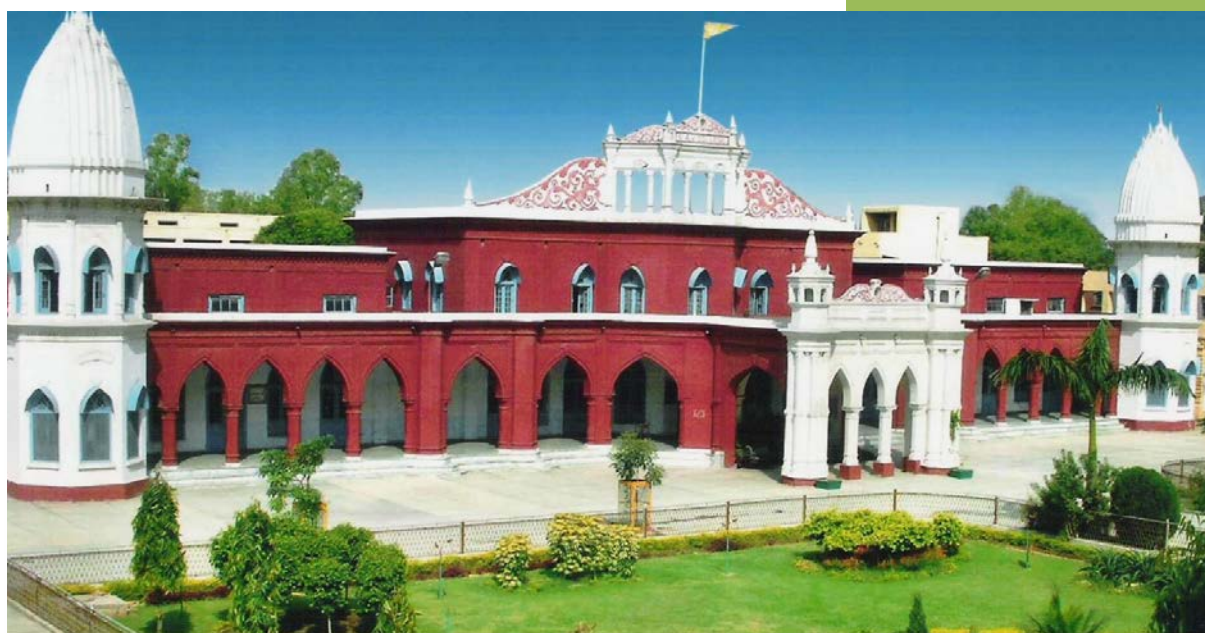


# DBT - STAR COLLEGE SCHEME

## Progress report 2009 - 2015



SUBMITTED TO

**DEPARTMENT OF BIOTECHNOLOGY  
NEW DELHI**

SUBMITTED BY

**DAV COLLEGE JALANDHAR  
MAHATAMA HANSRAJ ROAD  
JALANDHAR 144008**

## Contents

Sr. No.	Content	Page Number
1.	Proforma for Progress Report 2009 - 2015	3-68
2.	Department-wise Performance during the Period i. Record of admissions in each department after DBT support ii. Department wise university results iii. Record of admission in post graduation after doing graduation	6-14
3.	Number of activities held for teachers and students (with title, duration and number of participants)	15-29
4.	Department-wise Projects that were carried out by students during the Support Period	30-38
5.	List of practicals in various departments which are strengthened after DBT support	49-53
6.	Inter-departmental Activities Conducted	54-60
7.	Resources Generated: SOPs, Lab manuals, Teaching kits	61-62
8.	Collaborative Activities with Neighbouring Colleges	63-67
9.	Qualitative Improvements due to DBT Support	68
10.	Strengths and Weaknesses of Each Department	68
11.	<b>Annexure I:</b> list of Resource persons invited in each department from 2009 to 2015	69-79
12.	<b>Annexure II:</b> list of students gone for industrial training from 2009-2015	80-92

**Department of Biotechnology**  
**Star College Scheme**

**Proforma of Progress report for up gradation to Star College status/continuation of support at existing level/discontinuation of support to colleges supported under Star College Scheme**

1. Name of the College : **DAV College Jalandhar (Punjab)**

Sanction No. **BT/HRD/11/010/2008 dated 06-03-2009**

2. Year of Support : **2009**

3. Total grant received during the period of support:

Non Recurring grant: **Rs. 30,00,000/-**

Total Recurring grant: **Rs. 59,26,631/-**

4. Recognition by other funding agency e.g. DST-FIST, UGC-COP, AICTE:

College has two **DST-FIST** Supported Departments

Department	Year of Support	Total Grant Sanctioned
Chemistry	2008	Rs. 41,90,000/-
Physics	2009	Rs. 30,00,000/-

