

Department of Biotechnology

Annual Progress Report supported under Star College Scheme

San. No. BT/HRD/11/019/2020

1. **Name of the College** : DAV College Bathinda, Punjab
2. **Name of Coordinator, designation, Address, Phone nos.** : Dr. Kulwinder Singh Mann, Assistant Professor,
: Department of Physics,
DAV College, Bathinda-151001, +91-9417325696
3. **Assessment duration:** 01/04/2021 to 31/03/2022, Duration in years: 1.00
4. **Details of Departments Supported**

SI No	Name of Department	Courses (B.Sc./M.Sc./PG Diploma, certificate etc.) offered	Regular Faculty members	
			With Ph.D.	Without h.D.
			Total	
1.	Chemistry	B.Sc. (Medical) B.Sc. (Non-Medical) M.Sc.-Chemistry	Total=05	
			03	02
			Dr. Parveen Bala Dr. Paramjeet Kaur Dr. Neha Jindal	Ms. Meetu S. Wadhwa Mr. Aman Malhotra
2.	Physics	B.Sc. (Non-Medical) B.Sc. (Non-Medical with Computer)	Total=04	
			03	01
			Dr. Gurpreet Singh Dr. Kulwinder Singh Mann Dr. Vikas Duggal	Ms. Harpreet Kaur Brar

5. **Number & Date of Advisory committee meeting** : 1st on 11/11/2020
2nd on 25/05/2022
6. **Qualitative improvements due to DBT support. Please highlight 5 salient points (within 500 words).**

The five salient qualitative improvements can be described by the acronym SMART.

S: Strengthened infrastructure of laboratories by procuring multiple copies of equipment and books.

M: Motivated students via hands-on practical training and interactions with resource persons.

A: Augmented interdisciplinary activities to cross-fertilize the research aptitude among students.

R: Repaired and upgraded the existing lab equipment.

T: Trained UG science students and lab. staff to handle and maintenance of the new equipment.

The detailed description of the above points is as follows:

I. Strengthened infrastructure:

After enriching the laboratories of the Physics and Chemistry departments with multiple copies of equipment, the improved **equipment to student ratio** helped to provide better practical training than before. New practicals and demonstrations uplifted the quality of existing teaching-learning process.

II. Training provided to students:

Oscilloscopes: CRO and DSO

TRACKER Software

Computerized cutting and moulding of Aluminum Sheet

Importance of earth wire in electrical fitting

Honey Bee Keeping

Registration to Inflibnet to access the e-content

- Lab staff has been trained in:
MS-Word and MS-Excel
Digital Storage Oscilloscope
Safe use of LASER
Repair and Maintenance of the lab equipment.

III. Interdisciplinary Activities:

- Performed minor projects by students in a group of three and under the guidance of a teacher in-charge, intending to develop their research aptitude.
- Organized visits to Marhar Electrical Industries, Bee-Keeping Farm, and Puspa Gujral Science City helped students to improve their knowledge about scientific applications.
- Interdepartmental activities organized by all science departments, the *Environmental Rangoli Utsav* to inculcate school student's interest in science. Various students of class 9 onwards from neighboring schools participated in this event.
- Interdisciplinary activities organized by all science departments, the *National Science day celebrations* on the theme 'Integrated Approach in Science & Technology for Sustainable Future' offered chance to students to participate in many competitions like: Quiz, Slide Show making, Poster presentation, etc.
- Organized a National Conference (Offline mode) on "Recent Advances in Science & Technology for Sustainable Development" helped UG-Science students to learn how to present the outcomes of research work in the form of posters. It also provided a chance for students to interact with eminent resource persons and research scholars.

IV. Introduction of new Experiments:

The new Experiments have been introduced and performed by students of BSc using the following equipment: pH-meter, conductometer, polarimeter, potentiometer, colorimeter, refractometer, sonicator, calorimeter, BH-Curve, Digital Storage Oscilloscope (DSO), Multimeter, G.M. Counter, Charging discharging of the capacitor, He-Ne LASER, Principal points of Lens system, Bi-prism, etc.

V. Interlinkage with the neighboring institutes:

We have developed networking with various reputed national institutions (MRS Punjab Technical University) during the various activities (seminars/ conference/ webinars/training/ workshops) organized under this scheme. These activities helped us to achieve the objectives of this strengthening scheme.

7. Any Novel aspect introduced or planning to introduce during the Scheme duration.

- The Department of Physics has installed equipment for demonstrations of various laws of physical sciences in the innovation hub. It serves science students for learning by verifying the laws of physics. Thus achieving the scheme's objective of doing Science Activities with Fun and Enjoyment (SAFE).
- Students demonstrated the above in science exhibitions and science fairs. Many minor projects have been performed in groups of three students under the supervision and guidance of the teacher-incharges.
- Improved Equipment to Students and Books to Students ratios.
- To improve the number of beneficiaries, a YouTube-Channel 'DBT STAR DAV' has been created.
- DBT-TAB has been introduced on our official website to guide and motivate neighbouring institutes

for the scheme. The information about the DBT Star College scheme and its progress report have been uploaded.


- The designed SOPs' of newly introduced experiments have been uploaded on the DBT-TAB.

8. Lessons learnt / difficulties faced/suggestions if any, in implementation of the programme and utilization of DBT grant. (Max 3 points within 300 words).

The following difficulties had been faced during the utilization of the budget allocated:

- HELP (online) is required to answer various FAQs during the Implementation: Consumable head under the Recurring Grant is confusing for some departments like Physics, Mathematics, etc. *Thus can be modified.*
- Absence of head for payments to the workforce required for the scheme's implementation (like Maker and Checker of the E.A.T.-Module, Lab Staff in charge of the Stock register, and Coordinators).
- Suggestions: *Modify the Consumable head to Reusable. There should be a facility to pay the workforce required for the implementation of this scheme. Introduce an orientation programme on 'How to implement the Scheme effectively' for the newly awarded colleges.*
- A lot of paperwork and formalities are required.
- Suggestions: *The paperwork should be minimized by providing an ONLINE facility (Google Form) for submitting UC/SE, Annual Progress Report, etc. Thus, all these documents should be accepted electronically. There should be some benefit to the teachers involved in additional activities like relaxation in the workload, benefit in the C-Leaves, API-Score, etc.*
- Mention clearly the modes of the payment (CASH, RTGS, E-payment, etc.) for all the expenditures under this scheme.

