

**PROGRESS REPORT**  
**by**  
**Govt. College for Women, Parade Ground, Jammu, J&K**  
**supported under STAR COLLEGE SCHEME**

1. Name of the College: **Govt. College for Women, Parade Ground, Jammu-180001, J&K.**
2. Name of Departments supported under Star college scheme: **Botany, Chemistry, Physics and Zoology**
3. Name of Coordinator, designation, address, phone & fax nos., email

**Dr. Pragya Khanna, Associate Professor in Zoology, Govt. College for Women, Parade Ground, Jammu-180001, J&K.**

**Cell No.: +91-94191-94244, Fax: 0191-2544305, E-mail: [pragyajmu2002@yahoo.co.in](mailto:pragyajmu2002@yahoo.co.in)**

4. No. of regular faculty with Ph.D. in each participating department:

**Dept. of Botany**

1. Dr. Bachan Lal
2. Dr. Yash Pal

**Dept. of Chemistry**

1. Dr. Veena Pandita
2. Dr. Anjana Gupta
3. Dr. Monika Gupta
4. Dr. Sumita Dham,
5. Dr. Rajesh Kant
6. Dr. YashPaul
7. Dr. Satinder Kumari Juneja
8. Dr. Sapna Sharma

**Dept. of Physics**

1. Dr. Bhavnaish Chand
2. Dr. Arti Pandoh Gupta
3. Dr. R.K. Bhat
4. Dr. Neeraj Gupta
5. Dr. Bandhan Sharma

**Dept. of Zoology**

1. Dr. Savi Behl
2. Dr. Pragya Khanna
3. Dr. Neeraj Kumar
4. Dr. Tasleem
5. Dr. Rahul Kait
6. Dr. Nitasha Sawhney

4. List of courses (B.Sc./M.Sc./PG Diploma, certificate etc) run by different participating departments:

**College runs an Undergraduate Course in B.Sc. (Medical/Non-Medical) comprising of combinations as Botany/Biotechnology, Chemistry, Zoology, General English in Medical stream  
And  
Physics, Chemistry, Mathematics, General English in Non-Medical stream**

5. Admission details in different courses in participating departments during past and current academic session:

**Dept. of Botany**

Year	Cut off % for admission	No. of students admitted	% of result	Position in university	No. of drop out students
2012-13	45%	965 (Part I)	98% (Part III)	--	1%
2013-14	45%	1041 (Part I)	Result awaited		

**Dept. of Chemistry**

Year	Cut off % for admission	No. of students admitted	% of result	Position in university	No. of drop out students
2012-13	45%	1272 (Part I)	92% (Part III)	02	1%
2013-14	45%	1352 (Part I)	Result awaited		

**Dept. of Physics**

Year	Cut off % for admission	No. of students admitted	% of result	Position in university	No. of drop out students
2012-13	45%	307 (Part I)	92% (Part III)	03	1%
2013-14	45%	311 (Part I)	Result awaited		

**Dept. of Zoology**

Year	Cut off % for admission	No. of students admitted	% of result	Position in university	No. of drop out students
2012-13	45%	965 (Part I)	98% (Part III)	--	1%
2013-14	45%	1041 (Part I)	Result awaited		

6. Cut off percentage for admission **in different course** in participating department:

3 years before receiving grant from DBT			After receipt of grant from DBT (past three years / as year applicable)		
2010-11	45%		<b>Grant received in the current year only</b>		
2011-12	45%				
2012-13	45%				

7. Enlist activities carried out during the year (department wise):

### A. Student activities

#### Dept. of Botany

Summer school: Nil

Industrial visit: Nil

List of project taken by students:

**Project proposed on: (To be taken up in the current session)**

1. Green and Red Biotechnology.
2. Medicinal plants of J&K with biochemistry and uses.

Excursion: One day trip on 30<sup>th</sup> Oct 2013 to

1. Environmental Park, Jammu
2. Wild life Sanctuary Manda Jammu.

**Brief Report:** On 30<sup>th</sup> Oct 2013, 225 students of Bsc. Part-2 were taken to Environmental Park, Jammu and to Wild life Sanctuary Manda, Jammu for field trip. The trip was jointly organized by Deptt. of Botany and Zoology to boost the inter-departmental cooperation and co-ordination. In the Environment Park and the Wild life Sanctuary the students were apprised with the habitat and habits of different groups of plants and the interdependence of animals. The habitat of the first group of land plants such as bryophytes were shown to the students. These special habits were around the water channels established by the department. In addition to this students were shown various local plants of Jammu region along with there local names and local medicinal uses. The plants shown were *Acacia modesta*, *Acacia catechu*, *Aegel marmelos*, *Zizyphus* spp. *Dalbergia sisso*, *Morus* sp., *Ficus* spp., *Adhatoda vasica*, *Terminalia arjuna*, *Grewia tenax*, *Alstonia scholaris* various *Euphorbia* spp. Some common herbs shown were *Syndrella*, *Ageratum*, *Mazus* etc.

Other if any: Nil

#### Dept. of Chemistry

i. Summer school: Nil

ii. Industrial visit:

#### **INDUSTRIAL VISIT TO SIDCO, SAMBA BY B.Sc. PART III STUDENTS UNDER STAR COLLEGE SCHEME**

#### **OBJECTIVES:**

Industrial visits are integral part of chemistry curriculum. These visits recognize the collaboration between industries and academia. Such visits provide training platform for young future scientist and provide a pioneering field that complements the mission of higher education. Industrial visit gives students an opportunity to experience industrial chemistry and illustrate the part of syllabus to help students to see the relevance of chemistry in day to day life.

