 [@ USD 30 each]
- Project Coordinator: USD 75
- Honorarium of Resource Person of Webinar: USD 100
- Technical help for webinar: USD 20
- Miscellaneous & Expenses: USD 50

Total estimated budget: USD 845

Timeframe:
Proposed duration of the project: June 2020 – September 2020. The project will be coordinated through New Delhi, India; however, the data will be collected across India.

भारतीय आयुर्विज्ञान अनुसंधान परिषद
स्वास्थ्य अनुसंधान विभाग, स्वास्थ्य एवं परिवार
कल्याण मंत्रालय, भारत सरकार

INDIAN COUNCIL OF MEDICAL RESEARCH
Serving the nation since 1911

Indian Council of Medical Research
Department of Health Research, Ministry of Health
and Family Welfare, Government of India

e-112279
No. Mera/3/2020-ECD-II

Dated: 31/7/20

Sub: Payment of 1st & Final installment of 1st Year grant in aid for the research scheme entitled, "Attractive Toxic Sugar Bait (ATSB) methods to control mosquitoes in different regions of Delhi and NCR" under PI: Dr. Sarita Kumar, Associate Professor in Zoology, Acharya Narendra Dev College, New Delhi

MEMORANDUM

The Director General, ICMR sanction the payment of **Rs. 18,82,324/- (Rupees Eighteen Lakh Eighty Two Thousand Three Hundred Twenty Four Only)** as the **1st & Final installment** of **1st Year** of the grant for year **2019-20**. The amount of **Rs. 18,82,324/-** may be debited from the provision of **Rs. 18,82,324/-** made for the above research scheme for the current financial year **2020-21**.

A Formal bill of **Rs. 18,82,324/- (Rupees Eighteen Lakh Eighty Two Thousand Three Hundred Twenty Four Only)** is sent herewith for payment by **RTGS** to The Officiating Principal, Acharya Narendra Dev College, (University of Delhi), Govindpuri, Kalkaji, New Delhi-110019

23 July 2020

(Dr. Samiran Panda)
Head ECD, ICMR

Accounts Section- V, ICMR

Copy to:-

1. **The Officiating Principal,** Acharya Narendra Dev College, (University of Delhi), Govindpuri, Kalkaji, New Delhi-110019
   A bank draft for the amount of **Rs. 18,82,324/- (Rupees Eighteen Lakh Eighty Two Thousand Three Hundred Twenty Four Only)** as the **1st & Final installment** will be sent to you in due course.
2. **Dr. Sarita Kumar, Associate Professor in Zoology,** Acharya Narendra Dev College, (University of Delhi), Govindpuri, Kalkaji, New Delhi-110019
3. IRIS Section
4. Mrs. Vandana, Sr. Technical Officer (2)

23 July 2020
Head ECD, ICMR

वी. रामलिंगस्वामी भवन, पोस्ट बॉक्स नं. 4911,
अंसारी नगर, नई दिल्ली - 110 029, भारत
V. Ramalingaswami Bhawan, P.O. Box No. 4911,
Ansari Nagar, New Delhi - 110 029, India

Tel: +91-11-26588895 / 26588980 / 26589794
+91-11-26589336 / 26588707
Fax: +91-11-26588662 | icmr.nic.in

INDIAN COUNCIL OF MEDICAL RESEARCH
Serving the nation since 1911

भारतीय आयुर्वेज्ञान अनुसधान परिषद
स्वास्थ्य अनुसधान विभाग, स्वास्थ्य एव परिवार
कल्याण मंत्रालय, भारत सरकार

Indian Council of Medical Research
Department of Health Research, Ministry of Health
and Family Welfare, Government of India

No. MERA/3/2020-ECD-II

Dated: 31/7/20

To

The Officiating Principal,
Acharya Narendra Dev College,
(University of Delhi),
Govindpuri, Kalkaji,
New Delhi-110019

Sub: Sanction of budget allotment for the ICMR Task Force New Scheme entitled, "Attractive Toxic Sugar Bait (ATSB) methods to control mosquitoes in different regions of Delhi and NCR" under PI: Dr. Sarita Kumar, Associate Professor in Zoology, Acharya Narendra Dev College, New Delhi

Sir,

The Director General of the Council sanctions the above mentioned research scheme initially for a period of **One year** from **03.08.2020** subject to extension up to the total duration specified in para 3 below:

The Director General of the Council also sanctions the budget allotment of **Rs. 18,82,324/- (Rupees Eighteen Lakh Eighty Two Thousand Three Hundred Twenty Four Only)** as detailed in the attached statement for the period w.e.f. **3.08.2020** year ending on **2.08.2021** during **2020-21**.

The grant in aid will be given subject to the following conditions:

1. The payment of the grant will be made in lump sum to the Head of the Institute. The first Installment of the grant will be paid generally as soon as report regarding the commencement of the project and appointment of the staff is received by the Council. The demand for payment of the subsequent installment of the grant should be placed with the Council in prescribed format attached.

2. The staff appointed on the project should be paid as indicated in the budget statement attached.

3. The approved duration of the research scheme is **2 Years**. The annual extension will be given after review of the work done on the research scheme during the previous years.

4. Fifteen copies of the annual progress report of work done be submitted to the Council every year after completion of ten months of the project. Failure to submit the report in time may lead to termination of the project.

5. The Institute will maintain a **Separate Saving Bank Account** of the receipts and expenditure incurred on the research scheme and will furnish a utilization certificate and an audited statement of the accounts pertaining to the grant.

6. **The grant shall be utilized after following provision laid down in GFR-2017 and TA rules.**

7. The other terms & condition are indicated in the website of ICMR (www.icmr.nic.in) for "Guidelines" for operation of projects for Grants of ICMR's Extramural Research Projects". The receipt of the letter may please be acknowledged.

Yours sincerely,

28/Jan/2020

(Dr. Samiran Panda)
Head ECD, ICMR

1. Copy together with a copy of the budget statement forwarded to the **Account Section – V, ICMR** information and necessary action.

2. **Dr. Sarita Kumar, Associate Professor in Zoology**, Acharya Narendra Dev College, (University of Delhi), Govindpuri, Kalkaji, New Delhi-110019

3. Copy together with two copies of the budget section (Fin) ICMR for compilation of the Council's Budget. **RFC No. (P-45)/ECD/Other Programme/2/2019-20 Dated: 19/03/2020**

4. IRIS Section

5. Mrs. Vandana, Sr. Technical Officer (2), ICMR.

28/Jan/2020
Head ECD, ICMR

BUDGET FOR 1st YEAR
(3.08.2020 TO 2.08.2021)

S.No.	Head	1st Year
1. (a)	JRF @Rs. 31,000/-p.m +HRA24%	4,61,280/-
(b)	Project Assistant @ Rs.31,000/-	3,72,000/-
(c)	Project Technician III@Rs.18,000/-	2,16,000/-
(d)	MTS@ Rs. 15,800/-	1,89,600/-
2.	**Contingency (Recurring)**	
(a)	Chemicals, Glassware and Plasticware	2,00,000/-
(b)	Personal Protection Unit (04 set)	50,000/-
(c)	Review Meeting, Honorarium etc. for three meetings, incentives for support staff, local inhavbitants	1,00,000/-
(d)	Publication charges	1,50,000
(e)	Miscellaneous	30,000/-
3.	**Equipment**	
(a)	Thermo-hygrometers (02 Nos.)	10,000/-
(b)	Flat fan nozzle compression pump sprayers with calibrated discharge rate (06)	15,000/-
4.	**Overhead charges @5%**	88,444/-
Total		**18,82,324/-**

(Rupees Eighteen Lakh Eighty Two Thousand Three Hundred Twenty Four Only)

23/July/2020

(Dr. Samiran Panda)
Head ECD, ICMR

FILE NO. CRG/2020/003493

SCIENCE & ENGINEERING RESEARCH BOARD(SERB)

(a statutory body of the Department of Science & Technology, government of India)

5 & 5A, Lower Ground Floor
Vasant Square Mall
Plot No. A, Community Centre
Sector-B, Pocket-5, Vasant Kunj
New Delhi-110070

Dated: 19-Feb-2021

ORDER

Subject: Research project entitled **"DNA Barcoding for ciliate species identification of Delhi, India"** under the guidance of Dr. Seema Makhija, Zoology, Acharya narendra Dev College , No.3, govind puri, kalkaji, new delhi, New delhi, Delhi-110019 and by Dr. Ravi Toteja, Associate Professor, Zoology, Acharya Narendra Dev College.

1. This is in continuation of SERB's sanction order No. "CRG/2020/003493" dated "30 December, 2020 " **of Science and Engineering Research Board (SERB).**

2. Sanction of the competent authority is hereby accorded to the payment of a sum of **Rs. 1000000/-** (Rupees Ten Lakh only) under 'Grants for creation of capital assets' to **Principal, Acharya Narendra Dev College, No.3, Govind Puri, Kalkaji, New Delhi** being the 2nd grant for the financial year 2020-2021 for implementation of the above said project.

3. Sanction of the competent authority is also accorded to the carry forward of unspent balance of **Rs. 0/-** (Rupees only) (Recurring Rs. 0 and Non-Recurring Rs. 0) to Acharya narendra Dev College, No.3, Govind Puri, Kalkaji, New Delhi from FY 2019-2020 to FY 2020-2021 for the same purpose for which it was sanctioned.

4. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at the website (www.serb.gov.in).

5. It is certified that provision of GFR 212 relating to Utilization Certificates (Ucs) for the funds released under the grant have been satisfied and the UC/s is/are enclosed herewith.

6. The expenditure involved is debitable to **Fund for Science & Engineering Research (FSER)**
This release is being made under Core Research Grant. (Organismal and Evolutionary Biology(Animal Sciences))

7. The Sanction has been issued to Acharya Narendra Dev College, No.3, Govind Puri, Kalkaji, New Delhi with the approval of the competent authority under delegated powers on **16 February, 2021** and vide Diary No. **SERB/F/7679/2020-2021** dated **17 February, 2021**

8. The release amount of **Rs. 1000000/-** (Rupees Ten Lakh only) (Recurring Rs. 0 and Non-Recurring Rs. 1000000) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

PFMS Unique Code	ANDC
Account Name	Acharya Narendra Dev College
Account Number	0156000100555352
Bank Name & Branch	Punjab National Bank Krishna Market36, Krishna Market, Kalkaji, New Delhi-110019
IFSC/RTGS Code	PUNB0015600
Email id of A/C Holder	principal@andc.du.ac.in
Email id of PI	seemamakhija@andc.du.ac.in

9. The institute will maintain separate audited accounts for the project. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.

10. As per rule 211 of GFR the accounts of Grantee Institution shall be open to inspection by the sanctioning authority / audit whenever the institute is called upon to do so.

11. The institute will furnish to the SERB, Utilization certificate(separate for Recurring & Non-Recurring) and an audited statement of accounts pertaining to the grant immediately after the end of each financial year.

12. After completion of the project unspent balance if any should be returned as Demand Draft drawn in favour of "Fund for Science and Engineering Research" payable at New Delhi.

13. The organization/institute/university should ensure that the technical support/financial assistance provided to them by the Science & Engineering Research Board, a statutory body of the Department of Science & Technology (DST), Government of India should invariably be highlighted/ acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report.