9. Key performance indicators:


S. no	Indicator	FY: 2020-21	FY:2021-22	Remarks														
1	No. of students admitted	Total =152								Total =124								
		M=77				F=75				M=64				F=60				
		SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	SC	ST	OBC	G	
		16	01	14	46	08	00	13	54	08	01	13	42	04	01	13	42	
			M	F	T				M	F	T							
	B.Sc.-I		29	40	69			B.Sc.-I		18	25	43						
	B.Sc.-II		19	14	33			B.Sc.-II		30	21	51						
	B.Sc.-III		29	21	50			B.Sc.-III		12	18	30						
2	No. of students passing out (%) Students Admitted/passing out (pass %)	B.Sc.-I 100% B.Sc.-II 100% B.Sc.-III 61.50%								Exams have been delayed due to COVID								Due to COVID-19
3	Drop-out rates	02								00								
4	No. of students opting for MSc	10								Result Awaited								Due to COVID-19
5	Average marks	81.80%								Result Awaited								Due to COVID-19
6	No. of hands-on experiments being conducted	Physics: 53+12 & Chemistry:29+10 (Experiments conducted from the syllabus mentioned by the Punjabi University Patiala and new experiments) (Annexure#Ia)								Physics: 65+02, Chemistry: 39+07 (Above mentioned are new experiments than that mentioned in the syllabus) (Annexure#Ib)								Proofs attached 
7	No. of new experiments introduced	Physics: 12 Chemistry: 10				Total= 22 (Annexure#Ia)				Physics Deptt.: 14 Chemistry Deptt.: 17				Total= 31 (Annexure#Ib)				
8	Publications (scopus indexed) /patents, if any.	Physics Deptt.: 09 Chemistry Deptt.: 03				Total= 12 (Annexure#IIa)				Physics Deptt.:05 Chemistry Deptt.:03				Total= 08 (Annexure#IIb)				Proofs are hyperlinked in the Annexure
9	Training received by faculty	Physics Deptt.: 13 Chemistry Deptt.:17				Total= 30 (Annexure#IIIa)				Physics Deptt.: 07 Chemistry Deptt.:09				Total= 16 (Annexure#IIIb)				-Do-
10	Exhibitions /seminars/training courses conducted	Physics Deptt.: 09 Chemistry Deptt.:09				Total= 18 (Annexure#IVa)				Physics Deptt.:08 Chemistry Deptt.: =06				Total= 14 (Annexure#IVb)				-Do-
11	Books/journals subscribed from grants	Physics Deptt.: Books = 88 Journals = 03 Chemistry Deptt.: Books = 40				Total Books = 128 Journals = 03 (Annexure#Va)				Physics Deptt.: Journals = 04 Chemistry Deptt.: Journals = 02				Total Journals = 06 (Annexure#V b)				-Do-
12	Outreach activities (Popular lectures)	Total=07 (Annexure#6)								Total=10 (Annexure#6)								-Do-
13	Colleges mentored to apply for DBT Star College grants	Nil								NIL								
14	Invited lectures	Total=10 (Annexure#7)								Total=11 (Annexure#7)								-Do-

•Proofs (S. No. 6-14 not more than 5 pages, 1.5 line spacing 11 times roman font size) to be provided duly attested by Principal and Coordinator. **QR-Code is provided at the end for the same.**

10. Self-evaluation

Department	*Objective (as stated in the proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics Marks attained
Physics	To increase capabilities of core instrumentation resources by procuring new equipment and upgrading of existing facilities.	90%	2.0
	To strengthen the academic infrastructure for achieving excellence in teaching and practical training.		2.0
	To provide better library facilities for students and teachers.		2.0
	To provide access and exposure for students to national research laboratories and industries.		1.5
	To promote networking and strengthen by collaborating with neighbouring institutions and laboratories.		1.5
Chemistry	To enhance the quality of the learning and teaching process and stimulate original thinking through 'hands on' exposure to experimental work and participation in summer school	90%	2.0
	To increase capabilities of core instrumentation resources by procuring new equipment and upgrading the existing facilities.		2.0
	To provide better library facilities for students and faculty		1.5
	To conduct specialized training programmes for the faculty to improve optimizing their technical capabilities.		2.0
	To provide access and exposure for the students to national research laboratories and industries		1.5

* For quantitative analysis you may fix five objectives (max) each having 2 marks and accordingly can calculate the matrix.



Dr. Kulwinder Singh Mann
 Coordinator, DBT Star College Scheme
 D.A.V. College, Bathinda-151001
Course Coordinator
(With Seal)


Principal
L.A.V. College, Bathinda

Head of the Institution
(With Seal)

Proofs Link




Dr. Kulwinder Singh Mann
Coordinator, DBT Star College Scheme
D.A.V. College, Bathinda-151001



Principal
D.A.V. College, Bathinda

ANNEXURE#Ia

No. of new experiments introduced under DBT-SCS during FY: 2020-21

S. No.	Name of The Activity	Date	Class	Number of Beneficiaries	Activity in Charge
PHYSICS DEPARTMENT					
1.	Physics at kitchen (SoP)	20/09/2020	BSc-I (NM/NMC)	27	Dr. K. S. Mann
2.	Calculation of 'g' with the help of a hex-nut (SoP)	27/09/2020	BSc-I, II, III (NM/NMC)	62	Dr. K. S. Mann
3.	Investigation of Mobile Signal Strength At Home (SoP)	25/10/2020	BSc-III (NM/NMC)	14	Dr. K. S. Mann
4.	Survey: SAR of Mobile Phone Sets For Human Body (SoP)	05/11/2020	BSc-I & III (NM/NMC)	23	Dr. K. S. Mann
5.	Determination of Young's Modulus (Y) of Steel ruler at home (SoP)	19/12/2020	BSc-III (NM/NMC)	36	Dr. K. S. Mann
6.	Feynman's Lecture review	04/01/2021	BSc-I (NM/NMC)	17	Dr. K. S. Mann
7.	How Search, Download, Export Citation Of Research Articles Using Keywords (SoP)	15/01/2021	BSc-III (NM/NMC)	10	Dr. K. S. Mann
8.	Summary of Webinar On Introduction To Research Journals	23/01/2021	BSc-I, II, III (NM/NMC)	12	Dr. K. S. Mann
9.	Data analysis and graph plotting using MS-Excel	01/02/2021	BSc-I, II, III (NM/NMC)	50	Dr. Gurpreet Singh
10.	Testing various electronic components	22/02/2021	BSc-I, II, III (NM/NMC)	35	Dr. Gurpreet Singh
11.	Study of I/O voltage of Power supply using DMM	23/02/2021	BSc-I, II, III (NM/NMC)	35	Dr. Gurpreet Singh
12.	Soldering of electronic circuits	24/02/2021	BSc-I, II, III (NM/NMC)	35	Dr. Gurpreet Singh
CHEMISTRY DEPARTMENT					
13.	Acquaintance with safety measures in the laboratory and Poster Making	12/9/2020	B.Sc – I (NM/M)	29	Ms. Meetu S. Wadhwa
14.	Introduction to Titrations with onscreen titrations through Royal Society of Chemistry	19/9/2020	B.Sc – II (NM/M)	21	Ms. Meetu S.Wadhwa
15.	Preparation of Acetanilide by Conventional/ Green Methods (research based)	23/9/2020	B.Sc – III (NM/M)	18	Dr. Paramjeet Kaur
16.	Re-crystallization of Sugar	24/10/2020	B.Sc – I (NM/M)	32	Mr. Aman Malhotra
17.	Preparation of soap sample & compare the foaming capacity and cleansing effect of soap samples.	27/10/2020	B.Sc – II (NM/M)	16	Dr. Parveen Bala

18.	To prepare a sample of furniture polish. or to prepare the sample of liquid shampoo.	30/10/2020	B.Sc – III (NM/M)	14	Dr. Parveen Bala
19.	Preparation of Soya bean milk and compare with natural milk with respect to curd formation.	24/12/2020	B.Sc – I (NM/M)	26	Dr. Paramjeet Kaur
20.	Preparation of electrolytes of different concentrations and note down their conductance	19/2/2021	B.Sc. III	8	Ms. Meetu S. Wadhwa
21.	Determine the strength of HCl and CH ₃ COOH by titrating it against standard NaOH	03/03/2021	B.Sc. II	20	Dr. Parveen Bala
22.	Prepare and measure the pH of Acetate buffer and Carbonate buffer	22/02/2021	B.Sc. III	8	Dr. Paramjeet Kaur



 Dr. Kulwinder Singh Mann
 Coordinator, DBT Star College Scheme
 D.A.V College, Bathinda-151001