#### **SIDCO SAMBA**

J & K State Industrial Development Corporation is the nodal agency for promotion and development of medium as well as large scale industries in the state. Since its inception, J& K SIDCO has acted as

prime mover in the state for the promotion of industrial ventures and thus playing the role of “Institutional Entrepreneur”. It provides 100 % excise exemption for 10 years, 5 years of 100 % Income tax holiday, Capital investment subsidy up to Rs 30 lakhs, Rs 45 lakhs for thrust area project, land on 90 years lease and many more. There are hundreds of units operating under SIDCO, J & K, viz, Cadila, Berger Paints, Fungicides India, Sun Pharma, Jindal Photo, Singer, Kohinoor, Agro, Camlin Color Factory, Etc. Our Students visited many of these industries.

On 15<sup>th</sup> of October, 2013, 260 students of B.Sc. Part III and 6 staff members from Deptt. Of Chemistry paid visit to SIDCO, Samba. We boarded the buses at 8:00 am and reached there by 9:30 am. At the entrance gate, the students were divided in to three groups, and were sent to different industrial units( Cadila, Indo swift, Camlin).

#### **A.VISIT TO CADILA PHARMACEUTICAL COMPANY**

Cadila Health is an Industrial Pharmaceutical Company having headquarter at Ahmadabad , Gujarat. The Company, being the 5<sup>th</sup> largest pharmaceutical company in India is the significant manufacturer of generic drugs. At the company gate, students were supplied with safety equipments and were given safety information about the plant. During our visit we came to know that currently company is manufacturing tablets and capsules which include Lipitor, Sutent, Enbrel and Prevenar for both human and animals. They showed us the video film related with the manufacturing of medicines. The Plant has its own Power Supply centers having 450 Watt voltage supply. Then the Administrative officer of the company led the whole group to the Water Purifying Unit and explained them the whole process involved in the purification process. Then the students were taken to the Air Drying Unit from where the dry air is used for the synthesis of the medicines. Students also visited Raw material Store and Quality Check centre. Finally students were shown Recycling unit of the Industrial waste water.

#### **B. VISIT TO INDO SWIFT PHARMACEUTICAL COMPANY**

Indo Swift is a Chandigarh based Pharmaceutical Company established in 1986. It has been ranked 35<sup>th</sup> among top Indian Pharmaceutical companies. During its visit, students were welcomed by General Manager HR on the behalf of the company. We were provided with safety caps and shoe covers before entering in to the Plant. We were guided by HR Executives about the HR practices, safety measures and corporate social responsibilities of the company. We visited Quality control and Fabrication area where capsules and other life saving drugs were being manufactured. They also demonstrated the various processes involved in maintaining the quality of the product manufactured before launching it in the market.

#### **C. VISIT TO KOKUYO CAMLIN COLOUR FACTORY**

The Company was incorporated on 24<sup>th</sup> December, 1946 as a private limited Company which was founded by late G.P. Dandekar and D.P. Dandekar in 1931 at Girgaum, Mumbai. During our visit to colour factory, our students were excited and thrilled to see the whole process involved in the manufacturing of colours. For making a colour tube, an aluminium tablet is firstly converted into tube by undergoing so many processes like from tablet to sheet, then puncturing it to have hole and labeling it etc. during manufacturing. A wide variety of colors ranging from water colors (for Children) to poster colors (for artists) are being manufactured in this factory. This factory is the only factory in India which manufactures tablet colours. After verification of physical properties like density, specific gravity, viscosity and chemical properties like quality checking etc. then only these colours come into the market. Hundreds of workers have been employed in different sections of the factory thus providing job opportunities to many people.

iii. List of project taken by students

**Project proposed on: (To be taken up in the current session)**

**No. 1. To check the adulteration in following food materials:**

- i. Chilly powder
- ii. Turmeric

**iii. Desi ghee**

**No. 2. To design lead storage cell and dry cell**

**No. 3. To check the bacterial contamination in drinking water by testing sulphide ions**

**No. 4. To study the method of purification of water**

**No. 5. To investigate the foaming capacity of different washing soaps and the effects of addition of sodium carbonate on it**

iv. Excursion: Nil

v. Other if any: Nil

**Dept. of Physics**

i. Summer school: Nil

ii. Industrial visit: **Proposed**

**The Dept. is likely to visit Meteorological department, Satawari , Jammu, J&K  
And Salal Hydraulic Project, Reasi, J&K.**

iii. List of project taken by students

**Project proposed on: (To be taken up in the current session)**

- 1. To study the variation of weight of a body on different Planets**
- 2. To study the nature of Gamma- ray Astronomy.**

iv. Excursion: Nil

v. Other if any: Nil

**Dept. of Zoology**

i. Summer school: Nil

ii. Industrial visit: Nil

iii. List of project taken by students

**Project proposed on: (To be taken up in the current session)**

**Role of Biotechnology in medicines, Industry, Pedigree analysis, DNA finger printing, cloning Transgenic Animals.**

iv. Excursion:

**A combined trip of department of Zoology and Botany was organized to wildlife park, Manda and Environmental park Sidhra, Jammu on 30<sup>th</sup> oct. 2013, in which 260 students of B. Sc. Part II participated.**

**The students were made aware of the different species of wild animals and plants by the faculty members, the various species of the animals students came across were: Jungle owlet, Jungle Cat, Barking Deer, Ghoral, Sambar, Leopard, Black Bear, Spotted Deer, Peacock, Red Jungle Fowl, Emu, Porcupine, Mallard Ducks, Rabbits and Turkey.**

Regional wildlife warden, Mr. Asif Mehmood Sagar, interacted with the students and enlightened the students about wildlife conservation and its importance.