14. In addition, the investigator/host institute must also acknowledge the support provided to them in all publications, patents and any other output emanating out of the project/program funded by the Science & Engineering Research

(Dr. Harish Kumar)
Scientist E
ms_as@serbonline.in

To,
Under Secretary
SERB, New Delhi

Copy forwarded for information and necessary action to: -

1.	The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002
2.	Sanction Folder, SERB , New Delhi.
3.	File Copy
4.	**Dr. Seema Makhija** **Zoology** **Acharya narendra Dev College , No.3, govind puri, kalkaji, new delhi, New delhi, Delhi-110019** **Email: seemamakhija@andc.du.ac.in** **Mobile: 919136563762** **Dr. Ravi Toteja** **Zoology** **Acharya Narendra Dev College**
5.	**Principal,** **Acharya Narendra Dev College, No.3, Govind Puri, Kalkaji, New Delhi**

(Dr. Harish Kumar)
Scientist E
ms_as@serbonline.in

Budget Details

File Name :CRG/2020/003493

Project Title :DNA Barcoding for ciliate species identification of Delhi, India

PI Name :Seema Makhija

S. No	Head	Total (in Rs.)
A	**Non-recurring (Capital Items)**	
1	Equipment -> Upright compound advance research microscope for bright field and DIC microscope with digital imagin - 1	1000000
A'	***Total - Capital***	***1000000***
B	**Recurring Items**	
1	Manpower -> Laboratory Staff - 1 -> Junior Research Fellow - 1	1947360
2	Consumables	400000
3	Travel	150000
4	Contingencies	150000
5	Other Cost 150000	150000
6	Scientific Social Responsibility	20000
	General - I (Manpower, Consumables, Travel, Contingencies, Other Cost, SSR)	**2817360**
	General - II Overhead Charges	**380000**
B'	***Total - Recurring***	***3197360***
C	**Total cost of the project** (without overhead)	**2817360**
D	**Total cost of the project (A' + B')**	**4197360**

MIRANDA HOUSE
मिरांडा हाऊस

Professor (Dr.) Bijayalaxmi Nanda
Officiating Principal

TO WHOMSOEVER IT MAY CONCERN

14.03.2022

This is to certify that a R & D CARS project is sanctioned from MTRDC, DRDO on 11 January 2022 to Professor Monika Tomar as Project investigator for a duration of one year with a total outlay of Rs. 23.60 Lakh only. Further it is certified that Professor Arijit Chowdhuri (Department of Physics, Acharya Narendra Dev College, University of Delhi) and Dr. Anjali Sharma (Department of Physics, Atma Ram Sanatan Dharam College, University of Delhi) are Co-PI in the said project.

I extend my best wishes to the project team for successful implementation of the project.

कार्यवाहक प्रधानाचार्या / Officiating Principal
मिरांडा हाऊस / Miranda House
दिल्ली विश्वविद्यालय / University of Delhi
दिल्ली / Delhi-110 007

भारत सरकार, रक्षा मंत्रालय, रक्षा अनुसंधान तथा विकास संगठन
सूक्ष्मतरंग नलिका अनुसंधान तथा विकास केन्द्र
पी ओ बाक्स–1310, जालहल्ली, बेंगलौर-560013
Government of India -- Ministry of Defence
Defence Research & Development Organisation
MICROWAVE TUBE RESEARCH AND DEVELOPMENT CENTRE (MTRDC)
P.O.Box 1310, Jalahalli, Bangalore 560013, India

फोन/Phone: +91-080-22658241/28386809
फैक्स/FAX: +91-080-28386809 / 6804
ई.मेल E-mail: mmg@mtrdc.drdo.in

No. MTRDC/MMG/20206/TE/LP/2021-2022/BUP Date: 16. December 2021

To

University of Delhi
Department of Physics,
Miranda House
DELHI – 11 007

Kind Attn.: Prof. Monika Tomar

SUBJECT : FINALISATION OF CARS CONTRACT IN R/O "DEVELOPMENT OF PROCESS AND EVALUATION OF ELECTRON SUPPRESSION COATING ON THE GRIDS USED IN TWTs"

1. Your proposal for the subject CARS contract has been accepted to the extent of Rs. 23,60,000.00 and we are enclosing 03 copies of CARS contract with terms and conditions for your approval and return to us.

2. One original copy would be sent to you after signing by the Centre Head, MTRDC

S Vijay Mahendra
भंडार अधिकारी/ Stores Officer
For Centre Head

Page No. 25

Annexure – 2

Contract for Acquisition of Research Services (CARS)

By Signature of authority identified at (11) below, DRDO hereby contracts on the Research Service Provider identified at (3), the provision of the Research Services described at (6), within the time stated at (8), for payments at (9.2), and subject to other conditions overleaf, as follows:

1.	Short title of Research Service to be provided: Development of Process and Evaluation of Electron Suppression Coating on the Grids used in TWTs					Contract No. **MTRDC/MMG/20206/CARS/LPO/ /2021-22/BUP** Date: ___ Dec. 2021 Period of the Contract: **12 Months from the date of signing**
2.	RSQR Document Ref. No.: -----	Date of Issue			**Issuing DRDO Lab/ Estt/ Project:**	Dates of CARS Amendments:
		YY	MM	DD	MTRDC, DRDO, Bangalore	
		2021	12			
3.	Name and address of Research Service Provider (RSP): Department of Physics, Miranda House, University of Delhi DELHI – 110 007					4. RSP's Offer Ref.
5.	(a)	This Contract will require a formal amendment if the following key professional are not available to RSP: **Prof. Monika Tomar**, Department of Physics, Miranda House, University of Delhi – DELHI – 110 007.				
	(b)	RSP is authorized to engage these professionals as research consultants (names, institutes/ companies):				
6.	Principal technical features of Offer as related to RSQR (Detailed in Annexure-I)					
7.	DRDO will make available the following DRDO-owned equipment to RSP (Detailed in Annexure-II): NIL					
8.	The technical performance of this contract shall be complete when RSP submits the Final Report before (date): **12 Months**					

9.1		Expenditure on items below shall not exceed sums shown against each sums shown against each	Rs. (in lakhs)
	a)	Personnel	0.00
	b)	Equipment (shall be reallocated as per actual expenditure)	15.00
	c)	Others (miscellaneous, contingency and spares) (shall be reallocated as per actual expenditure)	5.00
		Total Rs.	20.00
		GST @ 18%	3.60
		Grand Total	23.60

9.2		Schedule of payments (Rs. In Lakhs)	Date (T_0 – Date of Contract)	Payment (Rs. in lakhs)
	a)	Initial Advance	T_0 + …. Months	18.0
	b)	at Performance Milestone I of RSQR	T_0 + 6 months	4.5
	c)	at performance Milestone II of RSQR + Submission of Final Report	T_0 + 12 months	1.1
@Payments will be made within 45 days of receipt by L/E/P of Contingent Bill			**Total:**	23.60

10.	General conditions of CARS remain unchanged. Other specific conditions in CARS are amended to read: -	
11.	DRDO will deem this contract, including amendments thereto, to have been consummated when signed below by the authority of the academic institution (e.g. Registrar) competent to enter into this contract: [Sign over seal] Name: Designation: Date:	12. Signature of L/E/P contract administrator: Name: Designation: Date:

GENERAL CONDITIONS OF CARS

ANNEXURE TO CONTRACT NO. MTRDC/MMG/20206/CARS/LPO/ /2021-22/BUP Dt. 2021

Specific Conditions of this contract : The following conditions apply (L/E/P to stipulate) in addtion to General Conditions listed at II below:

Technical Performance : The satisfactory execution of the technical features of this contract shall be established against Performance Milestones as specified in the Contract.

Delivery Schedules : The interim reports and/or other outcome(s) of this contract shall be delivered as specified in the Contract.

General Conditions of this CARS

1.Equipment:

1.1 All equipment of a capital nature purchased, to execute this contract are the property of DRDO (L/E/P). These shall be returned to L/E/P within 03 months of expiry of this contract, unless L/E/P specifies otherwise separately.

NOTE : Should there be a difference of opinion between the RSP and L/E/P on whether or not a piece of equipment is of 'capital nature', the decision of L/E/P shall be final and binding on the RSP.

1.2 Equipment included in the Summary Offer of Research Services [at entry 9.1] shall be procured by the RSP.

1.3 The RSP shall be responsible for the proper maintenance of the equipment and shall not alienate them, or use them without the prior permission of L/E/P for purposes other than those specified in this contract.

2.0 Financial provisions : By entering into this contract, the RSP agrees to make available to the L/E/Ps, or to any person or bodies designated by it, if requested by the L/E/Ps, all financial documentation and records on supplies and services purchased or acquired by the RSP for executing the contract.

2.1 Advances, work in progress and schedule of payments :

(a) Advances or milestone payments are interim payments, which shall be deducted from the total sums due to the RSP

(b) The L/E/P shall make payments for executing this contract on demands made through "Contingent Bills" after certification by the pertinent financial authority of the RSP that the monies already released have been utilized for the purposes for which they were provided.

(c) Except with the specific written pre-agreement of the L/E/P, the RSP shall not use for any purposes other than those specified in this contract, any material or services for which advances or milestone payments have been made.

2.2 Financial documentation and records :

(a) For work whose estimated time for completion is six months or less, the RSP shall submit only those reports as relate to the purchase of equipment by the RSP, within thirty (30) days of such purchase(if applicable).

(b) For contracts whose estimated time for completion is more than six months, the RSP shall provide the L/E/P not later than thirty (30) days after the end of each half-year, with a half-yearly financial report showing the actual expenditure incurred, against each of the entries at 'item 9.1' overleaf, for the execution of the contract up to the end of the previous half-year.

(c) The L/E/P, or other authority specified by DRDO, may inspect all books, bills, vouchers and other financial records at any time until the final settlement of accounts. The RSP shall supply the L/E/P with such documents as are necessary for final settlement of claims, without explicit request by the L/E/P, within three (3) months after the date of submission of the final report.

(d) The documents supporting claims shall be preserved by the RSP until one year after the contract accounts are finally settled.

3. Disclosure and use of information by the RSP : The RSP will ensure that the documents supplied by the L/E/P are not disclosed to any person other than a person authorized by the L/E/P. Any pattern, sample or information in documentary or other physical form remains the property of the L/E/P throughout the period of the contract and shall be returned to the L/E/P after execution of the contract, unless their disposal is otherwise provided for in the contract.

4. Delivery Schedule :

4.1 The interim outcomes of the contract shall be delivered at the time or times and in the manner specified in I above.

4.2 The RSP shall inform the L/E/P properly of any occurrence that is likely to cause delay in delivery of above contracted outcomes. The L/E/P shall determine, in the light of circumstances reported, the extent of change(s) required in the delivery schedule of the contract.

Note : The above covers only unexpected technical difficulties, gross delays in deliveries by suppliers of purchased equipment or consumables, illness or other justifiable cause of unavailability of research personnel and similar unforeseen circumstances.

4.3. An extension of the time limit for execution of the contract, or a postponement of delivery of outcomes shall require the explicit approval of the L/E/P, which approval shall be contractually valid only when this contract is formally amended by the L/E/Ps as recorded on top right hand corner overleaf.

5.Short-closure of contract: The contract may be short-closed at any time during the currency of its execution if the L/E/P feels that no useful purpose will be served by continuing its implementation. The short closure will be deemed to be effective from the day the short closure order is received by the RSP. Subsequent to this short-closure the RSP will submit a technical report on the work done till short-closure. The monies left unspent on the date of receipt of short-closure order by the RSP shall be returned to L/E/P. All equipment/stores acquired out of contract monies shall also be returned to L/E/P.

6. Reports : Reports giving details of the progress of the work shall be sent to the L/E/P at intervals as specified in I above. On completion of the contract, the RSP will submit a final report (Contractor Report). All reports shall be in a format conforming to Indian Standard IS:1064-1980, bound with Bibliographic Description sheet conforming to IS:9400-1980.