 Principal
 D.A.V. College, Bathinda

ANNEXURE –Ib

No. of new experiments introduced under DBT-SCS during FY: 2021-22

Sem. No.	CHEMISTRY DEPARTMENT	Class / Sem.
Sem.I.	23. Preparation and measurement of pH of acetate buffers at different concentrations 24. To find the specific rotation and molar rotation of optically active substance. 25. To study the inversion of cane sugar by optical rotation measurement.	B.Sc. I / Sem. I
Sem.II.	26. Determination of strength of a given solution of NaOH by titrating against a standard solution of oxalic acid. 27. Determination of strength of a given solution of HCl by titrating against a standard solution of sodium carbonate solution. 28. To identify and separate various pigments present in the mixture using paper chromatography	B.Sc. I / Sem. II
Sem.III.	29. Determination of molarity of KMnO ₄ solution by titrating against a standard solution of 1) Oxalic acid 2) ferrous ammonium sulphate. 30. Estimation of total, permanent and temporary hardness of water (by EDTA method)	B.Sc. II /Sem. III
Sem.IV.	31. Potentiometric titration of monobasic acids HCl with NaOH. 32. Determination of molarity of KMnO ₄ solution by titrating against a standard solution of 1) oxalic acid 2) ferrous ammonium sulphate. 33. To determine the amount of Casein in Milk. 34. To compare percentage of Lactose in Whole Milk and Powdered Milk.	B.Sc.II / Sem. IV
Sem.V.	35. To verify Beer - Lambert law colorimetrically for KMnO ₄ /K ₂ Cr ₂ O ₇ 36. To determine the concentration of the given KMnO ₄ /K ₂ Cr ₂ O ₇ solution colorimetrically. 37. Determination of the molar extinction coefficients colorimetrically.	B.Sc. III / Sem. V
Sem.VI.	38. To determine the strength of strong acid & weak acid by titrating it against base conductometrically. 39. To calculate λ_{∞} of weak electrolyte conductometrically.	B.Sc. III / Sem. VI
PHYSICS DEPARTMENT		
Sem.I.	40. To determine the value of air capacitance by de-Sauty method and to find the permittivity of air and also to determine the dielectric constant of medium.	B.Sc. I / Sem. I
Sem.II.	41. To determine the low resistance using Carey Foster Bridge. 42. To determine the given inductance by Anderson's bridge.	B.Sc. I / Sem. II
Sem.III.	43. Adiabatic expansion of a gas. 44. To determine the wavelength of a given light using bi-prism. 45. To determine the principal points of a lens system. 46. To study the gas discharge spectrum of hydrogen. 47. To determine the angle of wedge using interference method. 48. Thermal expansion of crystal using interference fringes.	B.Sc. II /Sem. III
Sem.IV.	49. Total radiation law, temperature dependence of radiation. 50. Study of rotation of plane of polarization with a polarimeter.	B.Sc. II / Sem. IV
Sem.V.	51. To study the absorption spectra of iodine vapours. 52. To determine the divergence and wavelength of a given laser source.	B.Sc. II / Sem. V
Sem.VI.	53. To measure the magnetic susceptibility of FeCl ₂ solution by Quinck's method.	B.Sc. III / Sem. VI





Dr. Kulwinder Singh Mann
Coordinator, DBT Star College Scheme
D.A.V College, Bathinda-151001


Principal
L.A.V. College, Bathinda

ANNEXURE #IIa

LIST & PROOFS OF PUBLICATIONS during FY: 2020-21

PHYSICS DEPARTMENT

2019-2020			
#	Title	Journal	DOI No. (Hyperlinked)
Dr. Kulwinder Singh Mann			
1	Radiation shielding investigations for selected tellurite-based glasses belonging to the TNW system	Mater. Res. Express 6 (IOP Publishing), 105206	https://doi.org/10.1088/2053-1591/ab3f85
2	Neutron-shielding behavior investigations of some clay-materials	Nuclear Engineering and Technology, South Korea	https://doi.org/10.1016/j.net.2019.03.019,
Dr. Vikas Duggal			
3	Risk assessment of radon in drinking water in Khetri Copper Belt of Rajasthan, India.	Chemosphere, 239, 2020, 124782	https://doi.org/10.1016/j.chemosphere.2019.124782
2020-2021			
Dr. Kulwinder Singh Mann			
4.	Py-MLBUF: Development of an online-platform for gamma-ray shielding calculations and investigations	Annals of Nuclear Energy, 150, 107845	https://doi.org/10.1016/j.anucene.2020.107845
5.	Investigations on the gamma-ray shielding performance of green concrete using theoretical, experimental and simulation techniques	Progress in Nuclear Energy, 134, 103654	https://doi.org/10.1016/j.pnucene.2021.103654
6.	Innovation Hub- Physics behind experiments	IAPT Bulletin a Monthly Journal of Education in Physics & Related Areas, 13 (2), pp. 62-63 (ISSN: 22778950)	Link 
7.	Online workshop on MS-Excel	IAPT Bulletin a Monthly Journal of Education in Physics & Related Areas, 13 (3), pp. 98 (ISSN: 22778950)	Link 
8.	Three Days Electronics Workshop on Making of Projects	IAPT Bulletin a Monthly Journal of Education in Physics & Related Areas, 13 (4), pp. 126 (ISSN: 22778950)	Link 
Ms. Harpreet Kaur Brar			
6	Building blocks	Millennium Post	http://www.millenniumpost.in/full-page-pdf/epaper/delhi/2020-11-10/delhi-10-november-

			2020/3642
Dr. Vikas Duggal			
7	Age-dependent dose assessment of uranium intake from bottled water in Punjab state, India.	Water Supply, 20(7), 2794-2803, 2020	https://doi.org/10.2166/ws.2020.174
8	Risk assessment of uranium in drinking water in Hisar district of Haryana, India.	Water Supply, 21(1), 249-261, 2021	https://doi.org/10.2166/ws.2020.313
9	Toxicological risk and age-dependent radiation dose assessment of uranium in drinking water in southwest-central districts of Haryana State, India.	Groundwater for Sustainable Development, 13, 2021, 100577	https://doi.org/10.1016/j.gsd.2021.100577

CHEMISTRY DEPARTMENT

2019-20			
#	Title	Journal	Volume/Page No./year
Dr. Paramjeet Kaur			
10	Photocatalytic degradation of monocrotophos using TiO ₂ photocatalyst: identification of intermediates by chromatographic techniques and reaction pathway	Desalination and Water Treatment	148/ 329-337/April 2019 DOI:10.5004/dwt.2019.23830
Mr. Lalit S. Mittal			
11	A perylenediimide based 'on-off' chemosensor for the detection of nucleoside triphosphates: an efficient ensemble for monitoring alkalinephosphatase activity	Analytical Methods	11/ 5320-5327/2019 DOI: 10.1039/c9ay01608b
2020-21			
Dr. Paramjeet Kaur			
12	Adsorption Behaviour of Quinalphos and Its Leaching Potential in Different Agricultural Soils	Soil and Sediment Contamination: An International Journal	03 Mar 2021 DOI:10.1080/15320383.2021.1890691
13	Toxicity, Natural And Induced Degradation Of Chlorpyrifos	Journal of the Chilean Chemical Society	Vol 65 No 2 /4807-4816/2020 DOI: 10.4067/S0717-97072020000204807
Mr. Lalit S. Mittal			
14	Perylene diimides: will they flourish as reaction-based probes?	Analytical Methods	https://doi.org/10.1039/D0AY00966K 17 June, 2020

ANNEXURE #Iib


LIST & PROOFS OF PUBLICATIONS during FY: 2021-22

PHYSICS DEPARTMENT (05)