**UGC-COP:**

1. UGC Sponsored Career Oriented Programme in Biotechnology
2. UGC Sponsored Career Oriented Programme in Food Sc. & Quality Control
3. UGC Sponsored Career Oriented Programme Multimedia & Web Designing
4. UGC Sponsored Career Oriented Programme Corporate & Legal Environment
5. UGC Sponsored Career Oriented Programme Data Care Management
6. UGC Sponsored Career Oriented Programme Insurance
7. UGC Sponsored Career Oriented Programme Mass communication & Video Production
8. UGC Sponsored Career Oriented Programme Communication Skill

**Major/Minor Research Projects Under Taken by Teachers**

Sr. No.	Name of the Investigator	Title of the project and duration	Amount sanctioned	Funding Agency
1.	Dr. Navjeet Sharma (Physics Dept.),  Dr. Rajeev Kr Sharma (Chemistry Dept.)	A Study on Radon/Thoron and Gamma Radiation Levels in Jalandhar, Ludhiana and Kapurthala Districts of Punjab  <b>Ongoing project</b>	Rs. 31,71,000/- March 2014	DAE-BARC Mumbai
2.	Dr. Renuka Malhotra (Biotechnology Dept.)	Effect of ethanol and temperature on glycolipid composition of yeast <i>Saccharomyces cerevisiae</i>  <b>Ongoing project</b>	Rs. 14,22,600/- F. No. 42-650/2013(SR) Dated 1/03/2013	UGC New Delhi

Sr. No.	Name of Teacher	Department	Title of Project	Funding Agency
1.	Dr. Renuka Malhotra	Bio-technology	Effect of Ethanol & Temperature of Yeast Glycolipids <b>Project Completed</b>	UGC; New Delhi March 2013 Rs. 14,00,000/-
2.	Dr. Navjeet Sharma	Physics	Study of Characteristic Defects and Effect of n Impurity on Optical and Electrical Properties of Bi <sub>2</sub> - Se <sub>3</sub> Thin Films <b>Project Completed</b>	UGC; New Delhi March 2011 Rs. 1,80,000/-
3.	Mr. Atul Bhalla	Physics	To study Toxicity of drinking water by uranium and other heavy metals in the various regions of Panjab. <b>Project Completed</b>	UGC; New Delhi March 2011 Rs. 2,00,000/-
4.	Dr. Rajat Kumar	Chemistry	Biochemical studies of heavy metal pollution by leather and surgical goods industries around Jalandhar. <b>Project Completed</b>	UGC; New Delhi March 2011 Rs. 1,50,000/-
5.	Dr. Rajeev Kr Sharma	Chemistry	Synthesis And Characterization Of Cellulose Based Graft Copolymers As Supports For Metal Ion Sorption And Enzyme Immobilization. <b>Project Completed</b>	UGC; New Delhi March 2010 Rs. 1,50,000/-
6.	Dr. Komal Arora	Botany	Allelopathic Influence of <i>Cassia occidentalis</i> L. on Germination and Seedling Growth of Other Plants. <b>Project Completed</b>	UGC; New Delhi March 2010 Rs. 90,000/-

7.	Mr. Puneet Puri	Zoology	To investigate selenium Toxicity in Doaba region of Punjab and to co-relate disorders in animals. <b>Project Completed</b>	UGC; New Delhi March 2010 Rs. 1,20,000/-
8.	Mrs. Anu Gupta	Food Science & Tech.	Freeze-drying of Peas <b>Project Completed</b>	UGC; New Delhi March 2010 Rs. 1,50,000/-
9.	Mr. Pankaj Gupta	Food Science & Tech.	Drying of chillies	UGC; New Delhi March 2010 Rs. 1,00,000/-

**5. Name of Departments supported :**

- i. Department of Zoology
- ii. Department of Botany
- iii. Department of Bio-technology
- iv. Department of Chemistry
- v. Department of Food Science & Technology
- vi. Department of Physics

**6. Department-wise Performance during the period: (only graphical representation)**

Comparative analysis prior to support and after support in terms of:

- a. Cut off percent for admission

**Courses** **Cut of %** **Pass % and Positions in University 2013-14**

**Under Graduate Courses**

B. Sc. Biotechnology	50 %	100 %, <b>Gold Medal</b> , 1 merit position in University, B. Sc. VI sem 2013 B. Sc. IV Sem, 1 <sup>st</sup> position University 2 <sup>nd</sup> Position in University in B. Sc. Sem V sem in Dec. 2014
B. Sc. Medical	40 %	100 % in 2014
B. Sc. Non-Medical	40 %	100 %, 1 <sup>st</sup> merit position in University in 2014 in B. Sc. VI Sem
B. Sc. Food Science & Technology	40% in 10+2 Med/ Non-Med)	100 %, <b>Gold Medal</b> , 1 <sup>st</sup> and 2 <sup>nd</sup> Merit Positions in University 2014