In environmental park the students identified wide range of plant species and interacted with Mr Susheel Sharma, DFO.

The trip was of great significance for students as they familiarized themselves with the habit, habitat and the behaviour of wild fauna, the students took keen interest and appreciated the efforts of the department.

v. Other if any:

**Poster making competition on wildlife threats and conservation.**

## **B) Teachers activity**

### **Dept. of Botany**

i. Workshop, seminar conducted / attended: **01**

**Three day workshop on Bryology organized by Jammu University in 2013. Attended by 7 faculty members.**

ii. Training course conducted / attended: **Nil**

iii. Guest lectures (Please mention Name, Designation, host institute of guest faculty invited)

**Proposed Guest lectures by**

**1. Prof. M.K. Dhar, Department of Biotechnology, University of Jammu**

**2. Dr. Veenu Koul, Associate Prof. Department of Botany, University of Jammu.**

**3. Dr. Jyoti Wakhlu, Assistant Prof. Department of Biotechnology, University of Jammu**

iv. Exhibition: **Nil**

v. Other if any: **Nil**

### **Dept. of Chemistry**

i. Workshop, seminar conducted / attended: **Nil**

ii. Training course conducted / attended: **Nil**

iii. Guest lectures (Please mention Name, Designation, host institute of guest faculty invited)

**Proposed Guest lectures by**

**1. Dr. K. K. Kapoor (Professor)**

**P.G. Department of Chemistry  
University of Jammu, Jammu**

**2. Dr. Naveed A. Qazi (Scientist C)**

**I.I.I.M. Jammu**

**3. Dr. Parvinder Singh (Scientist C)**

**I.I.I.M. Jammu**

iv. Exhibition: **Nil**

v. Other if any: **Nil**

## Dept. of Physics

- i. Workshop, seminar conducted / attended:  
**Prof. Hans Raj attended International Conference on triggering Discoveries in High Energy Physics held at Jammu University from 9<sup>th</sup> to 14<sup>th</sup> Sept., 2013.**
- ii. Training course conducted / attended  
**Two faculty members attended refresher course in experimental Physics sponsored by Indian Academy of Sciences, Bangalore, Indian National Science Academy, New Delhi, National Academy of Sciences of India, Allahabad organized by school of Physics S.M.D.U, Katra, Jammu, J&K w.e.f 8-24 october, 2013.**
- iii. Guest lectures (Please mention Name, Designation, host institute of guest faculty invited)  
**Proposed Guest lectures by**  
**1. Dr.(Prof.) Rajnikant                      2. Dr. (Prof.) K.K. Bamzeai**  
**Professors of Physics, University of Jammu, Jammu.**
- iv. Exhibition: Nil
- v. Other if any: Nil

## Dept. of Zoology

- i. Workshop, seminar conducted / attended: Nil
- ii. Training course conducted / attended: Nil
- iii. Guest lectures (Please mention Name, Designation, host institute of guest faculty invited)  
**Lecture by Dr. Manoj S. Kamat , Associate professor Goa University on “New ways of Pollution Control” on 18/11/13.**
- iv. Exhibition: Nil
- v. Other if any:  
  
**Dr. Pragya Khanna, Coordinator, Star College and faculty member, Dept. of Zoology was invited to deliver Guest Lectures after the initiation of the scheme in the current year as under:**  
  
  - 1) Delivered an **Invited Lecture** in the UGC sponsored course ‘**Women and Technology**’ on the topic ‘**Women and IT**’ in the **Centre for Women Studies, MIER College of Education, B.C. Road, Jammu, J&K** on 30<sup>th</sup> Jan. 2013.
  - 2) Delivered an **Invited Lecture** in the UGC sponsored course ‘**Women and Technology**’ on the topic ‘**Women’s Empowerment in IT**’ in the **Centre for Women Studies, MIER College of Education, B.C. Road, Jammu, J&K** on 31<sup>st</sup> Jan. 2013.
  - 3) Delivered **TWO Invited Lectures** in 5 day Orientation program for Knowledge Text Translation (Punjabi) on ‘**Translating Life Sciences Texts (Zoology)**’ organized by **National Translation Mission, Central Institute of Indian Languages, Ministry of Human Resource Development, Govt. of India, Mysore** on 15<sup>th</sup> Feb. 2013 at the **Centre for Diaspora Studies, Punjabi University, Patiala.**
  - 4) Delivered an **Invited Lecture** in 5 day Orientation program for Knowledge Text Translation (Dogri) organized by **National Translation Mission, Central Institute of Indian Languages, Ministry of Human Resource Development, Govt. of India, Mysore** on 27<sup>th</sup> Aug. 2013 at Govt. Degree College for Boys, Udhampur, J&K.
  - 5) Delivered an Invited lecture on ‘**Health at the mercy of toxins**’ as resource person in 6 days **Regional Level Science Congress**, organized by **Jawahar Navodaya Vidyalaya, Ministry of Human Resource Development (Department of School Education & Literacy), GOI, Nud, Distt. Samba (J&K)** on 16<sup>th</sup> Nov. 2013.

1. She was inducted as Hony. Member, Centre for Environment Education and Training, WWF-India, Jammu, J&K.

### Overall activities organized by the College:

#### **1. Conference on ‘Environmental Pollution: Impact, Consequences and Remedial Measures’**

The College organized One Day Conference on ‘Environmental Pollution: Impact, Consequences and Remedial Measures’ sponsored by the J&K State Council for Science and Technology, Dept. of Science and Technology, Govt. of Jammu and Kashmir held on 5<sup>th</sup> Feb. 2013 at GCW, Parade Ground, Jammu.