2021-2022			
#	Title	Journal	Volume/Pg. No./year. (Hyperlinked)
Dr. Kulwinder Singh Mann			
15.	Report: DBT sponsored Industrial Visit-cum-Training to Science students and Lab Staff	IAPT Bulletin a Monthly Journal of Education in Physics & Related Areas, (ISSN: 22778950)	13 (12), pp. 451 (2021)
16.	Report: DBT sponsored webinar on Environmental Radioactivity	IAPT Bulletin a Monthly Journal of Education in Physics & Related Areas, (ISSN: 22778950)	14 (2), pp. 71 (2022)
17.	Report: DBT sponsored webinar on Solar PV-Cells for Green & Clean Energy Generation	IAPT Bulletin a Monthly Journal of Education in Physics & Related Areas, (ISSN: 22778950)	14 (4), pp. 132 (2022)
18.	Report: DBT sponsored seminar on Importance of Industrial Training for UG Science Students	IAPT Bulletin a Monthly Journal of Education in Physics & Related Areas, (ISSN: 22778950)	14 (5), pp. 157 (2022)
Dr. Vikas Duggal			
19.	Research Article: Fluoride contamination in drinking water and associated health risk assessment in the Malwa Belt of Punjab, India	Environmental Advances (ELSEVIER'S JOURNAL)	8, 100242 (2022) https://doi.org/10.1016/j.envadv.2022.100242

CHEMISTRY DEPARTMENT (03)

Dr. Paramjeet Kaur			
20.	Research Article: Synthesis, characterization, X-ray structural analysis, DFT and BSA binding study of a Zn(II) complex, $[Zn(II)Cl_2(nia)_2] \cdot 2nia$	Journal of Coordination Chemistry (TAYLOR & FRANCIS Online)	74 (16), 2741-2763, 2021 https://doi.org/10.1080/00958972.2021.1973668
21.	Chapter in a Book: High-performance liquid chromatographic techniques for determination of organophosphate pesticides in complex matrices,	Book: Green Sustainable Process for Chemical and Environmental Engineering and Science, ELSEVIER, 2021, Pages 175-196, ISBN:9780128218839	https://doi.org/10.1016/B978-0-12-821883-9.00006-0
Dr. Neha Jindal			
22.	Chapter in a Book: Fabrication and Functionalization of Ionic Liquids	Book: Functionalized Nanomaterials I Fabrications, CRC Press, e Book, 21 August 2020, ISBN-9781351021623	https://doi.org/10.1201/9781351021623


Dr. Kulwinder Singh Mann
Coordinator, DBT Star College Scheme
D.A.V. College, Bathinda-151001


Principal
L.A.V. College, Bathinda

ANNEXURE#IIIa


List of training courses/workshops attended by the faculty during FY: 2020-21:

PHYSICS DEPARTMENT

2020-2021			
#	Title	Date	Proofs
Dr. Gurpreet Singh			
1	One-week Online Faculty Development program on “Recent trends in Material science and Engineering” organized by department of Physics, School of basic science and research, Sharda university, Greater Noida, Uttar Pradesh	May 25-31, 2020	CERTIFICATE (Hyperlinked)
2	Five day online short term course on “Analytical Techniques in the realm of Molecules & Materials” (ATRM-2020) organized by Department of Chemistry, Sant Longowal Institute of Engineering & Technology (Deemed to be University) Longowal, Distt, Sangrur (Punjab)	June 26-30, 2020	CERTIFICATE (Hyperlinked)
3	3-day DAVCB-CUPB-INYAS Lecture Workshop ‘#ZeroWaste’ encompassing 9 lectures organized by DAV College, Bathinda, Central University of Punjab, Bathinda and Indian National Young Academy of Sciences, New Delhi	June 16-18, 2020	CERTIFICATE (Hyperlinked)
Dr. Kulwinder Singh Mann			
4	Seven-day Faculty Development Program on ‘Recent Trends in Materials Science and Engineering’, Organized by Department of Physics, School of Basic Sciences & Research, Sharda University, Greater Noida	May 25-31, 2020	CERTIFICATE (Hyperlinked)
5	Three day Workshop on ‘#ZeroWaste’, Organized by DAV College, Bathinda, Central University of Punjab, Bathinda and Indian National Young Academy of Sciences (INYAS), New-Delhi	June 16-18, 2020	CERTIFICATE (Hyperlinked)
6	Webinar Series on ‘Conceptual and Applied Physics’, Organized by Department of physics, School of science, RK University and Department of Nanoscience & Advanced materials, Saurashtra University, Rajkot	May 05-08, 2020	CERTIFICATE (Hyperlinked)
7	TEQIP-III sponsored webinar on ‘Post COVID-9: Mitigation Strategies for Challenges of online Education in India’, Organized by Dr. B. R. Ambedkar National Institute of Technology Jalandhar, Punjab, India	November 18, 2020	CERTIFICATE (Hyperlinked)
8	International Webinar on ‘Modern Trends in Experimental Research: Optics and Imaging in Healthcare’, Organized by The Maharaja Sayajirao University of Baroda Vadodara, Gujarat, India	May 21-24, 2020	CERTIFICATE (Hyperlinked)
9	National Webinar of Chemical Sensors organized by DAV College Abohar.	August 06, 2020	CERTIFICATE (Hyperlinked)
10	Three days online National Workshop on “Challenges of Teaching Physics Laboratory Courses in Online Mode”, Organized by Kalindi College, University of Delhi	January 23-25, 2021	CERTIFICATE (Hyperlinked)
Harpreet Kaur Brar			

11	4-Week Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education" conducted by Teaching Learning Centre, Ramanujan College, University of Delhi	June 26 – July 24, 2020	CERTIFICATE (Hyperlinked)
12	Successfully completed 4- week online course on “Structural analysis of nanomaterials” conducted by NPTEL-IIT Roorkee on Swayam platform	September-October 2020	CERTIFICATE (Hyperlinked)
CHEMISTRY DEPARTMENT			
2019-2020			
Dr. Paramjeet Kaur			
13.	Attended TEQIP sponsored one-week short term training programme on “Material Characterization & Analytical Techniques for Research Applications” at Sant Longowal Institute of Engineering and Technology, Longowal (Punjab) in collaboration with NIT Uttarakhand	July 1-5, 2019	CERTIFICATE (Hyperlinked)
2020-2021			
Ms. Meetu S Wadhwa			
14.	Online Short Term Course on ‘Analytical techniques in the realm of molecules & Materials’ organized by Department of Chemistry, SLIET, Longowal, Sangrur	June 26- June 30, 2020.	CERTIFICATE (Hyperlinked)
15.	AICTE Teaching and Learning Academy Online FDP on "Molecular Manufacturing" at Central University of Punjab	Nov. 23-27, 2020.	CERTIFICATE (Hyperlinked)
16.	Two Day Faculty Development Programme on “Teaching and Learning Management during COVID-19 Crisis”, Guru Kashi University, Talwandi Sabo	April 28-29, 2020	CERTIFICATE (Hyperlinked)
17.	Three-day lecture workshop “Zero Waste”, DAV College, Bathinda in association with Central University of Punjab, Bathinda and Indian National Young Academy of Sciences, New Delhi,	June 16-19, 2020.	CERTIFICATE (Hyperlinked)
Mr. Aman Malhotra			
18.	Online short-Term Course on ‘Analytical techniques in the realm of molecules & Materials’ organized by Department of Chemistry, SLIET, Longowal, Sangrur	June 26-30, 2020.	CERTIFICATE (Hyperlinked)
19.	AICTE Teaching and Learning Academy Online FDP on "Molecular Manufacturing" at Central University of Punjab	Nov. 23-27, 2020.	CERTIFICATE (Hyperlinked)
20.	Three-day lecture workshop “Zero Waste” DAV College, Bathinda in association with Central University of Punjab, Bathinda and Indian National Young Academy of Sciences, New Delhi	June 16-19, 2020.	CERTIFICATE (Hyperlinked)
Dr. Parveen Bala			
21.	AICTE Teaching and Learning Academy Online FDP on "Molecular Manufacturing" at Central University of Punjab	Nov. 23-27, 2020	CERTIFICATE (Hyperlinked)
22.	Three-day lecture workshop “Zero Waste” DAV College, Bathinda in association with Central University of Punjab, Bathinda and Indian National Young Academy of Sciences, New Delhi	June 16-19, 2020.	CERTIFICATE (Hyperlinked)
Dr. Paramjeet Kaur			