**Post Graduate Courses**

M. Sc. Chemistry	60 %	100 %, <b>Gold Medal</b> and 5 merit positions in university in 2014
M. Sc. Zoology	60 %	100 %, <b>Gold Medal</b> and first 6 merit positions in university in 2014
M. Sc. Physics	60 %	100 %, University second position in 2014

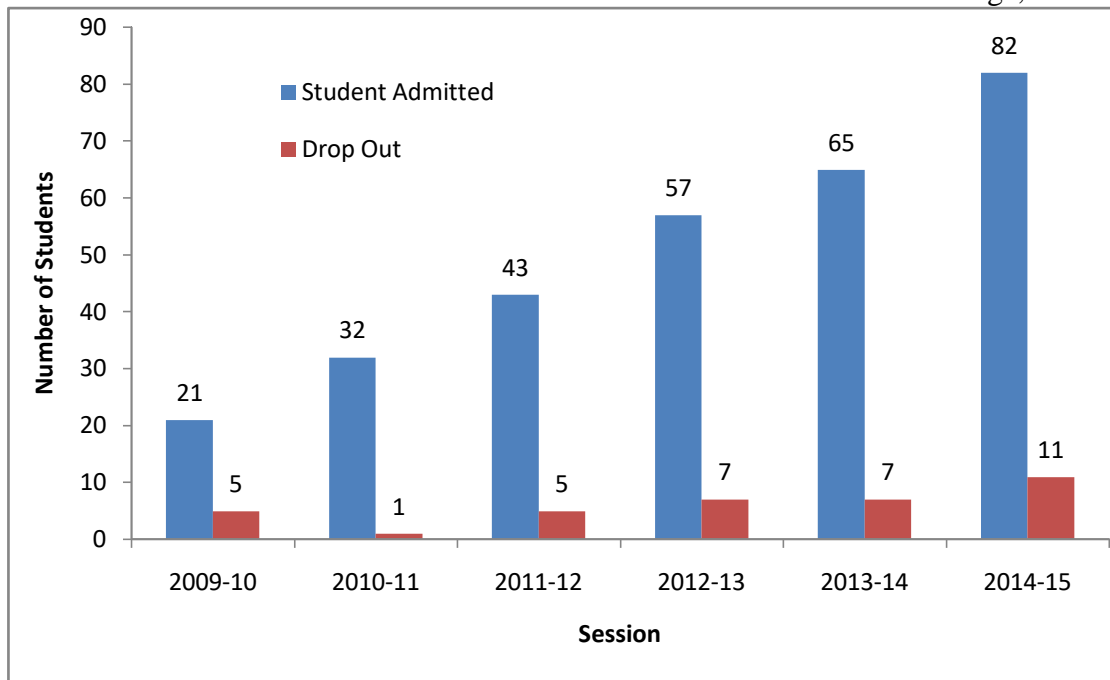
**Certificate Courses (Add on Courses)**