7. Ownership of intellectual Property (IP):

7.1. The ownership of intellectual property, whether or not legally protected, generated by contract research performed under this contract shall vest in DRDO. However, the RSP shall receive, upon demand by it, a royalty-free licence from DRDO to use these intellectual properties for its own purposes, which purposes specifically exclude sale or licensing to third parties.

7.2. Notwithstanding the above, all documents and information detailing the technical performance of this contract (including pertinent laboratory notebooks, sketches, photographs, video tapes of experiments, electronic data acquisition records and other similar) shall be the property of DRDO, whether or not in the physical possession of DRDO.

8. Publications : Interim technical results and the outcome of the contract, intellectual or physical, are the property of DRDO. If the investigator intends publishing the technical outcome, he shall send a written request to L/E/P for permission to publish along with a copy of the manuscript. Within 60 (sixty) days of the receipt of such request, the L/E/P will inform the investigator(s) about its decision. If no communication is received from the L/E/P by the investigator/RSP within this period of 60 (sixty) days, the investigator / RSP shall be free to publish the material as proposed by him.

9. Publicity relating to this contract : This existence of the contracts or the status of their execution shall not be publicised by the RSP in the media or in its Periodic / Annual Report except with the written consent of L/E/P. The latter shall specify the text relating to this contract that may be made public.

10. Communications: All communications affecting the performance of the contract or its terms and conditions shall be contractually valid only when confirmed by formal communication by the signatory.

11. Compliance with law :Notwithstanding anything contained in the contract, the RSP shall be solely responsible for complying with all laws in force in India.

12. Settlement of disputes: All disputes to a CARS shall be settled mutually between the RSP and Director of L/E/P placing the CARS. Any remaining unresolved disputes shall be referred to final binding settlement by authorities mutually decided by the Secretary, Defence Research & Development, Ministry of Defence, and Secretary, HRD, Government of India, unless otherwise provided for in

Research Service Qualitative Requirement (RSQR) of

"Development of process and evaluation of electron suppression coating on the grids used in TWTs"

INTRODUCTION:

MTRDC is developing non-intercepting gridded electron guns for Travelling Wave Tubes (TWTs) at various frequency bands. Non-intercepting gridded electron gun is a very important and critical sub assembly of a TWT and used for pulsing the electron beam in a pulse TWT. The control grid, which is a thin vane like structure with opening of 50% to 80% is placed very close in front of cathode to control the electron beam from the cathode by applying a small pulse voltage and the shadow grid is an exact replica of the control grid and placed just above the cathode (and operate at cathode potential) matched in orientation with the control grid. This will stop the emission of electron from the part of the cathode shadowed by shadow grid and hence protect the control grid from electron bombardment. Typical grid material used is molybdenum. After few 100 hours of operation of the TWT the emitting mixture material of the cathode (responsible for electron emission from the cathode) accumulates on the shadow grid and shadow grid starts emitting electrons. This results in higher control grid current as the shadowing effects reduces with time and subsequently lead to catastrophic failure of the TWT. Hence for long life and better reliability of the TWT, the shadow grid requires electron suppression coating. Typically a thin film of Zirconium is coated on the Molybdenum with a Tungsten as intermediate layer to act as electron suppression coating. For better performance of the TWT, the shadow grid requires to be coated only on the concave side and control grid on both sides.

OBJECTIVE:

To develop the process of deposition of thin films of Zirconium on the Molybdenum grids with Tungsten as intermediate layer which will withstand the high temperature (1050 degree Centigrade) in the Ultra High Vacuum (UHV ~ 10^{-7} Torr) environment of a TWT.

SCOPE:

1. Development of process of deposition of thin films of Zirconium on the Molybdenum grids with Tungsten as intermediate layer.
2. High temperature (1050 degree Centigrade) withstanding capability and peel off test of the coating.
3. Coating of grids supplied by MTRDC (5 pairs) for experimental evaluation in the actual TWT environment.

DELIVERABLES:

1. Process documents – 1 hard copy
2. Coated grids – 5 pairs (Molybdenum grids will be supplied by MTRDC)

DURATION:

12 (Twelve) months

MILESTONE WISE PAYMENT SCHEDULES:

Sl. No.	Milestone	Time	Work Completion
1	Initial advance	To	Project initiation and signing of contract
2	Milestone 1	T0+6 months	Purchase of equipments/ subsystems, deposition of Tungsten and Zirconium coating, process optimisation on samples and peel off test and interim report
3	Milestone 2	T0+12 months	Deposition of coating on actual grids, peel off test and high temp withstanding capability test in UHV environment and final report

B. Bharat Kumar 7/10/21

Bharat Kumar, Sc-D

Initiating Officer

7/10/21

Dr. M Santra, Sc-G

OIC-Gp-III

ELITE (2017-2018)

During the summer of 2017, 84 students of the College undertook projects of two-month duration under this scheme. Each student earned a fellowship of Rs. 1000/- p.m. with departments getting a contingency grant for the projects.

S. No.	Title of the Project	Mentor/s	Students
1	Adsorption of Heavy Metals on EDTA - Functionalized Chitin	Dr Sunita Hooda and Dr Geetu Gambhir	Ravina B. Sc. (H) Chemistry, III Year
2	Adsorption of Organic Dyes on EDTA - Functionalized Chitin	Dr Sunita Hooda and Dr Geetu Gambhir	Ravina and Aniket B. Sc. (H) Chemistry, III Year
3	Social Campus	Dr Chandra Kant Samal	Ayush Kumar Varshney, Dhananjay Kumar and Ruman Saleem B. Sc. (H) Computer Science, II Year
4	The Learning Hub	Dr Chandra Kant Samal	Varad Srivastava and Vikash B. Sc. (H) Computer Science, II Year
5	Effect of UV Radiation on Ciliate *Blepharisma*	Dr Ravi Toteja and Dr Seema Makhija	Hritik Kadian and Juhi Jaiswal B. Sc. (H) Zoology, II Year
6	Phytochemical Screening of Mango Seed Extract; Fine-Tune Investigations on Cillates, *Tetmemena* sp (*Stylonychia*)	Dr Ravi Toteja and Dr Seema Makhija	Umesh Jatav B. Sc. (H) Zoology, II Year Jyoti Gautam B. Sc. (H) Biomedical Science, II Year
7	To Study the Effect of Temperature and pH on ohe Growth of Bacteria (*Escherichia coli*)	Dr Ravi Toteja and Dr Seema Makhija	Ekta Verma B. Sc. (H) Zoology, II Year
8	Isolation of Mycobacteriophages, Data Mining & Genome Annotation and Instrumentation	Dr Urmi Bajpai	Sonia, Shweta, Prashasti and Suraj B. Sc. (H) Biomedical Science, III Year
9	Spectrophotometric Studies of Turmeric Extracts and Review of its Medicinal Properties	Dr Pankaj Khanna, Dr Neeti Misra and Dr Leena Khanna	Rajkamal and Jatin B. Sc. (H) Chemistry, I Year
10	Synthesis of Some Heterocyclic Compounds and a Review on Benzimidazole Synthesis	Dr Pankaj Khanna, Dr Shallu Sachdeva and Dr Leena Khanna	Jatin and Rajkamal B. Sc. (H) Chemistry, I Year
11	Effect of Heavy Metals and	Dr Rashmi Sharma	Megha Yadav, Parul Dev, Pritam

	Acids on Aquatic Plants Like *Lemna gibba, Spirodella polyrrhiza, Wolffia globose* and Role in Aquatic Phytoremediation System		Kashyap and Rinki Kumari B. Sc. (H) Botany, III Year
12	A Survey of Whatsapp Usage Among Different Groups of People	Dr Sarita Kumar	Prateek Trivedi B.S c. (H) Zoology, II Year
13	To Study Insect Species Diversity in Campus of Acharya Narendra Dev College	Dr Sarita Kumar	Manoj Kumar B. Sc. (H) Zoology, II Year
14	Effects of Different Diets on the Growth and Development of *Helicoverpa armigera*	Dr Sarita Kumar	Ayushi Raturi and Sunil B. Sc. (H) Zoology, I Year
15	Protein Profiling of Insect Haemolymph by Gel Electrophoresis	Dr Sarita Kumar	Namarta Sharma B. Sc. (H) Zoology, II Year
16	Creation of Online Repository of Zoological Specimens and Permanent slides	Dr Sarita Kumar	Harveen Kaur B. Sc. (H) Zoology, II Year
17	To Understand Chemotaxis Plasticity in Native Nematodes	Dr Sarita Kumar and Dr Aparna Sharma	Shubham Rawat B. Sc. Life Sciences, II Year Gaurav and Purnendu B. Sc. (H) Biomedical Science, I Year
18	Study of regeneration of anterior segments in the earthworm *Eisenia fetida*	Dr Sarita Kumar and Mr Ravinder Sagar	Harshita, Dipshi Aggarwal, Harmanpreet Kaur and Deepak Sahni B. Sc. (H) Biomedical Science, II Year
19	Extension in Quaternion Group	Dr Sarita Aggarwal	Abhas Mishra, Pramhans Kushwaha and Sameeksha Pradhan B. Sc. (H) Mathematics, II Year
20	Ganga River and its Tributaries: Effect of Industrial Pollution	Dr Vandana Uberoi	Anu Malik B. Sc.(H) Chemistry, II Year
21	Hindon River : Effect of Industrial Chemicals	Dr Vandana Uberoi	Piyush Kumar B. Sc.(H) Chemistry, II Year
22	Yamuna River and its Tributaries: Pollution Caused by Industrial Effluents	Dr Vandana Uberoi	Antim Rani B. Sc.(H) Chemistry, II Year
23	The Study of Diversity of Bees during Monsoon Months in Delhi	Dr Charu Khosla Gupta	Saranya Nair B. Sc. (H) Botany, III Year Sibaram Sadarangi

			B. Sc. (H) Biomedical Science, II Year
24	Environment Science: Green Chemistry	Dr Charu Khosla Gupta and Dr Arijit Chowdhuri	Priya Chopra and Jitender Pal Singh B. Sc. (H) Physics, III Year
25	To Evaluate the Air Pollution Tolerance Index of Different Plant Species as to Select Species to Grow in Respective Areas and Correlation with the Pollutants	Dr Charu Khosla Gupta and Dr Yash Mangla	Mohit Singh B. Sc. Life Sciences, I year Sonanjali Aneja B. Sc. (H) Biomedical Science, I Year Abhijeet Rao B. Sc. Physical Sciences (Chemistry), I Year Sakshi Saraswat B. Sc. (H) Zoology, I Year
26	Lab Maintenance Application	Dr Ravneet Kaur and Ms Gauri Ghai	Adarsh Maurya B. Sc. (H) Electronics, III Year Ashish Maurya B. Sc. (H) Computer Science, III Year
27	Communication Tool Kit by Labview	Dr Ravneet Kaur and Dr Anita Kumari	Rachit Agrawal B. Sc. (H) Electronics, III Year Deepak Sharma B. Sc. (H) Electronics, III Year
28	Study of Transgenerational Epigenetic Inheritance in *Moina* Species under Hypoxia	Dr Ravi Toteja and Dr Seema Makhija	Ayush, Harshika Gautam, Pooja and Shreya Verma B. Sc. (H) Biomedical Science, I Year
29	Study of Bacteriophage through Bioinformatics and Advanced Instrumentation	Dr Urmi Bajpai	Prakhar Sonik B. Sc. (H) Biomedical Science, III Year
30	Pattern of Pupae Colouration and Pigmentation in Developing Fruit Fly	Ms Sunita Jetly	Komal, Riddhi Bhardwaj B. Sc. (H) Biomedical Science, I Year Yukti Khanna B. Sc. Life Sciences, I Year
31	An Investigation into India's Population: Population Growth Study	Dr Sanjeeta Rani and Dr Parminder Singh	Piyush Sagar, Ativir Pratap Singh B. Sc. (H) Physics, III Year
33	Green Synthesis and Characterization of ZnS Nanoparticles	Dr Seema Gupta	Priya Kumari B. Sc. (H) Biomedical Science, II Year
34	Foreigners' Perceptions about India	Mr Manoj Kumar Garg and Dr Joita Dhar Rakshit	Akanksha Shukla, Bhavya Saini and Sweta Singh B. Sc. (H) Biomedical Science, II Year