23.	One week FDP on Recent trends in Material Science and Engineering organized by Department of Physics, School of Basics Science and Research, Sharda University, Greater Noida, UP	May 25-31, 2020.	CERTIFICATE (Hyperlinked)
24.	4-Week Induction/Orientation Programme For "Faculty In Universities/ Colleges/ Institutes of Higher Education" Teaching Learning Centre, Ramanujan College University Of Delhi Under The Aegis Of Ministry Of Human Resource Development Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching	June 04 - July 01, 2020.	CERTIFICATE (Hyperlinked)
25.	Two Week Faculty Development Programme On "Managing Online Classes and Co-Creating MOOC's 3.0" Teaching Learning Centre, Ramanujan College University of Delhi Under the Aegis of Ministry Of Human Resource Development Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching	July 25 - August 10, 2020.	CERTIFICATE (Hyperlinked)
26.	AICTE Teaching and Learning Academy Online FDP on "Molecular Manufacturing" at Central University of Punjab	Nov. 23-27, 2020.	CERTIFICATE (Hyperlinked)
Dr. Neha Jindal			
27.	4-Week Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education" Teaching Learning Centre, Ramanujan College University Of Delhi Under The Aegis Of Ministry Of Human Resource Development Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching	June 04 - July 01, 2020.	CERTIFICATE (Hyperlinked)
28.	Two Week Faculty Development Programme On "Managing Online Classes and Co-Creating MOOC's 3.0" Teaching Learning Centre, Ramanujan College University of Delhi Under the Aegis of Ministry of Human Resource Development Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching	July 25 - August 10, 2020.	CERTIFICATE (Hyperlinked)
29.	EDUCATION 4.0 - National Level Online Workshop on ICT enabled Teaching & Learning - Opportunities and Challenges organized, Rajagiri School of Engineering & Technology, Kochi	6 July 2020 to 12 July 2020	CERTIFICATE (Hyperlinked)
30.	Five Days Virtual Faculty Development Programme on "Vital Visionary Approach for Researchers-Recent Chemistry Perspective" organized by Department of Chemistry, Kongu Engineering College, Tamil Nadu, India	20-24 July, 2020	CERTIFICATE (Hyperlinked)


 Dr. Kulwinder Singh Mann
 Coordinator, DBT Star College Scheme
 D.A.V College, Bathinda-151001


 Principal
 L.A.V. College, Bathinda

ANNEXURE#III b

**List of training courses/workshops/conferences attended by the faculty during
FY: 2021-22:**

PHYSICS DEPARTMENT


2021-2022			
#	Title	Date	Proofs
Dr. Kulwinder Singh Mann			
1.	ONE WEEK: FDP on "Novel Materials and their Applications" at Maharaja Ranjit Singh Punjab Technical University, Bathinda.	from 19/07/2021 to 23/07/2021	CERTIFICATE (Hyperlinked)
2.	NATIONAL WEBINAR: Intellectual Property Rights (IPR) organized by Anandibai Raorane Arts, Commerce and Science College, Vaibhavwadi, Dist. Sindhudurg – 416810	05, Oct. 2021	CERTIFICATE (Hyperlinked)
3.	NATIONAL LEVEL E-WORKSHOP on “Learn Physics & Mathematics Practically” organized by the Department of Physics, Mathematics & IQAC in collaboration with IAPT (RC2)	17/08/2021	CERTIFICATE (Hyperlinked)
4.	HANDS ON TRAINING WORKSHOP on PFMS-Module, organized by Bhaskaracharya College of Applied Sciences, New Delhi	11 Jan., 2022	CERTIFICATE (Hyperlinked)
5.	INTERNATIONAL E-CONFERENCE on Innovations and Challenges In Research Publishing on organized by Chitkara University Publications	22-23, Feb. 2022	CERTIFICATE (Hyperlinked)
6.	WORKSHOP: Role of Science Experiments in National Education Policy-2020 organized by Govt. College, Manawar, Dist.- Dhar (MP)	25-26, Feb. 2022	CERTIFICATE (Hyperlinked)
7.	NATIONAL CONFERENCE, organized by DAV College Bathinda	05 March 2022	CERTIFICATE (Hyperlinked)

CHEMISTRY DEPARTMENT

Ms. Meetu S Wadhwa

1.	Refresher course On "Chemistry- The catalyst for change” Teaching Learning Centre, Ramanujan College University of Delhi Under The Aegis Of Ministry Of Human Resource Development Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching from	July 14 -28, 2021	CERTIFICATE (Hyperlinked)
2.	STTP in essential Chemistry for Waste Water Treatment, organized by Visvesvaraya national institute of Technology, Nagpur	14-19 June, 2021	CERTIFICATE (Hyperlinked)
3.	One week online Faculty Development Programme on “Open Source Tools for Research” organized by Teaching Learning Centre, Ramanujan College University of Delhi Under The Aegis Of Ministry Of Human Resource Development Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching, Ministry of Education	December 09 - 15, 2021	CERTIFICATE (Hyperlinked)

Mr. Aman Malhotra			
4.	One week online Short Term Course on Analytical Techniques in the Realm of Molecules & Materials (ATRMM-21) organized by Department of Chemistry, SantLongowal Institute of Engineering & Technology (Deemed to be University) under Ministry of Education Distt. Sangrur	July 26-31, 2021	CERTIFICATE (Hyperlinked)
Dr. Paramjeet Kaur			
5.	One week online Short Term Course on Analytical Techniques in the Realm of Molecules & Materials (ATRMM-21) organized by Department of Chemistry, SantLongowal Institute of Engineering & Technology (Deemed to be University) under Ministry of Education Distt. Sangrur	July 26-31, 2021	CERTIFICATE (Hyperlinked)
6.	Refresher course On "Chemistry- The catalyst for change" Teaching Learning Centre, Ramanujan College University of Delhi Under The Aegis Of Ministry Of Human Resource Development Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching	July 14 - 28,2021	CERTIFICATE (Hyperlinked)
7.	Completed Online SWAYAM ARPIT Refresher Course In 'Chemistry For Higher Education' for Career Advancement Scheme(CAS) promotion, S.G.T.B. Khalsa College, University of Delhi, Examination held on September, 2021.	1st Dec 2020 to 31st March 2021	CERTIFICATE (Hyperlinked)
Dr. Neha Jindal			
8.	Refresher course On "Chemistry- The catalyst for change" Teaching Learning Centre, Ramanujan College University of Delhi Under The Aegis Of Ministry Of Human Resource Development Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching	July 14 - 28, 2021	CERTIFICATE (Hyperlinked)
9.	AICTE training and learning (ATAL) Academy Online Elementary FDP on "Recent Trends in Green Technologies for Sustainable Development" at University College of Engineering & Technology, Bikaner.	13/09/2021 to 17/09/2021	CERTIFICATE (Hyperlinked)


 Dr. Kulwinder Singh Mann
 Coordinator, DBT Star College Scheme
 D.A.V College, Bathinda-151001