Biotechnology	40 %	100 %
Food Sci. & Technology	40 %	100 %

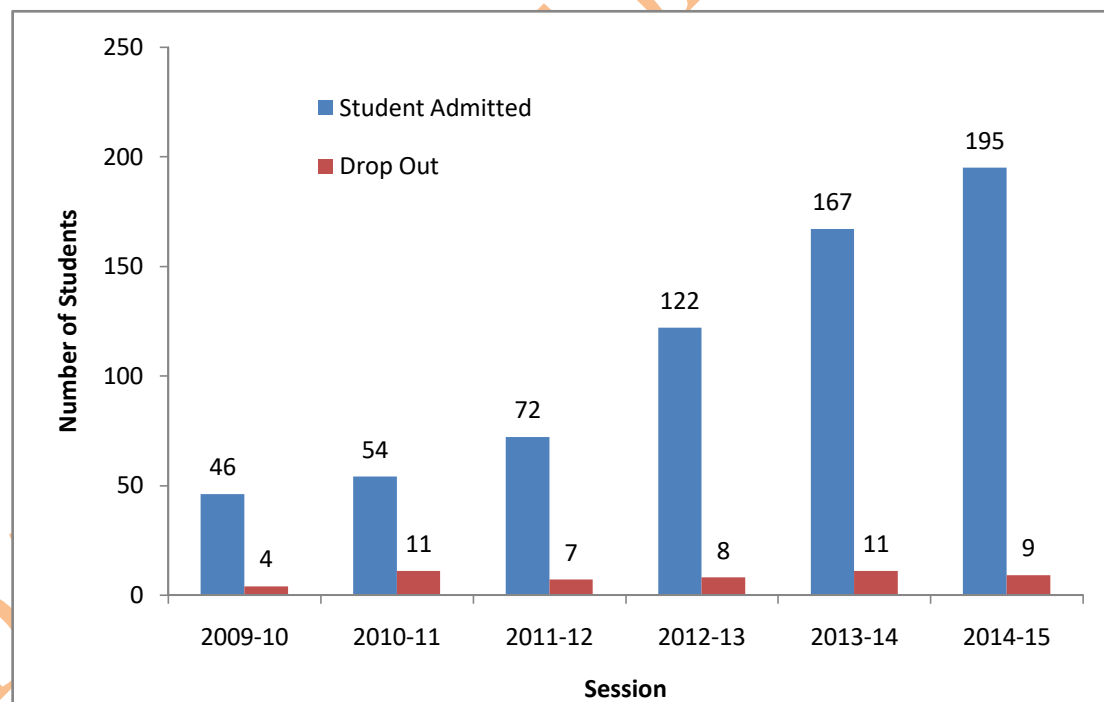
**b. Filling of sanctioned seats**

Course	Session	No. of students admitted	No. of drop out students
<b>Under graduate Courses</b>			
B.Sc. I Medical	2009-10	21	5
B.Sc. I Medical	2010-11	32	1
B.Sc. I Medical	2011-12	43	5
B.Sc. I Medical	2012-13	57	7
B.Sc. I Medical	2013-14	65	7
B.Sc. I Medical	2014-15	82	11

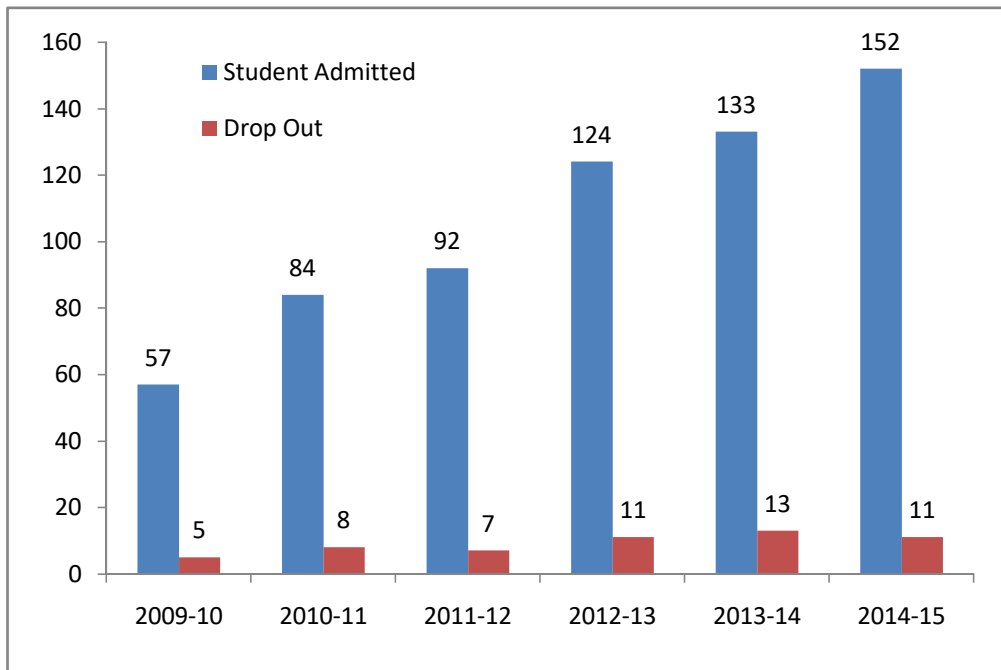
B.Sc. I Non- medical	2009-10	46	4
B.Sc. I Non- medical	2010-11	54	11
B.Sc. I Non- medical	2011-12	72	7
B.Sc. I Non- medical	2012-13	122	8
B.Sc. I Non- medical	2013-14	167	11
B.Sc. I Non- medical	2014-15	195	9
B.Sc. I Comp. Sci.	2009-10	57	5
B.Sc. I Comp. Sci.	2010-11	84	8
B.Sc. I Comp. Sci.	2011-12	92	7
B.Sc. I Comp. Sci.	2012-13	124	11
B.Sc. I Comp. Sci.	2013-14	132	13
B.Sc. I Comp. Sci.	2014-15	152	11
B.Sc. I Bio-technology	2009-10	41	6
B.Sc. I Bio-technology	2010-11	37	8
B.Sc. I Bio-technology	2011-12	39	4
B.Sc. I Bio-technology	2012-13	40	2
B.Sc. I Bio-technology	2013-14	42	2
B.Sc. I Bio-technology	2014-15	44	4
BFST I	2009-10	45	8
BFST I	2010-11	35	2
BFST I	2011-12	40	2
BFST I	2012-13	44	5
BFST I	2013-14	43	3
BFST I	2014-15	45	4
<b>Post Graduate Courses</b>			
M.Sc. I Chemistry	2014	30	01
M.Sc. I Physics	2014	30	01
M.Sc I Zoology	2014	30	Nil