35	Synthesis of CdTe Quantum Dots and its Application in Metal Detection	Dr Seema Gupta	Nitish Kumar B. Sc. (H) Biomedical Science, III Year
36	Synthetic Fabrication and Optimisation of Gold Nanoparticle for the Development of Fluorescence Based Sensors	Dr Seema Gupta	Saurabh Yadav B. Sc. (H) Biomedical Science, III Year
37	Green and Low Cost Synthesis and Characterisation of ZNS Nanoparticles	Dr Seema Gupta	Shagun Sharma B. Sc. Life Sciences, III Year
38	Social Media Platform for Students and Colleges	Dr Chandra Kant Samal	Ayush Kumar Varshney, Dhananjay Kumar and Ruman Saleem B. Sc. (H) Computer Science, I Year
39	Smplycode Programming Tutorial Application(PTA)	Dr Sharanjit kaur	Saurabh Yadav B. Sc. Physical Sciences (Computer Science), II Year
40	An Investigation into India's Population	Dr Sanjeeta Rani Dr Parminder singh	Piyush Sagar and Ativir Pratap Singh B. Sc. (H) Physics, III Year
41	Quartz Crystal Microbalance (QCM)	Dr Arijit Chowdhuri Dr V. Bhasker Raj	Siddharth B. Sc. Physical Sciences (Electronics), II Year
42	Discovery of Bacteriophages, Data Mining and Annotation and Instrumentation	Dr Urmi Bajpai	Sonia Trikha B. Sc. (H) Biomedical Science, II Year
43	To Study the Effect of Zein nanoparticles on *Candida albicans*	Dr Seema Gupta	Mani Gupta B. Sc. (H) Biomedical Science, I Year
44	Online Student Assistant	Dr Sharanjit kaur	Jyoti Kumari and Mamta Kumari B. Sc. Physical Sciences (Computer Science), II Year

ELITE (2018-19)

ELITE– 'Education in a Lively Innovative Training Environment' Summer Fellowship:

During the summer of 2018, 51 students of the College undertook projects of two-month duration under this scheme. Each student earned a fellowship of Rs. 1000/- p.m. with departments getting a contingency grant for the projects.

S. No.	Title of the Project	Mentor/s	Students
1	Study and extraction of medicinally important plant S. chirata & examination of chemical adulteration in food items	Dr Pankaj Khanna, Dr Kavita Mittal and Dr Neeti Misra	Ankit Rai, Gunjan & Shivam Kumar B.Sc. (H) Chemistry, I Year
2	Physico-Chemical and Biological analysis of soil samples collected from ANDC	Dr Ravi Toteja and Dr Seema Makhija	Khusbhoo and Vanya B. Sc. (H) Zoology, II Year
3	Effect of Heavy Metals and Ethidium Bromide on DNA.	Dr Ravi Toteja, Dr Seema Makhija and Dr Arijit Chowdhuri	Senjuti B. Sc. (H) Zoology, II Year Chaitanya Raj B.Sc. (H) Physics III Year
4	Natural history of butterfly diversity at ANDC	Dr. Sarita Kumar and Dr. Ravinder K Sagar	Shubahm Mohanty B. Sc. (H) Zoology, I Year
5	To understand the mechanism of learning and memory formation in *Achatina fulica*	Dr. Sarita Kumar and Dr. Ravinder K Sagar	Manisha B.Sc. (H) Zoology, I Year Shipra Yadav B.Sc. (H) Biomedical Sciences, I Year
6	Impact of climate change on Albatross	Dr. Sarita Kumar	Mohit Rajput B.Sc. Life Sciences, II Year

7	Computational analysis of immunogenic factors responsible for the growth of tumor	Dr. Gagan Dhawan	Purnendu Kumar B.Sc. (H) Biomedical Sciences, III Year
8	Green Synthesis, Characterization and Biological evaluation of metallic nanoparticles	Dr. Gagan Dhawan and Dr. Seema Gupta	Gaurav Agrawal, Priyanka Chauhan B.Sc. (H) Biomedical Sciences, III Year
9	Nanoparticle synthesis and their physicochemical characterization	Dr. Seema Gupta and Dr. Gagan Dhawan	Piyush Rana Akash Bharti Akarsh Pandey Tnish Dhir Sameer Gupta B.Sc. (H) Chemistry, II Year
10	Functional Analysis and Characterization of specific Mycobacteriophage Genes	Dr.Namita Singh; Dr.Abhishek Kumar Mehta and Dr. Urmi Bajpai	Amit Babu, Ashwin, Lucky, Muskan Jindal, Prachi, Preeti, Purva, Rohini, Samridhi Didwania, Sansi B.Sc. (H) Biomedical Sciences, I Year Sonanjali

			B.Sc. (H) Biomedical Sciences,II Year
11	Antibacterial activity of different solvent extracts obtained from leaves of *Aeglemarmelos* (L.) Corr**.**	Dr. Archana Pandey ; Dr.Satendra Singh and Dr.Sunita Huda	Shreya Verma B.Sc. (H) Biomedical Sciences, II Year Sunaina B.Sc. (H) Chemistry, I Year
12	Bactericidal activity of seeds extracts of *Aeglemarmelos* (L.) Corr.using minimum inhibitory concentration and disc diffusion assay	Dr.Archana Pandey ; Dr. Satendra Singh and Dr. Sunita Huda	Varshini B.Sc. (H) Biomedical Sciences, II Year Gunjan B.Sc. (H) Chemistry, I Year
13	In vitro antibacterial activity of bark extract of Aegle marmelos(L.) Corr. against gram positive and gram negative bacterial strains	Dr. Archana Pandey ; Dr. Satendra Singh and Dr. Sunita Huda	Yash Shukla B.Sc. (H) Biomedical Sciences, II Himani B.Sc. (H) Chemistry, I Year
14	Antibacterial properties of *Aeglemarmelos*(L.) Corr. fruit pulp extracts prepared in different organic solvents	Dr. Archana Pandey ; Dr. Satendra Singh and Dr. Sunita Huda	Deepak Pokhreal B.Sc. (H) Biomedical Sciences, II Shivam Kumar B.Sc. (H) Chemistry, I Year
15	Column chromatography assisted fractionation of active constituents of aegle marmelos leaves and their antibacterial activity	Dr Archna Pandey and Dr. Satendra Singh	Varshini Padmanabhan, Shreya Verma, Riddhi Bhardwaj,

			Urooj Fatima B.Sc (H) Biomedical Science, II Year
16	Security Device Development using Face Recognition Techniques "SWAN"	Dr. Ravneet Kaur Dr. Monika Bhattacharya	Pranjal Singh, Rohit Saini B.Sc.(H) Electronics, III Year
17	PUSTAK-Android Application Development	Dr. Ravneet Kaur Dr. Monika Bhattacharya	Ashutosh Singh, Vikram Bhardwaj B.Sc.(H) Electronics, III Year
18	Cell Phone Detector	Dr. Anju Agarwal Ms. Gauri Ghai	Abhishek Bhadana, Anmol Dogra, Avinash Kumar Lal, Shashank Nagar B.Sc.(H) Electronics, II Year
19	Digital Laboratory Thermometer	Dr. Ravneet Kaur Ms. Gauri Ghai	Chiradeep Das, Ritesh Raj B.Sc.(H) Electronics, III Year
20	B.A.T (Blind Assistance Toolkit)	Dr. Ravneet Kaur Dr. Anita Kumari	Rajat Mann, Lokender B.Sc.(H) Electronics, III Year
21	Laser Security and Music System	Dr. Ravneet Kaur Ms. Gauri Ghai	Akshansh Jha B.Sc.(H) Electronics, III Year

22	Text to Speech Converter	Dr. Ravneet Kaur Ms. Gauri Ghai	Aditya Raj Singh B.Sc.(H) Electronics, II Year
23	Discovery and genomic characterization of Mycobacteriophages and expression & purification of a recombinant protein	Dr. Urmi Bajpai	Ritam Das B.Sc. Life Science, II Year
24	ANDCCCPC	Dr. Sharanjit Kaur Dr. Harita Ahuja	Supriya Katyal Mudita Sanjive B.Sc. (H) Computer Science II Yearsem)
25	Online Ranking of Educational Web-Sites	Dr. Sharanjit Kaur	Prakhar Agrawal Shubhang Upadhyay
26	Automatic assignment evaluations	Dr. Sharanjit Kaur	Kartik Mishra Rahul Solanki B. Sc. Physical Science (CS) I Year
27	Designing a working PROSTHETIC LEG using advanced Arduino® applications	Dr. Arijit Chowdhuri	Adarsh Prasad B.Sc. Physical Science (Electronics), III year
28	Environmental Monitoring	Dr. Charu K. Gupta and Dr. Arijit Chowdhuri	Manohar Singh Bisht and Medha Jha B.Sc. (H) Botany, III Year
29	Using optical technique of surface plasmon resonance (SPR) to detect adulteration in commodities including, honey, oil etc.	Dr. Arijit Chowdhuri, Dr. Charu K. Gupta and Dr. V. Bhasker Raj	Chaitanya Raj, Yogesh Shukla and Anshuman Tripathi B. Sc. (H) Physics, III Year

30	Quartz crystal microbalance and environmental science	Dr. Arijit Chowdhuri, and Dr. V. Bhasker Raj	Akash Gupta and Siddharth Das B. Sc. (H) Physics, III Year B,Sc. Physical Science (Electronics), III Year
31	Market research on commercial Gas sensors and Electronic Nose in India and abroad	Dr. Arijit Chowdhuri and Dr. Sandeep Kumar Goel	Shubham and Chirag Agarwal B. Com. (H), III Year

ELITE (2019-2020)

ELITE– 'Education in a Lively Innovative Training Environment' Summer Fellowship:
During the summer of 2019, 88 students of the College undertook projects of two-month duration under this scheme. Each student earned a fellowship of INR 1000/- per month with departments getting contingency grant for the projects.