The seminar brought the officials, representatives, researchers and experts from different colleges, Universities, organizations, agencies, together to deliberate on issues relating to Environmental pollution on different themes of great relevance and public importance. It provided a forum for academicians, technologists, researchers, students, entrepreneurs, and policy makers to interact and frame potent strategies to exchange ideas for facing the challenge.

Dr. Pragya Khanna was the Organizing Secretary of the Program.

#### **2. Two Day Workshop on Biotechnology**

The College organized Two Day Workshop on Biotechnology sponsored by J&K State Council for Science and Technology, Dept. of Science and Technology, J&K.

The workshop had been especially organized to provide an exposure to the students of the newly inducted course of Biotechnology which the College had started from the current session.

The resource persons of the workshop were Dr. Swarkar Sharma and Dr. Ekta Rai from Sri Mata Vaishnodevi University, Katra, Dr. Parvinder Kumar from University of Jammu and Dr. Sandeep Dogra from Govt. Medical College, Jammu. The resource persons dealt with different aspects of Microbiology and Biotechnology like history, scope and origin of Microbiology and Biotechnology; enrichment culture techniques and culture media; Spectrophotometry and Colorimetry; Industrial products derived from microbes; Infectious Disease Transmission.

Dr. Pragya Khanna was the Organizing Secretary of the Program.

#### **3. 2<sup>nd</sup> J&K Women’s Science Congress-2013**

Govt. College for Women, Parade Ground organized the **2<sup>nd</sup> J&K Women’s Science Congress** on the theme “**Empowering Women through Science and technology**” from 24<sup>th</sup> to 26<sup>th</sup> Oct. 2013. Sponsored by the J&K State Council for Science and Technology, Department of Science and Technology, J&K, this program proved to be a grand venture and was designed to spread the understanding of the need to empower women who constitute nearly 50% of the population and involve them effectively in nation building activities tapping their potential as innovators and implementers of innovations other than being beneficiaries of innovations.

The Congress included Technical Sessions, Plenary Sessions, Vision Talks, Panel Discussions, Public Lectures, Pride of J&K Expo Children Science Congress and Cultural Programme. The major thrust areas of the Congress were Food & Nutrition, Rural Technology, Atmospheric Sciences, Nanotechnology, Agriculture, Green Building Technologies and Alternate Building Materials, Biodiversity, Biotechnology, Environment & Forest, Medical Sciences, Climate Change, Space Science and Technology, Pharmaceutical Sciences, Transportation, Maternal & Child Health Care, Water Management Technologies for Differently Abled, Science Education for Women etc.

The Congress was attended by academicians, researchers, scientists, students and entrepreneurs from different premier institutions, Universities of the state and research labs like University of Jammu, Univ. of Kashmir, SMVD University, Katra, BGSB University, Rajouri, Central Univ., Jammu, SK University of Agri. S&T, Jammu, Govt. Medical College, Jammu, ASCOMS, Jammu, SK Institute of Medical Sciences, Srinagar, AIIMS, New Delhi, IIM, Jammu, Central Ground water Board, Jammu and other leading agencies.



The main highlight of the Congress was publication of **Souvenir cum abstract book** and more importantly the **Directory of Women Scientists of J&K** that were released on the occasion along with two issues of the biannual College Newsletter.

Dr. Pragya Khanna was the Organizing Secretary of the Program.

#### **4. Children's Science Exhibition**

With a view to encourage, popularize and inculcate scientific temper among the children of the state, a science exhibition was also organized simultaneously with the 2<sup>nd</sup> J&K Women's Science Congress in which school children were invited from the Govt. and Pvt. Institutions upto the plus two level wherein they exhibited science models prepared by them and showcased their talents in science and mathematics and their applications in different areas related with the everyday life.

8. Advisory committee meeting:

A) Constitution of advisory committee

**The advisory committee, for the implementation of the Star College Scheme, was constituted right after the receipt of the grant.**

**Members of the advisory committee:**

- 1. Dr. M.K. Jyoti (Head, Dept. of Environmental Sciences, Central University of Jammu, Former Head, Dept. of Zoology, University of Jammu).**
- 2. Dr. Manoj K. Dhar (Head, Dept. of Biotechnology, University of Jammu).**

B) Advisory committee meeting conducted after implementation of scheme: if yes please give the dates and enclose the minutes.

**See Annexure I**

9. List of activities/projects/practicals conducted involving more than two scientific disciplines/departments.

**Shall be conducted in due course of time**

10. List of additional Practicals/Demonstrations introduced for UG students of each batch (I<sup>st</sup>, II<sup>nd</sup> and III<sup>rd</sup> year) in different departments supported under Star College Scheme in last one year:

#### **Dept. of Botany**

**(B.Sc. Part I)**

- 1. To study post-harvest diseases of common fruits and vegetables.**

#### **Dept. of Chemistry**

**(B.Sc. Part I)**

- 1. To determine the strength of given acid (HCl) conductometrically using standard alkali solution (NaOH).**
- 2. To study the saponification of ethyl acetate conductometrically.**
- 3. To determine the ionization constant of a weak acid (CH<sub>3</sub>COOH) conductometrically.**
- 4. To verify Beer Lambert law for KMnO<sub>4</sub> and determine the unknown concentration of the given solution of the substance.**

**Dept. of Physics**

**(B.Sc. Part I)**

- 1) Determination of Ionization potential of mercury gas using gas filled diode.
- 2) Determination of Dielectric constant of given capacitor by resonance method.
- 3) Determination of wavelength of given light by Michelson interferometer.
- 4) Determination of wavelength of sodium light by Fresnel's Biprism.