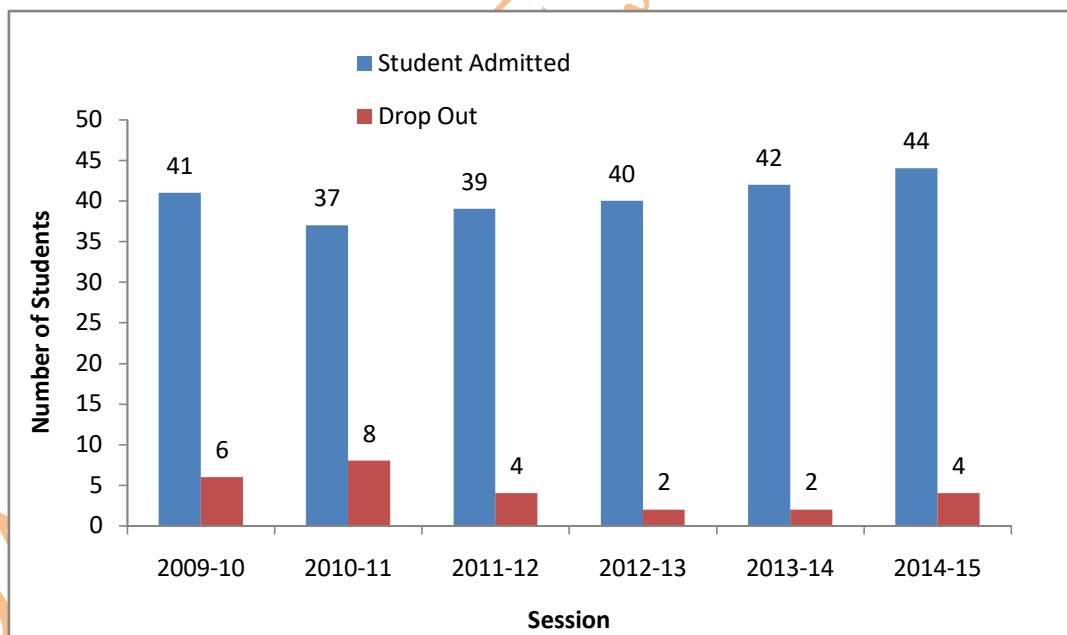
**Chart 1: Showing year-wise trend of Admission in B. Sc. Medical.  
(Subjects: Botany, Zoology & Chemistry)**



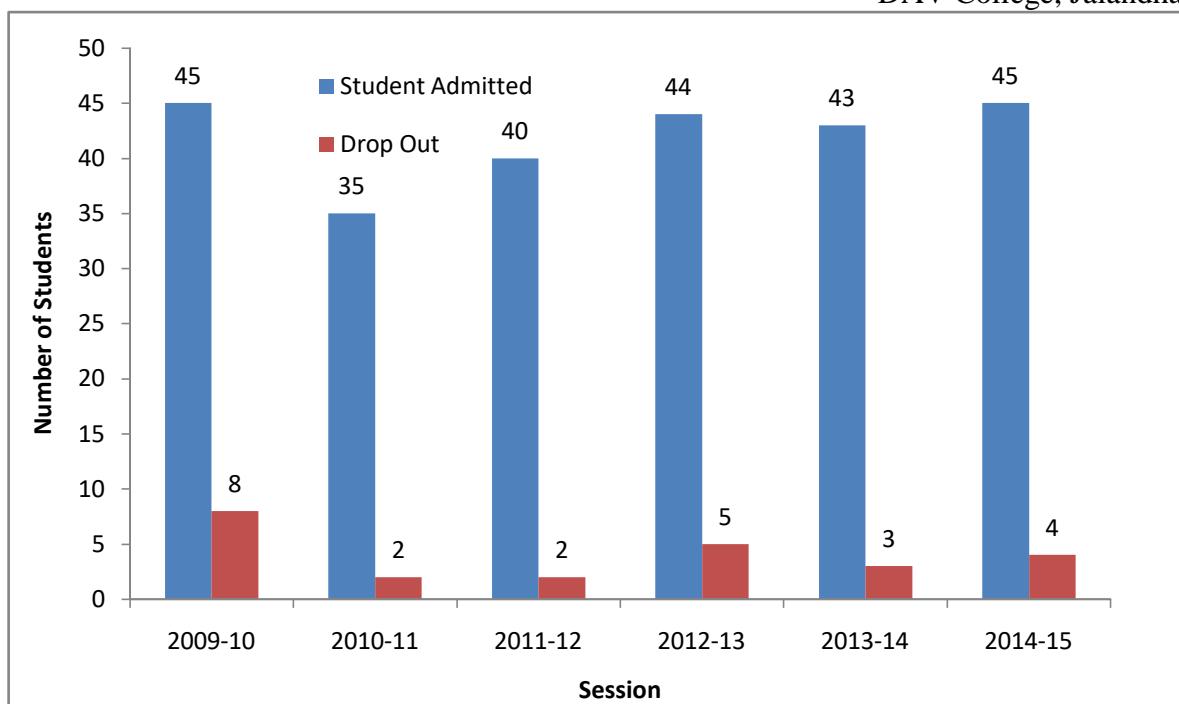
**Chart 2: showing year-wise trend of Admission in B. Sc. Non- Medical.  
(Subjects: Chemistry, Physics & Mathematics)**