S. No.	Title of the Project	Mentor/s	Students
1	Understanding the Phages: The Biology and the Relationship with their Host	Dr. Urmi Bajpai (Biomedical Sciences)	Garima Kalakoti B.Sc. Life Science-II year
2	Expression, Purification and Activity of Mycobacteriophage-derived AAA ATPase	Dr. Urmi Bajpai (Biomedical Sciences)	Mr. Ritam Das B.Sc. Life Science-II year
3	To Ascertain the Most Efficient Working Hours of the Faculty in Acharya Narendra Dev College (ANDC) within the Framework of 9 am to 4 pm	Dr. Sunita Jetly and Dr Archana Pandey (Biomedical Sciences)	Aatiruddin Khan, Alisha Ansari and Muskan Gupta B.Sc (H) Biomedical Sciences-II year
4	Computational Analysis of Natural Antagonists for Design of Antithyroid Drugs	Dr. Gagan Dhawan (Biomedical Sciences)	Ashwin Uday B.Sc (H) Biomedical Sciences-III year
5	Computational Analysis of An Inhibitor of Pyrimidine Synthesis Enzyme for Anti-Malarial Drug Therapy	Dr. Gagan Dhawan (Biomedical Sciences)	Arundhati Chaudhary B.Sc (H) Biomedical Sciences-III year
6	Green Synthesis, Characterization and Biological Evaluation of Metallic Nanoparticles A. MnO 2 B. FeO C. MoO 3 D. ZnO E. CuO F. NiO	Dr. Gagan Dhawan and Dr. Satendra Singh (Biomedical Sciences)	Rohini, K. Gautam, Muskan Jindal, Amit Sharma and Rhythem Kaushal B.Sc (H) Biomedical Sciences-III year Nahid, Dipesh Talukdar, Mamta Chhetri, Aastha, Shreya Roy, and Divya B.Sc. (H) Biomedical Sciences-II year
7	Functional Analysis & Characterization of Mycobacterial Genes	Dr Namita Singh	Prachi Khattar, Kanika Bhatia and Rohini Bhatt B.Sc. (H) Biomedical Science-III year

8	Surface Plasmon Resonance – A Tool to Detect Change in Refractive Index.	Dr Charu Khosla Gupta (Botany), Dr Archna Pandey (Biomedical Sciences) and Dr Arijit Chowdhuri (Physics)	Tamanna, Sudeepta Singh, Sansi Bansal and Sarang Saini B.Sc. (H) Biomedical Science-II year
9	Assessment of Plant Health by Estimation of Water Content, Ascorbic Acid and Chlorophylls	Dr Charu Khosla Gupta and Dr Yash Mangla (Botany)	Mansi Arora, Harshvardhan Gupta, Bhaskar Paul, Kumud Kaul B.Sc. (H) Biomedical Science-II year
10	Ambient Air Pollution by Estimation of Chlorophyll	Dr Charu Khosla Gupta (Botany) and Dr Arijit Chowdhuri (Physics)	Nitish Kalson and Heena Nizam B.Sc. Life Sciences-II year
11	Water Pollution – Estimation of Contamination in Local Environment.	Dr Charu Khosla Gupta (Botany) and Dr Arijit Chowdhuri (Physics)	Payal Singh and Ankita Negi B.Sc. Life Sciences-II year
12	Authentication of Controversial Medicinal Plants by Morphological, Chemical and Molecular Markers: A Review	Dr. Sumit Sahni, Dr. Vineet Kumar Singh and Dr. Manoj Kumar Singh (Botany)	Sakshi Gupta and Radhika Verma B.Sc. Life Sciences-I year
13	A Review of Lignin Degradation and its Bioconversion	Dr Manoj Kumar Singh and Dr. Sumit Sahni (Botany)	Chetna B.Sc. (H) Botany-III year Kalpana B.Sc. Life Sciences-III year
14	Modification of Grapheme Oxide using Polysaccharide for Water Purification	Dr. Sunita Hooda and Dr. Geetu Gambhir (Chemistry)	Manisha Gupta B.Sc. Life Sciences-III year
15	Effect of Sonication on Graphene Oxide (GO)	Dr. Sunita Hooda and Dr. Geetu Gambhir (Chemistry)	Sneha Mahar B.Sc. Life Sciences-III year
16	Improved Hummer's Method formulates Graphene Oxide Corollary of Temperature on	Dr. Sunita Hooda and Dr. Geetu Gambhir (Chemistry)	Narain Swami B.Sc. Life Sciences-II year

	Grapheme Oxide.		
17	Effect of Sonication on Graphite.	Dr. Sunita Hooda and Dr. Geetu Gambhir (Chemistry)	Maghna Singh B.Sc. Life Sciences-II year
18	To Extract the Colored Component of *Hibiscus rosa-sinensis* Flower and Study its Potency as a Ph Indicator	Dr. Pankaj Khanna, Dr. Neeti Misra and Dr. Kavita Mittal (Chemistry)	Kirti Chugh B.Sc. (H) Chemistry-III year Ramandeep B.Sc (H) Chemistry-I year Ishika Sagwal B.Sc Physical Sciences-I year
19	A. Detection of Adulterants in Milk from different sources B. Synthesis of Metal Complexes of Schiff Bases using Sonication	Dr. Neeti Misra, Dr. Pankaj Khanna and Dr. Kavita Mittal (Chemistry) Dr. Leena Khanna (USBAS, GGSIP University, Dwarka)	Harshita Madaan and Saatwik Suman B.Sc. (H) Chemistry-II year
20	Attendance Application: An Android App Development	Dr Harita Ahuja, Dr Preeti Marwaha and Dr Gunjan Rani (Computer Science)	Shivani Saxena and Priyanka B.Sc. Physical Sciences with Computer Sciences-II year Rishabh Jain B.Sc. Physical Sciences with Computer Sciences-III year
21	Creation of Online Repository of Ciliates of Delhi Region, India	Dr Harita Ahuja and Dr Preeti Marwaha (Computer Science) Dr Ravi Toteja and Dr Seema Makhija (Zoology)	Rishabh Jain B.Sc. Physical Sciences with Computer Sciences-III year Vishal B.Sc. Life Sciences-II year Naeem B.Sc. (H) Zoology-II year
22	RFID Enabled Attendance System	Dr Anju Agrawal and Mr Dinesh Kumar (Electronics)	Aditya Kumar and Gagan B.Sc. (H) Electronics III year
23	Gesture Controlled Robot	Dr Anju Agrawal and Dr Monika Bhattacharya (Electronics)	Pushkar Baranwal and Phulender B.Sc. (H) Electronics-II year
24	Data Transfer through CPU Fan.	Dr Ravneet Kaur and Ms Gauri Ghai	Anurag Saxena B.Sc. (H) Electronics II year

		(Electronics)	
25	Electro Simulation in Plants.	Dr Ravneet Kaur and Ms Gauri Ghai (Electronics)	Lalit Upreti, Praval Bisht and Kunal Sharma B.Sc. (H) Electronics III year
26	Magnetic Collision Anti-Collision System	Dr Ravneet Kaur and Ms Gauri Ghai (Electronics)	Lalit Shukla B.Sc. (H) Electronics II year Reya Negi B.Sc. (H) Physics II year
27	Solar Tracker	Dr Udaibir Singh and Mr Dinesh Kumar (Electronics)	Prahlad Prajapat and Ankita Shukla B.Sc. (H) Electronics II year
28	Piezoelectric Generator	Ms Gauri Ghai and Dr Monika Bhattacharya (Electronics)	Abhishek Bhadana and Avinash Kumar Lal B.Sc. (H) Electronics III year
29	Real Time Passenger Counter	Dr Monika Bhattacharya and Mr Dinesh Kumar (Electronics)	Yash Varshney and Abhishek B.Sc. (H) Electronics-II year
30	Mathematical Sketch of Symmetric Group of Degree 5 (S5)	Dr Sarita Agarwal (Mathematics)	Ajay Gupta, Mahak Gupta and Vipul Mishra B.Sc. (H) Mathematics-II year
31	Compartmental Model in Traffic Congestion.	Dr. Sarita Agarwal (Mathematics)	Pushkar Pandey and Kunal Pant B.Sc. (H) Mathematics-I year
32	Review of Potential Biosensing Application using Quartz Crystal Microbalance Monitor	Dr Arijit Chowdhuri and Dr V. Bhasker Raj (Physics)	Anudeep A.S., Viren Tyagi and Amrit Dutta B.Sc. (H) Physics - II year
34	Arduino® for Ambient Air Pollution Measurement Applications	Dr Arijit Chowdhuri (Physics)	Tripti Varshney B.Sc. (H) Physics - II year
35	Protein Profiling of Haemolymph in *Helicoverpa armigera*	Dr. Sarita Kumar (Zoology)	Vatsal Bhargava, Parikshit Sahrotra and Harshita Sharma B.Sc. (H) Zoology- II year
36	*Drosophila melanogaster*: A Potent Model Organism for	Dr. Sarita Kumar (Zoology)	Komal Kotra B.Sc. (H) Zoology- II year

	Advanced Studies in Behavioural Sciences		Maryada Arya B.Sc. Life Sciences- III year
37	Ant Culture and Behavioural Studies	Dr. Sarita Kumar (Zoology)	Sunidhi Aneja B.Sc. (H) Zoology-I year
38	Isolation of Macronucleus from Ciliates.	Dr Seema Makhija and Dr Ravi Toteja (Zoology)	Deepanshu Vats B.Sc Life Sciences-II year Ruchika Bhardawaj B.Sc Life Sciences-III year Rajanshi Mishra, Naeem Ahmed, Shushank and Mustabin Ahmed B.Sc. (H) Zoology- II year

List of DBT sponsored and ELITE Projects (2021-2022)

DBT STAR College Scheme offers UG students and faculty an opportunity to excel in scientific research. The program emphasizes on the holistic improvement of science education at the undergraduate level. This scheme was sanctioned in 2017. One of the main components of this scheme was to promote interdisciplinary research activities for undergraduate students. In the last four years, UG students are engaged in several research projects. This year, 57 interdisciplinary projects were conducted:

S. No.	Title of the Project	Mentor/s	Detail of Student/s with courses
1	To investigate the conditions which promote lysogeny intemperate mycobacteriophages	Prof. Urmi Bajpai (Biomedical Science)	Anirudh Kumar Srishti Singh B.Sc. (H) Biomedical Science, II Year
2	To check whether virus/phages undergo lysogeny based on Virus-Virus interaction only		Mehak Sharma B.Sc. (H) Biomedical Science, II Year
3	Purification and characterizationof lysins from mycobacteriophages.		Pulkit Singh B.Sc. (H) Zoology, II Year
4	Bacteriophage encoded lysins: Nature's Enzybiotics (Enzyme as antibiotics)		Shivam B.Sc. (H) Biomedical Science, II Year
5	Tumor Suppressor Genes v/s Body Mass & Longevity	Dr Sunita Jetly Dr Ritu Khosla (Biomedical Science)	Yash Goel Sharika Mattoo B.Sc. (H) Biomedical Science, II Year

6	Synthesis of various Nanoparticles by using extracts from medicinal plants, their characterization and assessment of antimicrobial properties	Prof. Gagan Dhawan Dr Satendra Singh (Biomedical Science) Prof. Seema Gupta (Chemistry)	Suravi, Riya, Alshad, Gaurav, Hiya, Tabish, Kalyani, Nidhi, Harshelle, Tanushree, Deeparati, Harinandna, Krishna and Kapil B.Sc. (H) Biomedical Science and B.Sc. (H) Chemistry, II Year
7	Genetic predisposition to Hepatocellular carcinoma and possible prognosis and treatment strategies	Dr Archna Pandey Dr Ritu Khosla (Biomedical Science)	Bisakha Das PritikaKwatra B.Sc. (H) Biomedical Science, III Year
8	Utilization of lignocellulosic waste in cultivation of Pleurotusdjamor var. roseus (Pink oyster mushroom) and recovery of enzymes from spent mushroom substrate.	Dr Anupama Shukla Dr Anita Narang (Botany)	Riya Dayal Lalit Pal Maniket Chauhan Kanchan Pratham Singh Chauhan Shreya Singh B.Sc. (H) Botany, II Year
9	Collection, isolation, characterization and cultivation of different mushrooms	Dr Anupama Shukla Dr Anita Narang DrSumitSahni Dr Manoj Kumar Singh (Botany)	Vridhi Singh Shubhanshu Krishna Mohd. Afham Kanchan Seema Akanksha B.Sc. (H) Botany, III Year