 Principal
 L.A.V. College, Bathinda

ANNEXURE# IV a


Training & Workshops during FY: 2020-21

DEPARTMENT OF PHYSICS

2020-21				
#	Title/Links	Dates	Resource Persons	Number of Beneficiaries
Trainings				
1.	Teaching with Virtual Labs and Enhancing Computational Skills using Spreadsheets https://youtu.be/cM7iGPwfpT4	21/09/2020 to 22/09/2020	Dr. P.K. Ahluwalia Himachal Pradesh University, Shimla & Dr. Sapna Sharma, Associate Professor, St. Bede's College, Shimla	82
2.	Constructivism and Learn by doing Practicals for UG Students https://youtu.be/4N5KIkJF-fQ	03/12/2020	Dr. Sarmistha Sahu Coordinator AMMANNI-IAPT Anveshika, Associate Professor (Retd.), Department of Physics, MLAC, Bengaluru, Karnataka	60
Workshops				
3.	One Week Online Interdepartmental Workshop on MS-Excel/Spreadsheet as a tool for Enhancing Mathematical and Computational Skills https://youtu.be/-DsLMRQk7DU https://youtu.be/RBuyRjiOaDc https://youtu.be/a1nvMx-W7gc https://youtu.be/8RKnOaI_QZA https://youtu.be/qAuLGRgZtU4 https://youtu.be/LtpYgBaXxnk	27/01/2021 to 01/02/2021	Dr. P.K. Ahluwalia Himachal Pradesh University, Shimla Dr. Sapna Sharma, Associate Professor, St. Bede's College, Shimla Dr. Sarmistha Sahu Dr. Sarmistha Sahu Coordinator AMMANNI-IAPT Anveshika, Associate Professor (Retd.), Department of Physics, MLAC, Bengaluru, Karnataka	50
4.	Three Days Workshop/Training on Electronics Projects https://youtu.be/LoyH9KABdJU	22/02/2021 to 24/02/2021	Mr. Sukhvinder Singh, Coordinator, NIERT, Patiala, Punjab	35
5.	Training for Laboratory Staff on Maintenance of Equipments https://youtu.be/bihY6jgoP3I	23/03/2021	Mr. Sukhvinder Singh, Coordinator, NIERT, Patiala, Punjab	08
Journal Club Activities				
6.	Feynman's Lecture review	04/01/2021	Dr. K. S. Mann, Department of Physics, DAV College Bathinda	17
7.	How Search, Download, Export	15/01/2021	Dr. K. S. Mann,	10

	Citation Of Research Articles Using Keywords (SoP)		Department of Physics, DAV College Bathinda	
8.	Introduction to Research Journals https://youtu.be/GILhcpA4gJI	23/01/2021	Dr. Sushil Kumar, Associate Professor, Department of Physics, Chitkara University, Chandigarh	63
9.	Introduction to Research Tools https://youtu.be/Nl9oMD8Z3ko	13/02/2021	Dr. Rudra Rameshwar, T.I.E.T. Patiala, Punjab	182
DEPARTMENT OF CHEMISTRY				
2019-20				
10.	Chem Rangoli	19/9/2019	Ms. Meetu S. Wadhwa, Department of Chemistry, DAV College Bathinda	145
11.	Poster making	19/9/2019	Ms. Meetu S. Wadhwa, Department of Chemistry, DAV College Bathinda	145
2020-21				
Journal Club Activities				
12.	Classification of Nanoparticles	3/3/2021	Ms Meetu S. Wadhwa, Department of Chemistry, DAV College Bathinda	35
13.	Parameters to analyze soil quality for agriculture	3/3/2021	Dr. Parveen Bala, Department of Chemistry, DAV College Bathinda	35
14.	Green Solvent in Synthesis	27/1/2021	Mr. Aman Malhotra, Department of Chemistry, DAV College Bathinda	28
15.	Vaccination against COVID-19	27/1/2021	Mr. Aman Malhotra, Department of Chemistry, DAV College Bathinda	28
16.	Chemotherapy for cancer treatment	17/2/2021	Dr. Neha Jindal, Department of Chemistry, DAV College Bathinda	36
17.	Application of NMR Spectroscopy	17/2/2021	Dr. Paramjeet Kaur	36
Workshops and Seminars				
18.	Workshop on Chems sketch	21/01/2021	Dr. Bhupinder Kaur Department of Chemistry, Akal Degree College, Mastuana Sahib Dr. Paramjeet Kaur, Department of	52

			Chemistry, DAV College Bathinda	
19.	Interactive talk on Surface interactions in molecules. (Off- line) https://youtu.be/q10BRc_YXqc	26/02/2021	Dr. J. Nagendra Babu Centre for Chemical Science, School of Basic and Applied Sciences, Central University of Punjab, Bathinda	102
20.	Workshop on “Elements of Surprise” & Demonstrations https://youtu.be/ckf-dtt0T_o	25/02/2021 to 26/02/2021	Details below the faculty of the Department of Chemistry, DAV College Bathinda	100
	To detect the presence of oxygen	26/02/2021	Ms. Navreet Kaur	100
	Elephant toothpaste		Ms. Aarzo Dr. Parveen Bala	
	To find the density of different liquids		Dr. Paramjeet Kaur	
	Silver mirror		Mr. Aman Malhotra	
	Hydrogen gas evolution		Ms. Meetu S.Wadhwa	
	Adulteration in food products		Dr. Neha Jindal Prof. Harjeet Kaur	
	Black snake		Mr. Aman Malhotra	
	Dancing green blue flames		Mr. Amrinder Singh Panesar	
	Baking soda and Vinegar reaction		Dr. Parveen Bala	
	pH and Colors		Ms. Ritika	
	Iodine Clock		Ms. Meetu S. Wadhwa	










 Dr. Kulwinder Singh Mann
 Coordinator, DBT Star College Scheme
 D.A.V College, Bathinda-151001








 Principal
 L.A.V. College, Bathinda


ANNEXURE# IV b

Training & Workshops during FY: 2021-22

DEPARTMENT OF PHYSICS

2021-22				
#	Title/Links	Dates	Resource Persons	Number of Beneficiaries
Trainings				
21.	Tracker Software for Physics Practicals by analysing video recordings	01/11/2021 	Dr. Leena Joshi, Assistant Professor, Department of Physics, St. Xavier's College, Mumbai	55
22.	MARHAR INDUSTRIES LTD. Provided hands on training to students for Computerized Aluminum Sheet Moulding, Safety steps to deal with electrical appliances, and Methods of Earthing of domestic and atmospheric electricity.	29/10/2021 	Er. Pargat Singh and Mr. Kulwant Singh, Marhar Industries Ltd., Dhuri (Sangrur).	40
23.	Oscilloscopes: DSO Vs. CRO	17/05/2022 	Dr. Asha Rani, Assistant Professor, DEV Samaj College for Women, Ferozpur, Punjab	37
Industrial Visit cum Training				
24.	Visit to EDISON TECH. LAB, Dhuri, Punjab	29/10/2021 	Er. Khushpreet Kaur and Mr. Kulwant Singh, Edison Tech Lab., DHURI.	40 [34 (Students) + 3 (Lab Staff) + 3 (Teachers)]
Webinars / Seminars				
25.	Physics of Forces in Nature	04/09/2021 	Dr. S. Devashankar, Assistant Professor, Department of Physics, L.N. Govt. College, Ponneri, Tamilnadu	64
26.	Environmental Radioactivity	21/01/2022 	Dr. Rohit Mehra, Associate Professor, Department of Physics, DR. B.R. Ambedkar National Institute of Technology, Jalandhar	80
27.	Solar PV Cells	19/02/2022 	Dr. Sudesh Bhagwat, Homi Bhabha State University, Mumbai	45
28.	Applications of Physics in Medical Field	27/04/2022 	Dr. Rajiv Dhawan, Associate Professor, Department of Radiotherapy, Govt. Medical College, Amritsar	85