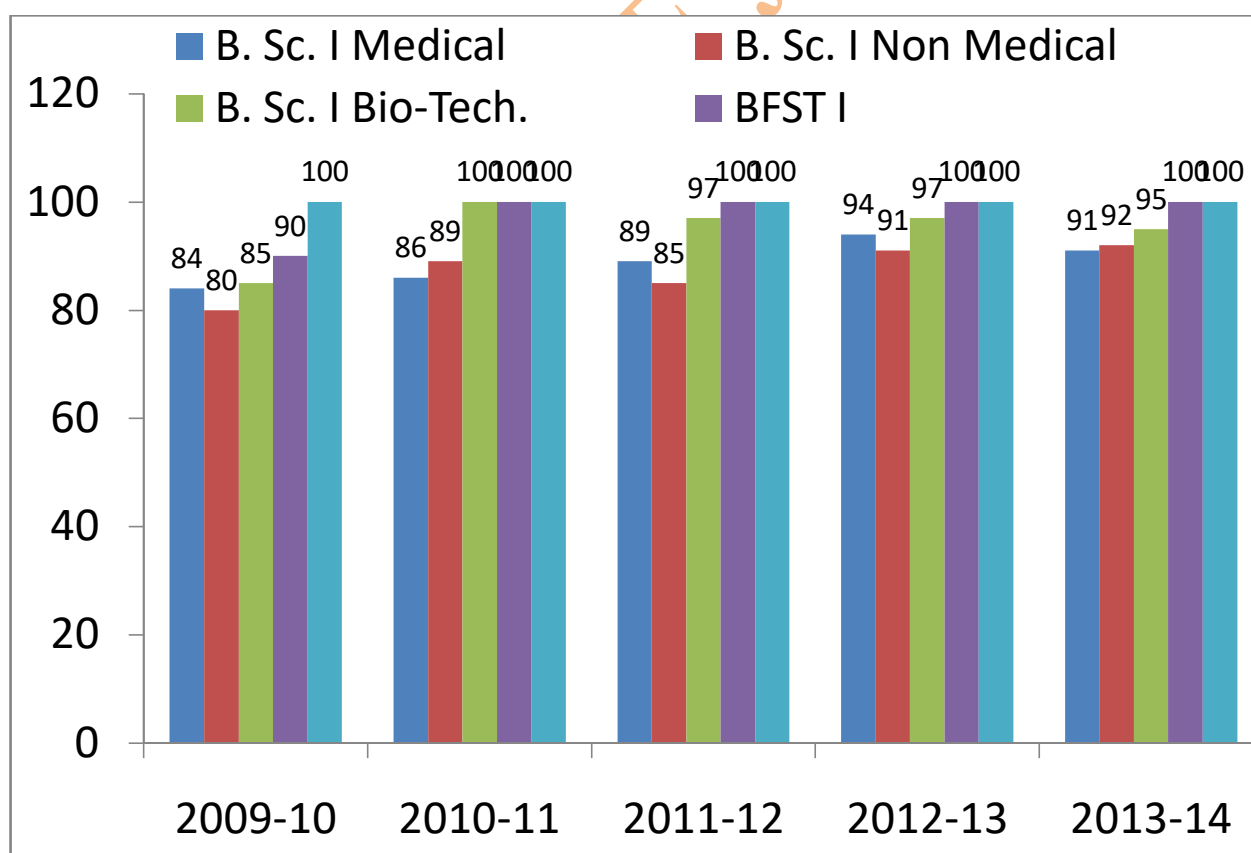
**Chart 3: showing year-wise trend of Admission in B. Sc. Computer Science (Subjects: Physics or Chemistry combination)**



**Chart 4: showing year-wise trend of Admission in B. Sc. Bio-technology (Sanctioned number of seats are 40 as per directions of GNDU, Amritsar)**



**Chart 5: showing year-wise trend of Admission in Bachelor of Food Science & technology.**  
(Sanctioned number of seats are 40 as per directions of GNDU, Amritsar)



**Chart 6: Showing Results class wise**

## Results

### **B. Sc. Bio-Technology**

- 2010-11 - 1<sup>st</sup> position in university in B. Sc. I & II  
2011-12 – Poonam B. Sc. II, 2<sup>nd</sup> position in university  
2012-13 – Shivani Gold Medal 1<sup>st</sup> position in university  
Ramandeep B. Sc. II Sem, 1<sup>st</sup> position University  
2013-14 - Ramandeep B. Sc. IV Sem, 1<sup>st</sup> position University  
Dec. 2014 Pallavi, 2<sup>nd</sup> Position in University in B. Sc. Sem V  
Ashwarya 2<sup>nd</sup> Position in University in B. Sc. Biotech. I Sem