10	Mitigating Air pollution through Phylloremediation	Prof. Charu Khosla Gupta (Botany)	Jay Kumar Sirmoria Sruthi S. Kumar Aishwarya Kumar Chaturvedi B.Sc. (H) Botany, II Year
11	Climate Change and Plant-pollinator relationship		Mridula Rani Mayank Yadav B.Sc. (H) Botany, II Year
12	Study of effect of air pollutants on soil microbiome	Prof. Charu Khosla Gupta Dr Yash Mangla (Botany)	Nikhil Sharma Sahil Chauhan B.Sc. (Prog.) Life Science, II Year
13	ROS regulation during stages of seed germination owing to temperature stress in Sunflower seedling	Dr Geetika Kalra Dr Anita Thakur (Botany)	Arunima Dey Devanshi Saini Deepanshu Kumar Vibha Shukla B.Sc. (Prog.) Life Science, II Year
14	Cultivation of Pleurotuseryngii (King oyster mushroom) on lignocellulosic waste and characterization of enzymes from spent mushroom substrate	Dr Anupama Shukla DrSumitSahni (Botany)	MrMohd. Afham B.Sc. (H) Botany, II Year
15	Cultivation of Pleurotuseryngii (King oyster mushroom) on lignocellulosic waste and characterization of enzymes from spent mushroom substrate	Dr SumitSahni Dr Manoj Kumar Singh (Botany)	MsVridhi Singh B.Sc. (H) Botany, II Year

16	Utilization of Lignocellulosic waste in cultivation of Pleurotusostreatus (Blue Oyster Mushroom) and recovery of enzymes from spent mushroom substrate	Dr SumitSahni (Botany)	MrMrityunjoy Chakraborty MrShubhanshu Krishna B.Sc. (H) Botany, II Year
17	Synthesis of Fe_3O_4 nanoparticles through sonication and its effects	Prof. Sunita Hooda Prof.Geetu Gambhir (Chemistry)	Puneet Chauhan AkshitJauhri Soven K. Samal B.Sc. (Prog.) Life Science, I Year
18	Investigative study of groundnut husk for the adsorptive removal of dyes from aqueous solution.		Geni Yao Eniya Tapo B.Sc. (Prog.) Life Science, III Year
19	Adsorption of organic dye by magnetized Graphene oxide, Ground nut husk, Guar gum from Aqueous Solution.		Yashank Chauhan Akshat Bhanu Dharmani B.Sc. (Prog.) Life Science, III Year
20	Synthesis of nanoparticles of Polyvinyl Alcohol by CO-Precipitation method		Kapil Sharma Khushi Vishwakarma Vishwa Deepak Srivastava B.Sc. (Prog.) Life Science, I Year
21	Synthesis of magnetic nanoparticles and UV-Visible analysis	Prof. SunitaHooda Prof.GeetuGambhir (Chemistry)	Abhijit Roy Bipasa Arya B.Sc. (Prog.) Life Science, I Year

22	Synthesis and Biological Activity of Chalcones	Prof. Rashmi Thukral (Chemistry)	Aashi Yukta Aditi Heena B.Sc. (Prog.) Life Science, II Year
23	Extraction of essential oils by Green methods	Dr Manisha Jain (Chemistry)	Anjali B.Sc.(H)Chemistry, II Year
24	Computational Studies on some Inorganic Compounds Using Avogadro and Gaussian Softwares	Dr Manisha Jain Dr NeetiMisra (Chemistry)	Aditi Kandari Somya Singh B.Sc. (H) Chemistry, II Year
25	Review on synthesis of Heterocyclic compounds and extraction of medicinal plants	Prof. Pankaj Khanna Dr Neeti Mishra Dr Kavita Mittal (Chemistry)	Jai Gautam B.Sc. (Prog.) Physical Science, II Year Shweta B.Sc. (H) Chemistry, II Year
26	Use of catalysts for synthesis of biologically active heterocyclic compounds	Dr Kavita Mittal (Chemistry)	Shweta B.Sc.(H)Chemistry, II Year
27	Magnetite Graphene Oxide/Chitin Nanocomposites as Ion Sensors from Aqueous Systems: A DFT Study	Dr Pragati Malik (Chemistry)	Arnav Bhatt SachinRao B.Sc. (Prog.) Life Science, II Year

28	Analyzing the effect of crime in India over Female foreign tourists	Prof. SharanjitKaur (Computer Science)	Suruchi Verma TishyaThukral B.Sc. (H) Computer Science, III Year
29	Exploring machine learning models for ransomware data		Nirmal Mor Sushant B.Sc. (Prog.) Physical Science(Computer Science), III Year
30	Implementing four virtual labs (computer Science computer simulations) https://www.vlab.andcollege.du.ac.in/	Prof. SharanjitKaur Dr Gunjan Rani Dr Nishu Singh Dr Vandita (Computer Science)	Nilesh Pandey Amitesh Ananya Shukla Siya Agarwal Harsh Bamotra Shahnawaz khan Sakshi Garg Aliya Vivek Sankhyan Pankaj Sahu Palak Sharma B.Sc. (H) Computer Science, II Year
31	Disaster management to combat Covid-19	Dr Harita Ahuja, Dr Sunita Narang (ComputerScience)	Sant Anandita Abhishek B.Sc. (H) Computer Science, III Year

32	Data Analysis and Visualization of Rainfall and floods in India		Deepanshu Megha Karki Shruti Jain B.Sc. (H) Computer Science, III Year
33	College Resource and Space Utilization App	Mr Mahesh Kumar (Computer Science)	Jyotika Sharma Rishabh Sharma Tanisha Sharma B.Sc.(H) Computer Science, II Year
34	Issues, Challenges, and Growth of e-Learning during Covid-19 pandemic	MsNishu Singh Mr Mahesh Kumar (Computer Science)	Tanu G Anam Khan Jyotika Sharma Tanisha Sharma B.Sc.(H) Computer Science, II Year
35	Visualizing your data of music app	Ms Gunjan Rani Mr Mahesh Kumar (Computer Science)	Somesh Abhishek Akanccha B.Sc. (Prog.) Physical Science(Chemistry), II Year
36	Alumni Database Handling	MsGunjan Rani (Computer Science)	Harsh Bamotra Pratham Sharma B.Sc.(H)Computer Science, II Year Palak Sharma B.Sc. (Prog.) Physical Science(Chemistry), II

			Year
37	Faculty Database Handling		Shahnwaz Khan Pankaj Sahu Garvit Dubey B.Sc.(H) Computer Science, II Year
38	Text to Speech Converter		Vivek Sharma Aliya Sakshi Garg B.Sc. (Prog.) Physical Science(Chemistry), II Year
39	V-Labs		Nilesh Pandey Sahiba Siya Agarwal B.Sc.(H) Computer Science, II Year
40	Library Book Reminder		Vivek Sharma Aliya Sakshi Garg B.Sc. (Prog.) Physical Science (Chemistry), II Year
41	Designing of a first order Low-pass and High-pass filter using op-amp (Virtual Lab Development)	Dr Ravneet Kaur Ms Gauri Ghai (Electronics)	Ankush Rana B.Sc. (H) Electronics, II Year Vishal Gupta B.Sc. (H) Electronics, I

			Year
42	Study of the I-V characteristics of the Common Base configuration of BJT and obtain ri, ro, α. (Virtual Lab Development)	Dr Ravneet Kaur Ms Gauri Ghai (Electronics)	Anubhav Singh Alok Singh B.Sc. (H) Electronics, II Year
43	To design JK Master Slave using elementary gates (Virtual Lab Development)		Akash Jha B.Sc. (H) Electronics, II Year Muskan Kumar Sharma B.Sc. (H) Electronics, I Year
44	To verify Malus law		Swati Shukla B.Sc. (H) Electronics, II Year Sneha B.Sc. (H) Electronics, I Year
45	To determine the value of Boltzmann onstant by study the forward characteristics of diode.		Naman Prasad B.Sc. (H) Electronics, II Year
46	Monte Carlo Estimation and Simulation of Pi using the 3D geometry Octahedron	Dr Sanjeeta Rani Dr Manisha Verma (Physics)	Ayush Mishra B. Sc. (H) Physics, II Year
47	Monte Carlo Estimation and Simulation of Pi using the 3D geometry Icosahedron		Vaibhav Thapliyal B. Sc. (H) Physics, II Year

48	To determine Young's modulus, Modulus of rigidity and Poisson's ratio for the material of a wire by Searle's method with the help of Vlab.	Dr Sanjeeta Rani Dr V. Bhaskar Raj Dr Satya Prakash Dr Neelakshi Borah (Physics)	Neha Khanra Nisha Khanra B.Sc. (H) Physics, I Year
49	Automated and upgraded machine as replacement of noncontact thermometer used for COVID-19 detection for entry in public spaces such as metro stations, parks etc.	Prof. ArijitChowdhuri Dr V. Bhasker Raj (Physics)	Pratham Malik B.Sc. (Prog.) Physical Science (Electronics), II Year Niharika Upadhyay B.Sc. (H) Biomedical Science, III Year
50	Environmental and gas sensing applications of Quartz Crystal Microbalance (QCM)		Kalpajit Roy Prahlad Sharma Varnika Aggarwal B.Sc. (H) Physics,II Year
51	Investigating the factors influencing generation and effects of Eddy currents	Prof. Seema Makhija(Zoology) Prof. ArijitChowdhuri (Physics)	Rati Chaturvedi B.Sc. (H) Zoology, I Year
52	Gas Leakage Detector using Arduino and GSM Module with SMS Alert and Sound Alarm	DrV Bhasker Raj (Physics)	Prashant Verma B.Sc.(H) Physics, II Year
53	Mutations in SARC-COV 2	Prof. Sarita Kumar (Zoology)	Anshika Sharma B.Sc. (H) Zoology, I Year
54	Effect of Chitin Synthesis Inhibitors on the growth and biochemical parameters		Gunjan Grover B.Sc. (H) Zoology, II

	of insect pests of agricultural importance		Year Anaam Asif Moin Charu Jaiswal Khushi Aggarwal Khushi Vashishtha Twishi Mishra Kanishka Bothra Divya Yadav Shruti Kumari Singh Preeti Singh Sanskriti B.Sc. (H) Zoology, I Year
55	Biological Importance of heterocyclic Compound	Prof. Ravi Toteja Prof. SeemaMakhija (Zoology) Dr Pooja Bhagat (Chemistry)	Swati Maheshwari Ujjwal Kumar Gupta Radhika Garg B.Sc. (H) Zoology, II Year
56	Bioindicators to assess the soil quality of ANDC College	Prof. Ravi Toteja Prof. SeemaMakhija Dr Rahul Dev (Zoology) Dr Pooja Bhagat (Chemistry)	Meghana Bisht Tanya Chopra Ayushi Gupta B.Sc. (H) Chemistry, II Year

57	Creation of animation and simulator for Virtual Laboratory of Zoology practicals	Prof. Ravi Toteja Prof. Seema Makhija Dr Rahul Dev (Zoology)	Avnija Tyagi Ritika Chandel Sejal Arora B.Sc. (H) Zoology, III Year HarshitaBasab B.Sc. (H) Zoology, I Year