**Dept. of Zoology**

1. To identify the different Blood groups in human beings.

11. DBT grant utilization:

A) Non-recurring (Equipment and Books & Journals):

**Dept. of Botany**

S.No.	Equipment Name (Model no.)	Quantity	Cost	Date of order placed	Purchase/install
1	Plant tissue culture teaching kit	01	4852.13	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
2	DNA quantification kit teaching	01	3234.75	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
3	Agrose gel. Electrophoresis teaching kit	01	3126.93	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
4	Restriction digestive teaching kit	01	4852.13	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
5	Transformation teaching kit	01	5499.08	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
6	Plasmid preparation teaching kit	01	5391.25	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
7	Genomic DNA extraction kit (from bacteria)	01	4852.13	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
8	Genomic DNA extraction kit (from leaves)	01	3450.40	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
9	Genomic DNA purification kit	01	3288.66	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
10	PCR application kit	01	7008.63	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
11	DNA Finger printing kit	01	7008.63	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
12	Protein estimation kit	01	3396.19	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
13	Thin layer chromatography teaching kit	01	6631.24	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13
14	Western blotting teaching kit	01	10782.50	WCP/COLL/2013/ 3472-14.10.13	31989/01-11-13

**TOTAL= 73375.00**

**Dept. of Chemistry**

<b>S.No.</b>	<b>Code/Type</b>	<b>Name</b>	<b>Price (Rupees)</b>	<b>Quantity</b>	<b>Total</b>
1		Digital Conductivity Meter 3.5 LED display Range 0-20 Accuracy +/-1 Make Electronic India	5700	10	57000
2		Solo Microwave oven 20 Lts. Make Whirlpool.	5500	1	5500
3	103714/371	Water Analyzer (Colorimeter, D.O, cond., TDS, pH, Salinity, Temp.)	59500	1	59500
4	108025/802	Digital pH meter with electrode (LCD display)	9900	5	49500
5	101151/115	Digital photoelectric Colorimeter With 8 filters (1 mL)	15100	3	45300
6	101176/117	$\mu$ -Controller based UV-VIS Spectrophotometer (200-1100 nm)	135000	1	135000
7		Mutifrequency Ultrasonic interferometer Model:M-825,8 Freq.(2,3,4,5 MHz)	$\approx$ 80000	1	80000
8	1176/1	PaperChromatography Cabinet CabinetSize:60X30X60cmapprox. For 4 filter papers of 46X57 cm size	12700	2	25400
9	1176/2	PaperChromatography Cabinet Cabinet Size: 80X37.5X65 cm approx For 6 filter papers of 75X75 cm size	14500	2	29000
10	1176/3	Glass boats for Cabinet 1176/1	900	2	1800
11	1176/4	Glass boats for Cabinet 1176/2	1025	2	2050

<b>Total</b>	<b>4,90,050</b>
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**Dept. of Physics**

S.No	Equipments Name	Quan.	Cost (Excluding vat)	Date of order placed	Purchase/Install
1.	Four probe method to determine the resistivity and band gap of a semiconductor	1	16000/-	WCP/COLL/2013/3234 dated 06-09-2013.	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu.
2.	Dual trace single CRO with 0-30 MHz, 8*10 display, magnification of 10 hold.	1	35000/-	WCP/COLL/2013/3234 dated 06-09-2013.	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu.
3.	8085 microprocessor kit based on 8085 CPU at 6144 MHz crystal, two Kb of RAM with provision for further expansion 6116/6264.	1	8250/-	WCP/COLL/2013/3236 dated 06-09-2013.	Sherman Agencies, 50 Patel Chowk near Jain bazaar, Jammu-180001
4.	Apptt. To study the series and parallel resonance LCR ckt. Containing the variable transformer, voltmeter(0-50 v) & ac voltmeter(0-25v)	1	8400/-	WCP/COLL/2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
5.	Determination of e/m of electron by helical method, distance between the edges*4 deflecting plates & screen L4 12.5cms, Lx 10.15 cm, diameter 12cms, no. of turns 4060, length of winding L745	1	18400/-	WCP/COLL/2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu

	cms.				
6.	Newton ring apparatus, optically plane glass plate & a convex lens of about 100 cm focal length placed in a box having optically plane glass plate at an angle of 45 degrees, a spherometer, a convex lens of short focal length.	1	8450/-	WCP/COLL/2013/3235 dated 06-09-2013	National Scientific Instrument Corp., Ahata Amar singh shopping complex, Palace Road, Jammu- 180001S
7.	Spectrometers (30 second)	1	6150/-	WCP/COLL/2013/3235 dated 06-09-2013	National Scientific Instrument Corp., Ahata Amar singh shopping complex, Palace Road, Jammu- 180001S
8.	Spot deflection galvanometer, resistances of 600 ohms, with sensitivity of 1-1.3 micro amp. For 75 mm deflection.	1	4500/-	WCP/COLL/2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
9.	Laurent half shade Polari meter with half shade nicol polarizer, analyzer 100 mm diameter circular scales divided in degrees 0.360 degrees by 1 degrees.	1	5000/-	WCP/COLL/2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
10.	Function Generator specification line mixed sine wave square wave triangular wave generator and variable duty rect. op	1	4800/-	WCP/COLL/2013/3236 dated 06-09-2013.	Sherman Agencies, 50 Patel Chowk near Jain bazaar, Jammu-180001
11.	Transistor characteristics apparatus with Ge NPN and PNP silicon NPN	1	3500/-	WCP/COLL/2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road,