### **B. Sc. Medical**

- B. Sc. II, 2<sup>nd</sup> merit position in University in 2012  
B. Sc. III, 2<sup>nd</sup> merit position in University in 2013  
B. Sc. Sem I, Jhum Chaudhary University 2<sup>nd</sup> Position 2014  
B. Sc. Sem I, Shivani, University 3<sup>rd</sup> Position 2014

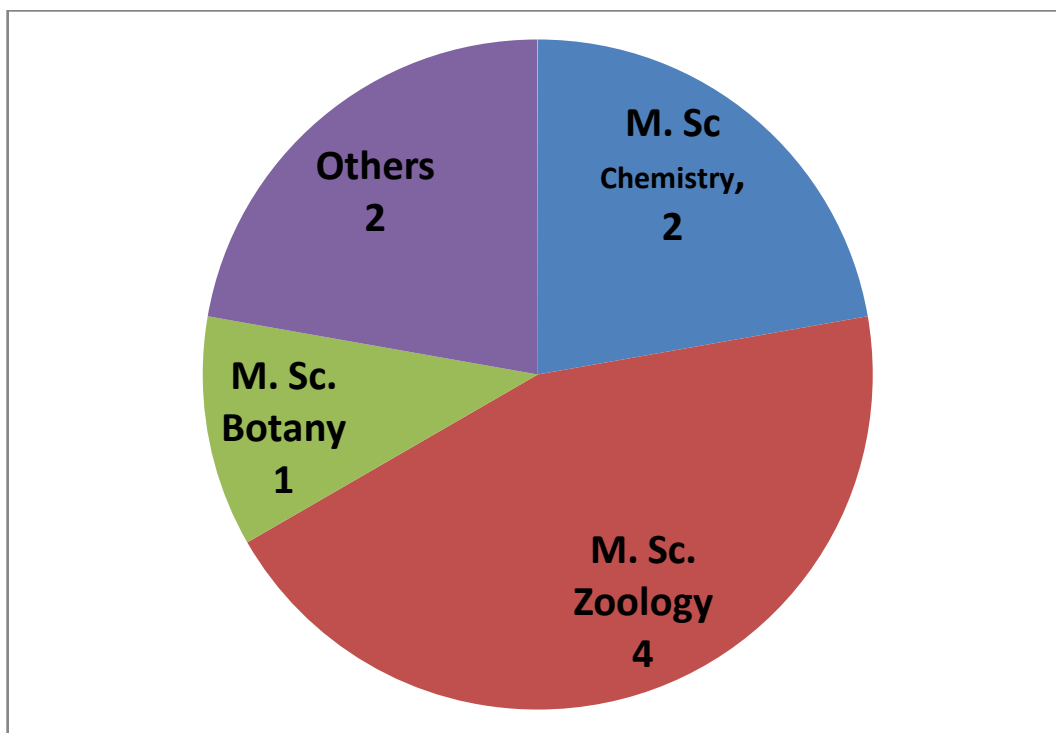
### **B. Sc. Non-Medical**

- B. Sc. II, 1<sup>st</sup> merit position in University in 2013  
B. Sc. I, 1<sup>st</sup> merit position in University in 2012  
B. Sc. VI sem, Kashitiz, Gold Medal, 1<sup>st</sup> Position in University  
B.Sc. Sem. I: 1<sup>st</sup> Position in University Dec. 2014  
B.Sc. Sem. III: 1<sup>st</sup> Position in University Dec. 2014  
B.Sc. Sem. V: 1<sup>st</sup> Position in University Dec. 2014