2020-21

S. No.	Title of the Project	Mentor/s	Detail of Student/s with courses
1	Phage Hunting: Collection, isolation and purification of Mycobacteriophages from soil, water and sewage	**Prof. Urmi Bajpai** (Biomedical Science)	Pulkit Singh B.Sc. (H) Zoology, II Yr
2	Survey to assess the Effect of COVID-19, an infectious disease on the mental health of the students.	**Dr Sunita Jetly** (Biomedical Science)	Siddharth Mehdiratta Alisha Ansari Muskan Gupta B.Sc. (H) Biomedical Science, II Yr
3	Survey on extent of Awareness amongst the students of Delhi/NCR in regards to Pandemic COVID-19. .	**Dr Sunita Jetly** (Biomedical Science)	Siddharth Mehdiratta Alisha Ansari Muskan Gupta B.Sc. (H) Biomedical Science, II Yr
4	Survey to evaluate the intensity of psychological impact in terms of anxiety, stress and depression on the mental well-being of students due to the lockdown	**Dr Sunita Jetly** (Biomedical Science)	Siddharth Mehdiratta Alisha Ansari Muskan Gupta B.Sc. (H) Biomedical Science, II Yr
5.	Survey to study the preventive measures adopted by the students to	**Dr Sunita Jetly** (Biomedical Science)	Siddharth Mehdiratta Alisha Ansari

	combat the onset of COVID-19		Muskan Gupta B.Sc. (H) Biomedical Science, II Yr
6	To isolate and collect the DNA from onion.	**Dr Pooja Bhagat** **Dr Rashmi Thukral** **Dr Pankaj Khanna** (Chemistry)	Pragya B.Sc. (H) Chemistry, II Yr
7	To determine the pI of the amino acid	**Dr Pooja Bhagat** (Chemistry)	Bhavesh Siroha & Purti B.Sc. (H) Chemistry, II Yr
8	To determine the melting point of the organic compound	**Dr Kavita Mittal** (Chemistry)	Harshita B.Sc. (H) Chemistry, II Yr
9	Result Analysis	**Dr Sharanjit Kaur** **Ms Vandita Grover** (Computer Science)	Aditya Goyal Devesh Yadav Jasveer Singh Yadav Sushant Sharma B.Sc. Physical Science with Computer Science, II Yr
10	Examination Planner	**Dr Sharanjit Kaur** (Computer Science)	Abhinav Singh Ashwin Kumar Chirag Garg Harsh Upreti S Sai Sacheen Vibhu Singh B.Sc. (H) Computer Science III Yr
11	Simulation of midpoint line	**Dr Harita Ahuja**	Anshika Varshney

	algorithm using Python Tools	(Computer Science)	Prakriti Gupta Tanya Gupta B.Sc. (H) Computer Science III Yr
12	Twitter sentiment analysis during Covid-19 outbreak in India	**Ms Vandita Grover** (Computer Science)	Mukesh Kumar B.Sc. (H) Computer Science, II Yr
13	Stock market analysis during COVID-19 outbreak	**Ms Vandita Grover** (Computer Science)	Chirag Garg S Sai Sacheen B.Sc. (H) Computer Science, III Yr
14	Gesture recognizing smart system using Flex Sensors	**Dr Ravneet Kaur** (Electronics)	Pushkar Baranwal B.Sc.(H) Electronics, III Yr
15	Virtual Lab for Electronics: To design a 3-dimensional virtual laboratory to carry out experiments of circuit theory and semiconductor devices lab	**Dr Ravneet Kaur** **Dr Monika Bhattacharya** (Electronics)	Ashutosh Mani Tripathi B.Sc.(H) Electronics, III Yr
16	To investigate the use of an op-amp as an integrator	**Dr Arijit Chowdhuri** **Dr V Bhaskar Raj** **Dr Sanjay Kumar** **Dr Rohtash Singh** (Physics)	37 students of B.Sc. (H) Physics, II Yr
17	To investigate the use of an op-amp as a differentiator	**Dr Arijit Chowdhuri** **Dr V Bhaskar Raj** **Dr Sanjay Kumar** **Dr Rohtash Singh** (Physics)	37 students of B.Sc. (H) Physics, II Yr
18	To design an inverting amplifier using op-amp (741) for dc voltage	**Dr Arijit Chowdhuri,**	37 students of B.Sc. (H) Physics, II Yr

	of given gain	**Dr V Bhaskar Raj** **Dr Sanjay Kumar** **Dr Rohtash Singh** (Physics)	
19	To design a Wien bridge oscillator for given frequency using an op-amp	**Dr Arijit Chowdhuri** **Dr V Bhaskar Raj** **Dr Sanjay Kumar** **Dr Rohtash Singh** (Physics)	37 students of B.Sc. (H) Physics, II Yr
20	To design inverting amplifier using Op-amp (741) & study its frequency response and to design non-inverting amplifier using Op-amp (741) & study its frequency response	**Dr Arijit Chowdhuri** **Dr V Bhaskar Raj** **Dr Sanjay Kumar** **Dr Rohtash Singh** (Physics)	37 students of B.Sc. (H) Physics, II Yr

List of DBT sponsored Projects (2019-2020)

S. No.	Project	Mentors	Students
1	Use of Quadruplex Binding Ligands Against Prion Diseases	Dr Archna Pandey and Mr Prashant Pradhan (Biomedical Science)	Purva, Abhijit Nayak and Ashwin Udey B.Sc. (H) Biomedical Sciences-III year
2	An Estimation of Ambient Air Pollution by Measuring Content of Chlorophyll	Dr Charu Khosla Gupta (Botany) Dr Arijit Chowdhuri (Physics)	Nitish Kalson and Heena Nizam B.Sc. Life Sciences-II Year
3	Using Surface Plasmon Resonance (SPR) Technique (Optical) for Estimation of Chlorophyll	Dr Arijit Chowdhuri (Physics) Dr Charu Khosla Gupta and Dr Yash Mangla (Botany)	Akash Gupta and Anshuman Tripathi B.Sc. (H) Physics-III year
4	Water Pollution – Estimation of Contamination in Local Environment	Dr Charu Khosla Gupta (Botany) Dr Arijit Chowdhuri	Payal Singh and Ankita Negi B.Sc. Life Sciences-II Year

		(Physics)	
5	Heavy Metal Adsorption and Microbial Study of Functionalized Chitin with EDTA	Dr Sunita Hooda and Dr Geetu Gambhir (Chemistry) Dr Sarita Kumar (Zoology)	Rajanshi, Mustabin, Abhijeet, Dharmender, Esha and Khushi B.Sc. Life Sciences-II year Tanuja Sharma B.Sc. (H) Chemistry -I year Senjuti Sengupta, Partho Proteem Das, Akshit Chauhan and Akshat B. Dharmani B.Sc. (H) Zoology (Pass Out)
6	Tool for On-line Choice-based Question Answer System for Student Evaluations	Dr Chandra Kanta Samal, Mrs Shiva Saini and Ms Gunjan Singh (Computer Science)	Purushottam, Aman Raj, Vikas Pandey, Naved Ali, Utkarsh Saxena and Himanshu B.Sc. (H) Computer Science-III year
7	Gesture Recognizing Smart System	Dr Ravneet Kaur and Ms Gauri Ghai (Electronics)	Pushkar Baranwal, Ashutosh Mani and Tripathi Phulender B.Sc. (H) Electronics-II year
8	Wifi-Controlled Robot	Dr Ravneet Kaur and Ms Gauri Ghai (Electronics)	Abhishek Puri Mohit and Supyal Suraj Singh B.Sc. (H) Electronics-II year
9	Automatic Titrator	Dr Ravneet Kaur and Dr Monika Bhattacharya (Electronics)	Aman Tyagi, Yash Varshney and Abhishek Udiya B.Sc. (H) Electronics-II year
10	Smart Dustbin (Sensobin)	Dr Ravneet Kaur and Dr Monika Bhattacharya (Electronics)	Rahul Chawla, Aditya Raj Singh and Amit Rana B.Sc. (H) Electronics-III year
11	Solar Piezoelectric Charger	Dr Ravneet Kaur and Dr Monika Bhattacharya (Electronics)	Abhishek Bhadana and Avinash Kumar Lal B.Sc. (H) Electronics-III year
12	Using the Arduino for the Experimental Determination of a Friction Coefficient by Movement on an Inclined Plane	Dr Amit Garg (Electronics)	Avinash Kumar Lal B.Sc. (H) Electronics-III year Tripti Varshney B.Sc. (H) Physics-II year
13	Laser Based Footfall Counter	Dr Amit Garg (Electronics)	Prahlad Prajapat B.Sc. (H) Electronics-III year Jaya

			B.Sc. Physical Science with Computer Science- III year
14	Li-Fi- Sound Transmission using LED lights	Dr Amit Garg (Electronics)	Devesh Yadav B.Sc. (H) Electronics-II year
15	Smart Mirror	Dr Amit Garg (Electronics)	Prince Sharma and Aqil Ali B.Sc. (H) Electronics-III year
16	Smartphone to Digital Microscope	Dr Amit Garg (Electronics)	Bisakha Das B.Sc. (H) Biomedical Science-I year
17	Voice Controlling Car	Dr Amit Garg (Electronics)	Abhishek B.Sc. (H) Electronics-II year
18	Using Surface Plasmon Resonance (SPR) Technique (Optical) for Trace Level Sensing Applications	Dr Arijit Chowdhuri and Dr V. Bhasker Raj (Physics)	Anshuman Tripathi and Yogesh Shukla B.Sc. (H) Physics-III year
19	Using Quartz Crystal Microbalance (QCM) Technique for Trace Level Sensing Applications	Dr Arijit Chowdhuri and Dr V. Bhasker Raj (Physics)	Siddharth Das B.Sc. Physical Sciences with Electronics-III year
20	Using Arduino Microcontroller for Ambient Air Pollution Measurement Applications	Dr Arijit Chowdhuri and Dr V. Bhasker Raj (Physics)	Adarsh Prasad B.Sc. Physical Sciences with Electronics-III year
21	Alterations in Biochemical and Molecular Profile of Insects on Exposure to Xenobiotics	Dr Sarita Kumar (Zoology)	Vatsal Bhargava, Parikshit Sahrotra, Harshita Sharma and Sunidhi Aneja B.Sc. (H) Zoology-II year
22	Identification of Cysteine-rich Domains in *Tetmemena* sp. Using Systematic Bioinformatics Tools	Dr Seema Makhija Dr Ravi Toteja (Zoology)	Ankush and Khushboo B.Sc. Life Science-II year
23	Physicochemical and Biological Analysis of Leachate from Okhla Landfill	Dr Seema Makhija and Dr Ravi Toteja (Zoology) Dr Pooja Bhagat (Chemistry)	Pranjal Sharma and Deepika Joshi B.Sc. (H) Zoology-III year

List of DBT Projects (2018-2019)

S.No.	Mentors	Title of Project	Students
1	Survey of plants for presence of trypsin modulators	Dr Rashmi Sharma (Botany) Dr Manisha Jain (Chemistry)	Vikramjeet Singh, Amit Kumar, Diksha Tiwari, Chetna, Alok Yadav B.Sc. (H) Botany II Year
2	Isolation, identification and characterisation of fungal isolates for their lignocellulolytic potential	Dr Anupama Shukla and Dr Manoj K Singh (Botany)	Manohar Bisht, Shubhangini B.Sc. (H) Botany III Year Bhaskar Jyoti, Yash Gupta, Vivek Das B.Sc. (H) Botany II Year
3	Application of magnetic chitin composites for the removal of toxic metals and organic dyes from industrial effluents	Dr Sunita Hooda and Dr Geetu Gambhir (Chemistry) Dr Sarita Kumar (Zoology)	Ravina Yadav, Heena Malik, Aniket, Mariyam, Monika, Akarsh Pandey Tanya Sharma, Senjuti Sengupta, Partho Proteem Das, Akshit Chauhan
4	Plant electro stimulation and data acquisition	Dr. Ravneet Kaur (Electronics) Dr. Udaibir Singh (Electronics) Dr. Anita Narang (Botony) Ms. Gauri Ghai (Electronics)	Rachit Agrawal, Sumit Vashista B.Sc. (H) Electronics III Year Rohit Saini B.Sc. (H) Electronics II Year Devender Soni, Gagan B.Sc. (H) Electronics I Year Pooja, Nishika, Shivangi Charvee, Anjali B.Sc. (H) Botany II Year
5	Assistive Gadgets for Visually Impaired Students a)Light to Sound Convertor / Optocoupler b)Color Detector	Dr. Ravneet Kaur (Electronics) Ms. Gauri Ghai (Electronics)	Abhishek Raiwani, Adarsh Maurya B.Sc. (H) Electronics III Year
6	Mine Detection Drone	Dr. Ravneet Kaur (Electronics) Ms. Gauri Ghai (Electronics)	Chiradeep Das, Ritesh Raj B.Sc. (H) Electronics II Year
7	Development of nanostructured thin films	Dr. Amit Garg (Electronics)	10 Students (5 from B.Sc. (H) Electronics and 5 from B.Sc. (H) Physics)
8	Paradigm shift in material science-2D materials: familiarity, synthesis and application	Dr. Amit Garg (Electronics)	5 Students B.Sc. (H) Electronics
9	Smart Dustbin (Sensobin)	Dr. Ravneet Kaur (Electronics)	Rahul Chawla, Aditya Raj Singh, Amit Ran