	and PNP with 4 meters- two 0-10VDC at 200mA variable 100uA power supply for base emitter junction 2 DC ammeter 65mm radial				Jammu
12.	Andersons bridge with head phone	1	5000/-	WCP/COLL/ 2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
13.	Sodium lamp with transformer	1	3900/-	WCP/COLL/ 2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
14.	Carey foster bridge apparatus to determine low resistance with sensitive galvanometer dc battery etc. (complete)	1	6900/-	WCP/COLL/ 2013/3235 dated 06-09-2013.	National Scientific Instrument Corp., Ahata Amar singh shopping complex, Palace Road, Jammu- 180001S
15.	Mercury vapour lamp with transformer.	1	4950/-	WCP/COLL/ 2013/3235 dated 06-09-2013	National Scientific Instrument Corp., Ahata Amar singh shopping complex, Palace Road, Jammu- 180001S
16.	Fresnel biprism assembly with 150 cm long steel rod. Bench having nickel brass rods.	1	14500/-	WCP/COLL/ 2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
17.	Operational Amplifier complete in all respect	1	4850/-	WCP/COLL/ 2013/3236 dated 06-09-2013.	Sherman Agencies, 50 Patel Chowk near Jain bazaar, Jammu-180001
18.	Michelson Interferometer	1	27500/-	WCP/COLL/ 2013/3234 dated 06-09-2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
19.	Ionization Potential of mercury	1	7700/-	WCP/COLL/ 2013/3234 dated 06-09-	Ramesh Traders, Shop No. 15, opp. Zonal Police

				2013	Headquarter, Palace Road, Jammu
20.	UJT	1	4000/-	WCP/COLL/ 2013/3234 dated 06-09- 2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
21.	FET	1	3600/-	WCP/COLL/ 2013/3234 dated 06-09- 2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
22	Tunnel Diode characteristic Apparatus	1	9000/-	WCP/COLL/ 2013/3234 dated 06-09- 2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
23.	Apparatus to determine dielectric constant.	1	7800/-	WCP/COLL/ 2013/3234 dated 06-09- 2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu
24.	Diffraction at straight Edge apparatus with 150 cm long optical bench having steel rods and necessary uprights/stands	1	11500/-	WCP/COLL/ 2013/3234 dated 06-09- 2013	Ramesh Traders, Shop No. 15, opp. Zonal Police Headquarter, Palace Road, Jammu

Total = 2,29,650/-  
 VAT (@13.5%) = 31,003  
 Grand Total = 2,60,653

**Dept. of Zoology**

S no	Equipment Name (Model No)	Quantity	Cost	Date of order placed	Purchased/ installed
1	Laminar Flow Apparatus	01	Rs61290/-	02-07-13	Yes
2	Water bath double walled 6 holes with thermostatic control	01	Rs9534/-	02-07-13	Yes
3	Thermal Cyler Model no 4375786	01	Rs499400/-	02-07-13	Yes

4	Electrophoresis Unit horizontal Tarson Make	01 no	Rs11236=50	02-07-13	Yes
5	Electrophoresis power supply cat No 10685743	01 no	92616=00	02-07-13	Yes
6	Magnetic stirrer Tarson make	01 no	17649=25	02-07-13	Yes
7	Centrifuge Machine 8 holes	01 no	10782=50	02-07-13	Yes
8	Tran illuminator cat no 107171	01 no	41512=63	02-07-13	Yes
9	Dissection Microscope Analab make	20 no	15617=00	02-07-13	Yes

B) Recurring (details of consumable, material etc.)

**Dept. of Botany**

**LIST OF GLASSWARE**

S.NO	ITEMS/ SPECIFICATION	CAPACITY	QUANTITY	PRICE/UNIT	TOTAL
1	Burettes, Straight bore graduated	25ml	10	485	4850
2.	Burettes, Straight bore graduated	50ml	10	530	5300
3.	Burettes, Straight bore graduated	100ml	5	720	3600
4	Wash bottle, LDPE plastic, squeeze type , screw cap, fitted with stopper and delivery tube	500ml	36	60	2160
5	Culture petridishes, Glass,	15 x 12mm	50	50	2500
6	Culture petridishes, Glass	100 x 15mm	50	65	3250
7	Flask, Flat Bottom, Short neck with unbreakable glass	250ml	5	125	625
8	Flask, Flat Bottom, Short neck with unbreakable glass	500ml	5	125	1025
10	Flask conical with screw cap, 75 x 120	150ml	5	205	1025
11	Flask conical with screw cap, 85 x 140	250ml	5	250	1250
12	Separating funnel, globe shape with stopcock, glass	500ml	10	1025	10250
15	Pipettes , glass, graduation interval 0.01ml	1ml	5	265	1325
16	Pipettes , glass, graduation interval 0.02ml	2ml	5	277	1385
17	Pipettes , glass, graduation interval 0.0iml	0.1ml	5	300	1500
18	Pipettes , glass, graduation	0.2ml	5	300	1500



	interval 0.01ml				
19	Micropipette with variable volume, single channel autoclable	0.2-2.0ul	1	4295	4295
20	Micropipette with variable volume, single channel autoclable	0.5-10.0ul	1	4295	4295
21	Stands for micropipettes with 6 single channel pipette	-	1	935	935
				<b>TOTAL</b>	<b>51070.00</b>