DEPARTMENT OF CHEMISTRY				
29.	Chemistry in Defense for Human Welfare	30 July, 2021 	Dr. Rati Kanta Bera Indian Military Academy, Dehradun	65
30.	Fluorescence Spectroscopy and its Applications	20 Jan., 2022 	Dr. Vinod Kumar J.C. Bose University of Science & Technology, YMCA, Faridabad	93
31.	Integrated Approach in Science & Technology for Sustainable Future	02 Mar., 2022 	Dr. Rajeev Kumar Answal, Department of Environment Studies, Punjab University, Chandigarh.	165
32.	Mock Interview	21 March, 2021 	Mr. Lalit Sachdeva Territory Manager, (Training & Development) Sanofi India Ltd.	30
33.	Visit to Pushpa Gujral Science City, Kapurthla	26 Nov., 2021 	Meetu S. Wadhwa Dr. Ranjeet Singh	40
34.	Workshop on UV & IR Spectroscopy	10 October, 2021 	Dr. Paramjeet Kaur Dept. of Chemistry, D.A.V. College, Bathinda	30


Dr. Kulwinder Singh Mann
Coordinator, DBT Star College Scheme
D.A.V. College, Bathinda-151001



Principal
D.A.V. College, Bathinda

ANNEXURE# V a

Books purchased and Journals Subscribed in FY:2020-21

PHYSICS DEPARTMENT				
Books: (88 with 24 titles)				
S.No.	Book Series No.	Title of the Book	Author	No. of copies
1.	DBT PHY 01/02/03	Concepts of Modern Physics	Arthur Beiser	03
2.	DBT PHY 04/05/06	Fundamental of Optics	Jenkins & White	03
3.	DBT PHY 07/08/09	Nuclear Physics	D.C. Tayal	03
4.	DBT PHY 10/11/12	Solid State Physics	S.O. Pillai	03
5.	DBT PHY 13/14/15	Introduction to electrodynamics	D.J. Griffiths	03
6.	DBT PHY 16/17/18	Textbook of Practical Physics	I. Prakash and Ramakrishna	03
7.	DBT PHY 19/20/21	Integrated electronics	Millman & Halkias	03
8.	DBT PHY 22/23/24	Solid State electronic Devices	Ben Streetman & S.K. Banerjee	03
9.	DBT PHY 25/26/27	Theory of Nuclear Physics	Roy & Nigam	03
10.	DBT PHY 28/29/30	Electricity & Electronics	D.C. Tayal	03
11.	DBT PHY 31/32/33	Electricity & Magnetism	D.C. Tayal	03
12.	DBT PHY 34/35/36	Berkley Physics Course Vol. I	Kittel, Knight, Ruderman, Helmholtz, Moyer	03
13.	DBT PHY 37/38/39	Berkley Physics Course Vol. II	Edward M. Purcell	03
14.	DBT PHY 40/41/42	Berkley Physics Course Vol. III	Frank S. Crawford Jr.	03
15.	DBT PHY 43/44/45	Statistical Mechanics	B.B. Laud	03
16.	DBT PHY 46	Physics Project Lab	Gluck, King	01
17.	DBT PHY 48/49/50	Classical Mechanics	J.C. Upadhaya	03
18.	DBT PHY 51/52/53	Optics and Atomic Physics	D.P. Khandelwal	03
19.	DBT PHY 64/65/66	Quantum Mechanics	J.L. Powell & Crasemann	03
20.	DBT PHY 67/68/69	Refresher Course in Physics Vol. I	C.L. Arora	03
21.	DBT PHY 70/71/72	Refresher Course in Physics Vol. II	C.L. Arora	03
22.	DBT PHY 73/74/75	Refresher Course in Physics Vol. III	C.L. Arora	03
23.	DBT PHY 54-63/ 76-85	B.Sc. Practical Physics	C.L. Arora	20
24.	DBT PHY 47/86/87/88	Mechanics	D.S. Mathur	04

CHEMISTRY DEPARTMENT			
Books (40 with 20 Titles)			
S. No.	Title	Publisher / Author	Quantity
25.	Advanced Practical Organic Chemistry	Krishna Prakashan (Meerut)/ O.P. Aggarwal	2
26.	Vogel's Inorganic Qualitative Analysis	Pearson/ Svehla	2
27.	Vogel's text book of Quantitative chemical analysis	Pearson/ Mendham	2
28.	Organic Chemistry by Jonathan Clayden	Oxford/ Jonathan Clayden	2
29.	Elementary Organic Spectroscopy	S. Chand/ Y. R. Sharma	2
30.	Principles of Instrumental Analysis	Cengage/ Holler and Skoog	2
31.	Fundamentals of Analytical Chemistry	Cengage// Holler and Skoog	2
32.	Environmental Chemistry	New Age/ A K De	2
33.	Coordination Chemistry	Aaryush Education/ Ajaikumar	2
34.	Organometallic and Bioinorganic Chemistry	Aaryush Education/ Ajaikumar	2
35.	Polymer Science	New Age/ V R Gowariker	2
36.	Physical Chemistry	Oxford/ Peter Atkins	2
37.	Introduction to Quantum Chemistry	Tata Mc. Hills/ A K Chandra	2
38.	Statistical Thermodynamics	New Age /M. C. Gupta	2
39.	Modern Methods of Organic Synthesis South Asia Edition	Cambridge University Press/ W. Carruthers Iain Coldham	2
40.	Environmental Pollution Analysis	New Age/ S. M. Khopkar	2
41.	Quantum Chemistry	Pearson/ Levine	2
42.	Principles of the Solid State	New Age/ H.V. Keer	2
43.	Stereochemistry of Organic Compounds	New Age/ D. Nasipuri	2
44.	Instrumental Methods for Chemical Analysis	Pragati Prakshan/ H. Kaur	2
Journals Subscribed			
S.No.	Name of the Journal	Frequency per month	
1.	Resonance: Journal of Science Education	1	
2.	Down to Earth (Customer Code: 111587)	2	
3.	Current Science (12770 CURR IC)	2	
4.	Bulletin of IAPT: A Monthly Journal of Education in Physics and Related Areas	1	



 Dr. Kulwinder Singh Mann
 Coordinator, DBT Star College Scheme
 D.A.V College, Bathinda-151001


 Principal
 L.A.V. College, Bathinda

ANNEXURE# V b

Books purchased and Journals Subscribed in FY:2021-22

JOURNALS SUBSCRIBED		
S.No.	Name of the Journal	Frequency per month
PHYSICS DEPARTMENT		
5.	Resonance: Journal of Science Education	1
6.	Down to Earth (Customer Code: 111587)	2
7.	Current Science (12770 CURR IC)	2
8.	Bulletin of IAPT: A Monthly Journal of Education in Physics and Related Areas (ISSN:2277-8950)	1
CHEMISTRY DEPARTMENT		
9.	Journal of Punjab Academy of Sciences (Lifetime subscription)	1
10.	Chemical Sciences by Royal Society of Chemistry	1



Dr. Kulwinder Singh Mann
Coordinator, DBT Star College Scheme
D.A.V College, Bathinda-151001