		Dr. Monika Bhattacharya (Electronics)	B.Sc. (H) Electronics II Year
10	Designing a working PROSTHETIC LEG using advanced Arduino® applications	Dr Arijit Chowdhuri (Physics)	Adarsh Prasad B.Sc. Physical Science (Electronics) – III Year
11	Using optical technique of surface plasmon resonance (SPR) for detection	Arijit Chowdhuriand V. Bhasker Raj (Physics) Charu Khosla Gupta (Botany)	Chaitanya Raj, Yogesh Shukla and Anshuman Tripathi B. Sc. (H) Physics – III Year
12	Environmental Monitoring	Arijit Chowdhuri (Physics) Charu Khosla Gupta (Botany)	Manohar Singh Bisht and Medha Jha B.Sc. (H) Botany – III Year
13	Quartz crystal microbalance and environmental science	Arijit Chowdhuri (Physics), and V. Bhasker Raj (Physics)	Akash Gupta and Siddharth Das B. Sc. (H) Physics – III Year B. Sc. Physical Science (Electronics) – III Year
14	Effect of Heavy Metals and Ethidium Bromide on DNA.	Ravi Toteja and Seema Makhija (Zoology) Arijit Chowdhuri (Physics)	Senjuti Sengupta B. Sc. (H) Zoology – II Year
15	Micro-controller for Environmental applications	Arijit Chowdhuri and V. Bhasker Raj (Physics)	Sushil Kumar Singh B.Sc. (H) Physics – III Year
16	Market research on commercial Gas sensors and Electronic Nose in India and abroad	Dr. Arijit Chowdhuri (Physics) Dr. Sandeep Kumar Goel (Commerce)	Shubham and Chirag Agarwal B. Com. (H) – III Year
17	Studies on the alteration in the oviposition potential and fertility of insects exposed to various insecticides	Dr. Sarita Kumar (Zoology)	Sakshi Saraswat- B.Sc (H) Zoology II Year Ayushi Ratauri- - B.Sc (H) Zoology II Year Sunil-- B.Sc (H) Zoology IV Sem Pushpanjali Das-- B.Sc (H) Zoology II Year Shilpi Singh- B.Sc (H) Zoology II Year Kajal Goyal- B.Sc (H) Zoology II Year
18	Micro biological analysis of leach ate collected from Okhla dumping site, Delhi	Seema Makhija Ravi Toteja (Zoology) Pooja Bhagat (Chemistry)	Anmol-B.Sc(H) Zoology II year Deepika- B.Sc(H) Zoology II Year Pranjal Sharma- B.Sc(H) Zoology II Year
19	Analysis of water quality for Aquaculture: Dissolved oxygen, ammonia, nitrite, nitrate, pH, conductivity, turbidity, etc.	Dr. Sweety Shrimali Dr. Cherita, Dr Seema Makhija and Dr Ravi Toteja (Zoology)	Sadaf- B.Sc Life Science II Year Priyanka Yadav- B.Sc Life Science II Year Sumran- B.Sc Life Science II Year Radhika- B.Sc Life Science II Year

			Mohit Singh- B.Sc Life Science II Year Shyam Manohar- B.Sc Life Science II Year

List of DBT Projects (2017-2018)

S. No.	Project	Mentors	Students
1	Extraction, Isolation and Characterization of Bioactive Compounds Present in Leaves, Fruit and Bark Extract of *Aegle marmelos*	Dr Archna Pandey (Department of Biomedical Science), Dr Sunita Hooda (Department of Chemistry), Dr Satendra Singh (Department of Biomedical Science)	ShreyaVerma,Varshii Yash Shukla, Deepak Pokhreal, Sunaina Gunjan, Himani, Shivam Kumar
2	Production and Characterization of Exopolysaccharide by Isolated Microorganisms and their Industrial Applications.	Dr Manoj Singh (Department of Botany), Dr Anupama Shukla (Department of Botany), Dr Pankaj Khanna (Department of Chemistry)	Manohar Singh, Hemant Kumar, Shubhangi, Shivani, Deepak, Priya Hasija, Nashra Naz
3	Effect of ROS Signalling on Growth of Certain Medicinal Plants Growing in College Campus.	Dr Geetika Kalra (Department of Chemistry), Dr Anita Thakur (Department of Botany), Dr Manisha Jain (Department of Chemistry)	Anjali, Aishwarya Charvee, Mahima, Manoj Kumar, Preetam Kashyap, Megha Parul
4	Biological Nutrient Removal (BNR) of Waste Water Pollutants using Micro Organisms	Dr Vandana Uberoi (Department of Chemistry), Dr Charu Khosla Gupta (Department of Botany), Dr Ravi Toteja (Department of Zoology)	Sibaram Sadangi, Vikas Shukla, Vrinda Akash Shubham Kumar Dubey, Subhojit Mitra, Saranya Nair Mahima Pundir, Dipin Tomar Vaibhav Srivastva Rajan Mishra
5	Effect of Industrial Chemicals in the Four Important Rivers and its Tributaries of India	Dr Vandana Uberoi (Department of Chemistry) Dr Sunita Hooda (Department of Chemistry) Dr Sunita Narang (Department of Computer Science)	Antim Rani, Anu Malik, Piyush Kumar, Megha Tanwar, Utkarsha Sharma Deepansh, Deepanshu Divyanshu, Praveen Kumar
6	Application of Magnetic Chitin Composites for the Removal of Toxic Metal and Organic Dyes from Industrial Effluents.	Dr Sunita Hooda, Dr Geetu Gambhir, (Department of Chemistry), Dr Sarita Kumar, (Department of Zoology)	Ravina Yadav, Heena Malik, Aniket , Mariyam, Monika, Akarsh Pandey, Tanuja Sharma, Senjuti Sengupta, Partho Proteem Das, Akshit Chauhan
4	Synthesis, Characterization of Various Metal Sulfide Nanoparticles with Different Precursors and Stabilizing Agents and their Applications	Dr Seema Gupta (Department of Chemistry), Dr Gagan Dhawan (Department of Biomedical Science)	Nitish Kumar, Priya, Saurabh Aggarwal, Deepanshi, Disha, Mani Gupta, Chinmay Gupta, Priya Yadav, Harsh Vardhan, Swarnanil, Shagun

5	Functional Group Analysis with Depth of Chemistry	Dr Sharanjit Kaur, Dr Vibha Gaur, Ms Shiva Saini (Department of Computer Science), Dr Neeti Mishra, Dr Pankaj Khanna (Department of Chemistry)	Kashi, Sachin, Kartik, Rahul, Harshit Srivastava Mahima Pundeer
6	Development of Recommender System to Combat Disaster Management in the College	Dr Sunita Narang, Dr Harita Ahuja, Ms Gunjan Rani, Ms Arunita Chaukiyal (Department of Computer Science), Mr Kamal, Ms Ritu Mangla (Administration)	Garima, Jahnvi Mayank Priyanshi, Lucky Asad, Niranjan Sarang
7	Creation of Web and/ or Mobile Based Applications to Implement Various Tasks in the College	Dr Preeti Marwaha, Ms Anu Preveen, Ms Priyanka Sharma (Department of Computer Science), Mr Kamal, Ms Ritu Mangla (Administration)	Supriya, Mudita
8	Secure Router Based Centralized Controlled Network in the College	Dr Chandra Kanta Samal, Mr Keshava Pratap Singh, Ms Nishu Singh, Mr Tarun Sharma, Mr Sanjay Sangwan (Department of Computer Science)	Deepansh Nimish Divyanshi Deepanshu Sunil, Ashish Shubham Gupta Shubham Pal Prateek, Vivek Himanshu
9	Plant Electro Stimulation and Data Acquisition	Dr Ravneet Kaur (Department of Electronics), Dr Udaibir Singh (Department of Electronics), Dr Anita Narang (Department of Botany), Ms Gauri Ghai (Department of Electronics)	Rachit Agrawal, Sumit Vashista, Rohit Saini, Devender Soni, Gagan, Pooja, Nishika, Shivangi, Charvee, Anjali
10	Assistive Gadgets for Visually Impaired Students a) Light to Sound Convertor / Optocoupler b) Color Detector	Dr Ravneet Kaur (Department of Electronics) Ms Gauri Ghai (Department of Electronics)	Abhishek Raiwani Adarsh Maurya
11	Mine Detection Drone	Dr Ravneet Kaur, Ms Gauri Ghai (Department of Electronics)	Chiradeep Das, Ritesh Raj

12	Development of Nanostructured Thin Films	Dr Amit Garg (Department of Electronics), Dr Arijit Chowdhuri (Department of Physics)	10 Students
13	Paradigm Shift in Material Science-2D Materials: Familiarity, Synthesis and Application	Dr Amit Garg (Department of Electronics)	5 Students
14	Measurement of Surface Plasmon Resonance (SPR) Reflectance Curves at Metal (gold) – Air Interface	Dr Arijit Chowdhuri, Dr V Bhasker Raj (Department of Physics)	10 students
15	Measurement of Surface Plasmon Resonance (SPR) Reflectance Curves at Metal (gold) – dielectric Thin Film (ZnO) – Air Interface	Dr Arijit Chowdhuri, Dr V Bhasker Raj (Department of Physics)	06 students
16	Deposition of Thin Films Using Thermal Evaporation – A Physical Vapour Deposition Technique	Dr Arijit Chowdhuri (Department of Physics)	06 students
17	Gauging the Concentration and Aerodynamic Diameters of Particulate Matter in the Ambient Including College Laboratory, Library, Classrooms, Offices etc.	Dr Arijit Chowdhuri and Dr V Bhasker Raj (Department of Physics) Dr Charu Khosla Gupta (Department of Botany)	30 students
18	Studies on the Alteration In the Oviposition Potential and Fertility of Insects Exposed to Various Insecticides	Dr Sarita Kumar (Department of Zoology)	Sakshi Saraswat, Ayushi Ratauri, Sunil Pushpanjali Das, Shilpi Singh, Kajal Goyal
19	Study of Regeneration in Ciliates	Dr Seema Makhija and Dr Ravi Toteja (Department of Zoology), Dr Pooja Bhagat (Department of Chemistry)	Harsh, Khushboo, Vanya, Vishvajit
11	To study the Anti-oxidant Properties of Citrus Fruits on *E.coli*	Dr Rahul Dev (Department of Zoology)	Ayeshna, Shivani Dhiraj, Harsh, Shusma, Pawhesh

12	Analysis of Water Quality for Aquaculture: Dissolved Oxygen, Ammonia, Nitrite, Nitrate, pH, Conductivity, Turbidity, etc.	Dr Sweety Shrimali, Dr Khangembam Cherita Devi (Department of Zoology), Dr Arijit Chowdhuri, (Department of Physics)	Sadaf-Priyanka Yadav, Sumran Radhika, Mohit Singh, Shyam Manohar