**Dept. of Chemistry**

S.No	Name of chemical	Quantity	Cost	Date of order placed	Purchased
1	Ammonium ferrous sulfate AR	6	1374	28-09-2013	YES
2	Oxalic Acid	6	1614	do	Yes
3	Sodium hydroxide	6	2310	do	Yes
4	Acetone	10	2870	do	Yes
5	HCl	10	5840	do	Yes
6	Nitric Acid	5	4915	do	Yes
7	Sulphuric Acid	10	9830	do	Yes
8	Potassium iodide	1	8224	do	Yes
9	Acetamide	2	1120	do	Yes
10	Benzoyl chloride	2	1134	do	Yes
11	Glycerol	2	596	do	Yes
12	Benzamide	2	1620	do	Yes
13	Acetanilide	3	1797	do	Yes
14	Ferrous sulphate	5	2685	do	Yes
15	Sodium carbonate	3	678	do	Yes
16	Acetic Acid	5	1055	do	Yes
17	Ammonium hydroxide	5	2920	do	Yes
18	Anthracene	1	4268	do	Yes
19	Ammonium nickel sulfate	1	2316	do	Yes
20	Nitro benzene	3	1059	do	Yes
21	Litmus sol blue/red	16	1520	do	Yes
22	Barium chloride	2	622	do	Yes
23	Aluminium chloride	1	348	do	Yes
24	Sudan yellow	2	912	do	Yes
25	Aniline	2	938	do	Yes
26	Pipettes 10 ml, 20 ml	30	2400	do	Yes
27	Glass funnel 3"	30	990	do	Yes
28	Stalagmometer 3"	30	2100	do	Yes
29	Beakers 250 ml	100	5700	do	Yes
30	Beakers 500 ml	25	2325	do	Yes
31	Burettes 50 c.c	20	4500	do	Yes
32	Conical flask 250 mL	50	8000	do	Yes
33	Thermometer	50	4250	do	Yes
34	Kipps apparatus PVC	2	1100	do	Yes
35	Viscometer	30	3450	do	Yes
36	Tongs	24	1680	do	Yes
37	Spatulla	50	1050	do	Yes

38	Clamp Fisher	20	1700	do	Yes
39	Clamp stand	20	8400	do	Yes
40	Trip[od stand	30	3900	do	Yes
41	China dish	50	1500	do	Yes
42	Fusion tube	15	2700	do	Yes
43	Wire gauge	50	300	do	Yes
44	Round bottom flask 250 mL	20	1780	do	Yes
45	Reagent bottle	100	7500	do	Yes
46	Boiling test tube	20	400	do	Yes
47	Droppers	20	300	do	Yes
48	Pinch cork	36	3456	do	Yes
49	Stop clock	6	5400	do	Yes
50	Burner	50	10250	do	Yes
51	Filter paper	3	4290.3	do	Yes
52	Flat bottom flask	3	861.46	do	Yes
53	Copper sulphate	2	958.54	do	Yes
54	Picric acid	1	635.46	do	Yes
55	Naphthol-1	1	1146.86	do	Yes
56	Paraffin liquid	3	1038.87	do	Yes
57	Zinc chloride	1	342.72	do	Yes
58	Sodium hydroxide	3	666.69	do	Yes
59	p-toluidine	1	892.5	do	Yes
60	Naphthylamine	1	1278.06	do	Yes

### Dept. of Physics

S.No.	Book name	Author	Quantity	Price per unit
1.	Gravity An Introduction to Einsteins's General Relativity	Hartle Jam	2	550/-
2.	Modern classical Physics	G.Brooker	1	695/-
3.	Physics of atoms and molecules	Bransden	2	725/-
4.	Thermodynamics	M.S.Yadav	1	600/-
5.	A-Z Physics	G.K.Bose	1	995/-
6.	Electronic Devices and Circuit Theory	BOYLSTEAD	3	525/-
7.	Mathematical and stastical Physics	S.Singh	1	1495/-
8.	Nuclear Physics	G.Chatwal	1	1995/-
9.	Text book of Quantum Physics	A.K.Sharma	1	975/-
10.	Solid State Devices and Circuits	S.P Bali	6	195
11.	Text book of Modern Physics	A.K.Sharma	1	995/-
12.	Digital Electronics and Microcontroller	R.K Gour	3	345/-
13.	Electronic devices and Circuits	D.C. Tayal	2	950/-
14.	Thermodynamics	A.Singh	1	895/-

15.	Nuclear Physics	R.Kumar	2	1095/-
16.	Holograpy	Joshi MG	5	30/-
17.	Introduction to Electrodynamic and Particle Physics	Joshideep	2	395/-
18.	Applied Physics	J.K.Mathew	1	900/-
19.	University Physics	J.C.Upadhay	1	1500/-
20.	Basic Electronics of Linear circuits	N.N.Bhargava	1	265/-
21.	Mathematical and Experimental Physics	Jay Lakshm	3	395/-
22.	Linear Integrated Circuits	D.Roy Chowdhary	2	250/-
23.	Foundation of Electronics	Chattopadhyaya	2	175/-
24.	Renewable sources of energy	Dr. M.K.Singh	2	725/-
25.	Solid State Physics	H.C. Gupta	2	415