Principal
L.A.V. College, Bathinda

ANNEXURE# VI a

Outreach Interdisciplinary Activities during FY: 2020-21

2020-21			
1.	Industrial Visit: P.P. Industries Pvt. Ltd., Bathinda & Aggarwal Corrukrafts Pvt. Ltd., Bathinda https://youtu.be/rYeeLnZgSbc https://youtu.be/W2sBsE5fgl4 News	18/02/2021	52
2.	Virtual Tour to Optics Lab. at TIFR: Facilitated by Dr. Venu Gopal Achanta, Professor, Department of Condensed Matter Physics and Material Science, TIFR, Mumbai https://youtu.be/0N_nqAgbw58	05/12/2020	153
3.	Virtual tour to SAIF/CIL/UCIM Labs at Panjab University Chandigarh: Resource persons: Mr. Tejbir Singh; Ms. Anitha MB; Dr. Rajendra Singh https://youtu.be/1-r9rJWgnC4	11/12/2020	189
4.	National Virtual Poster making Contest Topic: Indian Nuclear and Space Programme (Online) Ms. Harpreet Kaur Brar (Incharge)	15/10/2020	87
5.	Knowledge Quest-2021 (Offline) Ms. Harpreet Kaur Brar (Incharge) (Published News)	10/03/2021	72
6.	Quiz for School Students Mr. Aman Malhotra (Incharge) * Preliminary ** Final	5/02/2021	50
7.	Industrial Visit to National Fertilizer Limited, Bathinda Ms. Meetu S. Wadhwa (Incharge) Record	19/03/2021	10


Dr. Kulwinder Singh Mann
Coordinator, DBT Star College Scheme
D.A.V. College, Bathinda-151001



Principal
L.A.V. College, Bathinda

ANNEXURE# VI b

Outreach Interdisciplinary Activities during FY: 2021-22



S. NO.	NAME OF ACTIVITY	DATE	PARTICIPANTS	NUMBER OF BENEFICIARIES
PHYSICS DEPARTMENT				
8.	Science: Fiction to Reality BY Dr. Jaswinder Singh, Lect. In Physics, Govt. Sen. Sec. School, Kalyan, Patiala	05/08/2021	Teachers of Secondary Schools	60
9.	Environmental Rangoli Utsav	25/11/2021	School Students Graduating Students	118
10.	Inter School & Inter College Poster Competition	02/03/2022 National Science Day	Secondary School Students & Graduating Students	165
11.	Inter School & Inter College Quiz Competition	02/03/2022 National Science Day	Secondary School Students & Graduating Students	165
12.	Inter College Slide Show Competition	02/03/2022 National Science Day	Graduating Students	165
13.	Visit nearby Schools to Popularize Basic Science among Students	16/03/2022 to 17/03/2022	11 th and 12 th classes students of Govt. Schools of district Bathinda	180
CHEMISTRY DEPARTMENT				
14.	Environmental Rangoli Utsav	25/11/2021	School Students Graduating Students	118
15.	Educational Visit to Pushpa Gujral Science City	26/11/2021	B.Sc. II students of DAV College, Bathinda	40
16.	Inter School & Inter College Poster Competition	02/03/2021 National Science Day	Secondary School Students & Graduating Students	165
17.	Inter School & Inter College Quiz Competition	02/03/2021 National Science Day	Secondary School Students & Graduating Students	165
18.	Inter College Slide Show Competition	02/03/2021 National Science Day	Graduating Students	165


Dr. Kulwinder Singh Mann
Coordinator, DBT Star College Scheme
D.A.V. College, Bathinda-151001


Principal
D.A.V. College, Bathinda

Annexure#VII a


Invited Lectures during FY: 2020-21

2020-21				
1.	Semi-volatile Organic Compounds (SVOCs) in Ambient Atmosphere	24/09/2020	Dr. J. Nagendra Babu (Assistant Professor) Centre for Chemical Science, School of Basic and Applied Sciences, Central University of Punjab, Bathinda	113
2.	Bio-informatics: An Ocean of Opportunities to Leverage during Lockdown https://youtu.be/yKwvAPTyUZ0	26/09/2020	Dr. Felix Bast, Associate Prof., Central University of Punjab, Bathinda	176
3.	Radiation Exposure and Health Effects https://youtu.be/9YIRjtoAy-0	10/10/2020	Prof. (Dr.) Sandeep Kansal, Department of Physics, MRS Punjab Technical University, Bathinda	121
4.	Role of Chemistry in our lives	29/10/2020	Dr. Mohamad Yusuf (Professor) Department of Chemistry, Punjabi University, Patiala.	101
5.	Enzymes-Coenzymes and their role in biological reaction	07/11/2020	Dr. Aman Bhalla (Assistant Professor) Department of Chemistry, Punjab University, Chandigarh.	73
6.	Semiconductor Devices: Innovations, Current Trends and Challenges	02/12/2020	Dr. Harsupreet Kaur, Assistant Professor, Department of 52 electronic science, University of Delhi	52
7.	What to do after B.Sc.? Opportunities in Higher Education and Foreign Scholarships https://youtu.be/LoyH9KABdJU	24/02/2021	Dr. Felix Bast, Associate Prof. Central University of Punjab, Bathinda	50
8.	Interdisciplinary webinar on Scholarships for pursuing higher studies in Sciences https://youtu.be/vD6Ite5pl2o	27/03/2021	Prof. (Dr.) Sandeep Kansal, Department of Physics, MRS Punjab Technical University, Bathinda	35
9.	Introduction to Research Journals https://youtu.be/GILhcpA4gJI	23/01/2021	Dr. Sushil Kumar, Associate Professor, Department of Physics, Chitkara University, Chandigarh	63
10.	Introduction to Research Tools https://youtu.be/NI9oMD8Z3ko	13/02/2021	Dr. Rudra Rameshwar, T.I.E.T. Patiala, Punjab	182

Annexure#VII b
Invited Lectures during FY: 2021-22



S.NO.	TOPIC	SPEAKERS	DATE
11.	Effects of Global Warming on Cold Deserts	Prof. S.K. Mehta Vice Chancellor, University of Ladakh, Ladakh	05 March, 2022
12.	Advancing the e2 Concept: Quest for Sustainable Development	Prof. G. S. Chauhan CSIR-Emeritus Scientist, Himachal Pradesh University, Shimla	SERB & DBT sponsored National Conference on Recent Advances in Science and Technology for Sustainable Development
13.	Gender and Climate Change Adaptation	Prof. Jagbir Singh Department of Zoology and Environmental Sciences, Punjabi University Patiala	
14.	Potential of Nanomaterials for Thermosensors development and water purification	Dr. Narinder Singh, Department of Chemistry, IIT, Ropar, Punjab	
15.	Synthesis and Characterization of Oxide Materials for Application in Luminescent and Energy Storage Devices	Prof. Atul Khanna Department of Physics, Guru Nanak Dev University, Amritsar	
16.	Physics of Forces in Nature	Dr. S. Devashankar, Assistant Professor, Department of Physics, L.N. Govt. College, Ponneri, Tamilnadu	
17.	Environmental Radioactivity	Dr. Rohit Mehra, Associate Professor, Department of Physics, DR. B.R. Ambedkar National Institute of Technology, Jalandhar	21/01/2022
18.	Solar PV Cells	Dr. Sudesh Bhagwat, Homi Bhabha State University, Mumbai	19/02/2022
19.	Applications of Physics in Medical Field	Dr. Rajiv Dhawan, Associate Professor, Department of Radiotherapy, Govt. Medical College, Amritsar	27/04/2022
20.	Chemistry in Defense for Human Welfare	Chemistry in Defense for Human Welfare	30 July, 2021
21.	Fluorescence Spectroscopy and its Applications	Fluorescence Spectroscopy and its Applications	20 Jan., 2022
22.	Integrated Approach in Science & Technology for Sustainable Future	Integrated Approach in Science & Technology for Sustainable Future	02 Mar., 2022


Dr. Kulwinder Singh Mann
 Coordinator, DBT Star College Scheme
 D.A.V. College, Bathinda-151001


 Principal
 L.A.V. College, Bathinda