**Total = 25,690/-**

#### Dept. of Zoology

S no	Equipment Name (Model No)	Quantity	Cost	Date of order placed	Purchased
1	Glass Beaker 250 ml	10 no	661.42	08-10-2013	Yes
2	Glass Beaker 500 ml	10 no	1060.37	08-10-2013	Yes
3	Round bottom flask 250 ml	10 no	1837.28	08-10-2013	Yes
4	Measuring cylinder 1000ml plastic	02 no	6544.41	08-10-2013	Yes
5	Measuring cylinder 100ml Borosil	02 no	1406.83	08-10-2013	Yes
6	Measuring cylinder 1000ml Borosil	02 no	3569.58	08-10-2013	Yes
7	Glass bottles 500ml	05 no	1522.32	08-10-2013	Yes
8	Pipettes 1ml Borosil	04 no	1301.85	08-10-2013	Yes
9	Pipettes 10ml Borosil	04 no	1700.80	08-10-2013	Yes
10	Droppers Glass	10 no	209.98	08-10-2013	Yes
11	Round Bottom Flask 500 ml	10 no	2519.70	08-10-2013	Yes
12	Glass slides Blue Star	100 packet	6333.30	08-10-2013	Yes
13	Cover Slips	60 pkt	3798.99	08-10-2013	Yes
14	Glass Beaker 1000ml	10 no	2194.24	08-10-2013	Yes
15	Gloves pack of 100	10 pack	10660.49	08-10-2013	Yes
16	Eppendraof Stands	10 no	3430.54	08-10-2013	Yes
17	Membrane filter paper	01 no	4054.22	08-10-2013	Yes
18	Whatman filter Paper	01 no	916.51	08-10-2013	Yes
19	Forceps	01 no	79.17	08-10-2013	Yes
20	Spatulas	01 no	36.94	08-10-2013	Yes
21	Butter paper	50 no	269.56	08-10-2013	Yes
22	Absolute Alchol 500ml	04	1338.75	08-10-2013	Yes
23	Giemstain 125 ml	01	258.83	08-10-2013	Yes

24	Lactic Acid500 ml	01	615.83	08-10-2013	Yes
25	EDTA 500gm	01	714.00	08-10-2013	yes
26	LB Media 500 gm	01	2090.24	08-10-2013	Yes
27	Agar Agar 250 gm	01	1561.86	08-10-2013	Yes
28	Agarose 500 gm	01	28927.50	08-10-2013	yes
29	Methylene Blue 125ml	01	116.03	08-10-2013	yes
30	Egg Albumin Flakes 500 gm	01	3034.50	08-10-2013	Yes
31	Tris Base	01	9314.29	08-10-2013	Yes
32	Sodium Hydroxide 500gm	01	218.66	08-10-2013	Yes
33	Hcl 500ml	01	187.43	08-10-2013	yes
34	Cobalt chloride 100gm	01	722.93	08-10-2013	Yes
35	P nitrophenol 500gm	01	557.81	08-10-2013	Yes
36	Dihydrogen orthophosphate 500gm	01	432.86	08-10-2013	Yes
37	Sodium chloride 500gm	01	129.41	08-10-2013	yes
38	Potassium chloride 500gm	01	178.50	08-10-2013	Yes
39	PH Strip Packet	01 pkt	231.54	08-10-2013	Yes
40	Glacial acetic Acid 500ml	01	205.28	08-10-2013	Yes
41	Heamocytometer	01	2156.50	08-10-2013	yes
42	Sterilization Loops	01	104.99	08-10-2013	yes
43	Nitric Acid 500ml	01	223.13	08-10-2013	Yes
44	Phosphoric Acid 500ml	01	423.94	08-10-2013	Yes
45	Methnol 500ml	01	133.88	08-10-2013	yes
46	Ethanol	01	794.33	08-10-2013	yes
47	DPX Mountant 250 ml	01	312.38	08-10-2013	Yes
48	Isopropyl Alcohol 500ml	01	245.44	08-10-2013	Yes
49	Formaline 500ml	01	160.65	08-10-2013	Yes
50	Acetone 500ml	01	258.83	08-10-2013	yes
51	Kits for blood groups	01	1004.06	08-10-2013	Yes
52	Butanol500ml	01	281.14	08-10-2013	Yes
53	Chloroform 500ml	01	285.60	08-10-2013	Yes
54	Silica Gel for TLC	01	2520.00	08-10-2013	yes
55	Dichloromethane 500ml	01	281.14	08-10-2013	Yes
56	Iodine 100 gm	01	2231025	08-10-2013	Yes
57	Thermometer 110C	01	179.44	08-10-2013	Yes
58	CTAB 100gm	01	303.45	08-10-2013	yes
59	Test Tube	100	2162.74	08-10-2013	yes
60	Peter dishes	01	3324.98	08-10-2013	Yes
61	Magnetic Stirrer	02	3831.65	08-10-2013	Yes
62	Glass rods	05	262.47	08-10-2013	yes
63	Test tube stands	10	3430.54	08-10-2013	yes
64	Funnels	05	787.41	08-10-2013	Yes
65	Pasture pipettes	01	580.55	08-10-2013	Yes
66	Bonson Burner	04	1477.77	08-10-2013	Yes
67	Xylene 500ml	01	267.75	08-10-2013	yes
68	Conical Flask 250ml	10	1154.86	08-10-2013	Yes
69	Conical flask 500ml	10	1574.81	08-10-2013	Yes
70	Glass Beaker 500ml	05	293.97	08-10-2013	Yes
71	Glass Beaker 100ml	05	304.46	08-10-2013	yes
72	Glass Beaker 1000ml	05	1097.12	08-10-2013	Yes

73	Test tube stand Small	05	1583.33	08-10-2013	Yes
74	Plastic Funnel 65mm	05	52.78	08-10-2013	Yes
75	Plastic Funnel 75mm	05	68.61	08-10-2013	yes
76	Glass pipette 1ml	05	551.18	08-10-2013	yes
77	Glass Pipette 10ml	05	682.42	08-10-2013	Yes
78	Spirit Lamp	10	527.78	08-10-2013	Yes

12. Qualitative improvements due to DBT support (please highlight 5 salient lines)

**New Equipments have been purchased which has led to improvement in lab. Techniques and introduction of new practicals.**

**Teachers can undertake training programs and hands-on-activities for upgrading their skills and students can be exposed to an array of new dimensions in outdoor activities and enhancement of practical/experimental proficiency.**

**Addition of New books/chemicals/consumables/glassware give more opportunity and cater to the large no. of students in each class.**

13. Problems faced, if any, in implementation of the programme and utilization of DBT grant (in two-three lines)

**Nil**