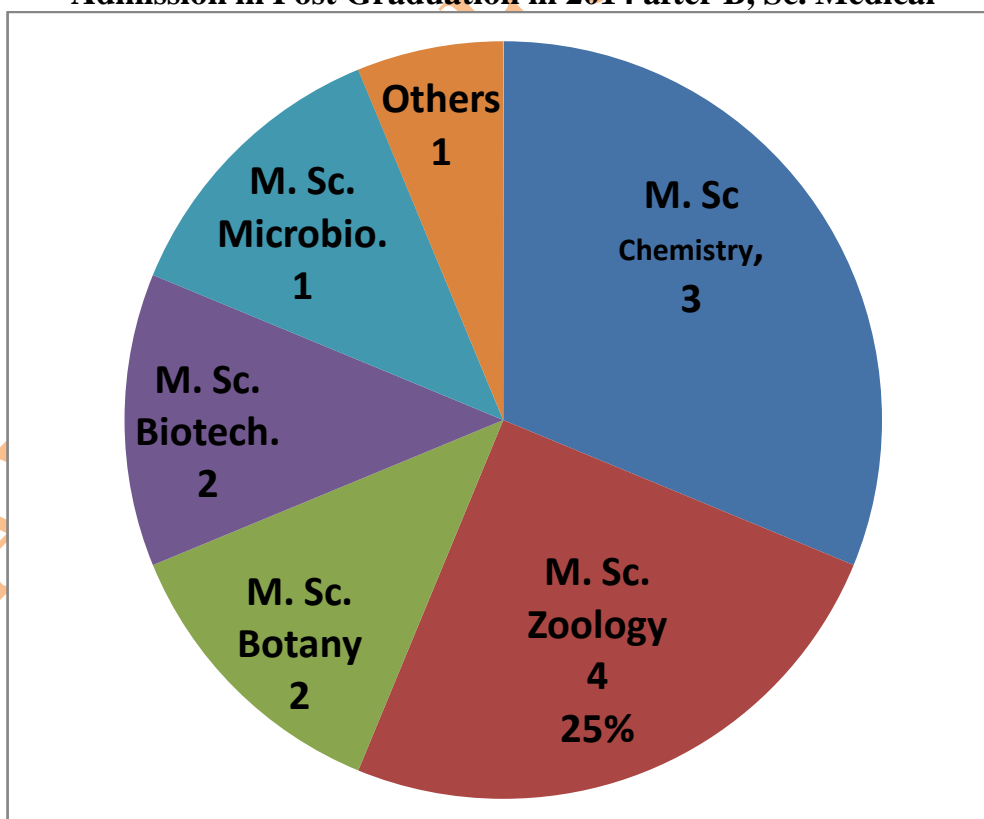
### **Food Science & Technology (BFST-IV)**

- 2008-09: Pavneet kaur & Puneet Kamal Kaur stood first & second respectively in University.  
2009-10: Shubra Uppal & Preeti Stood first & third respectively in University  
2010-11: Neha Bhalla & Rahul Mahajan Stood first & third respectively in University.  
2011-12: Jyotsna Tandon, Varinder Kumar & Ayna Khullar stood First, Second & Third position in University.  
2012-13: Prashant Sahni & Anjali Dhanjal Stood First & Third position in University.  
Dec 2014 Tanya Mahajan & Gurkirat Kaur, 1<sup>st</sup> & 2<sup>nd</sup> Position in University in Sem I  
Nashmita & Shivani, 1<sup>st</sup> & 2<sup>nd</sup> Position in University in Sem III  
Ritika & Tanu, 1<sup>st</sup> & 2<sup>nd</sup> Position in University in Sem V

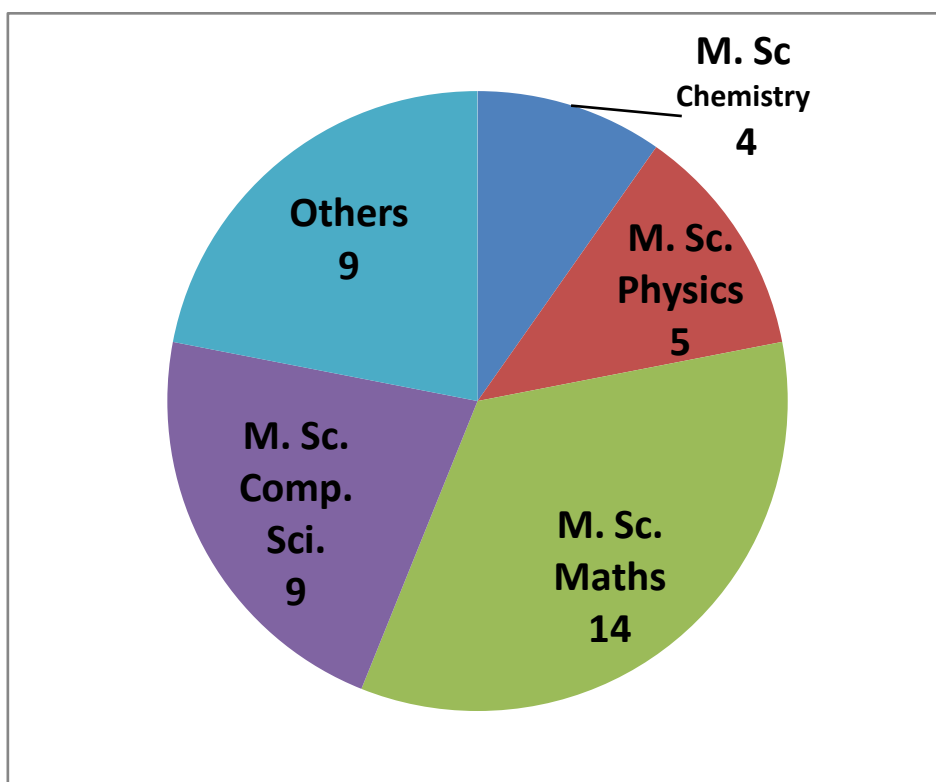
**Admission in Post Graduation in 2013 after B, Sc. Medical**



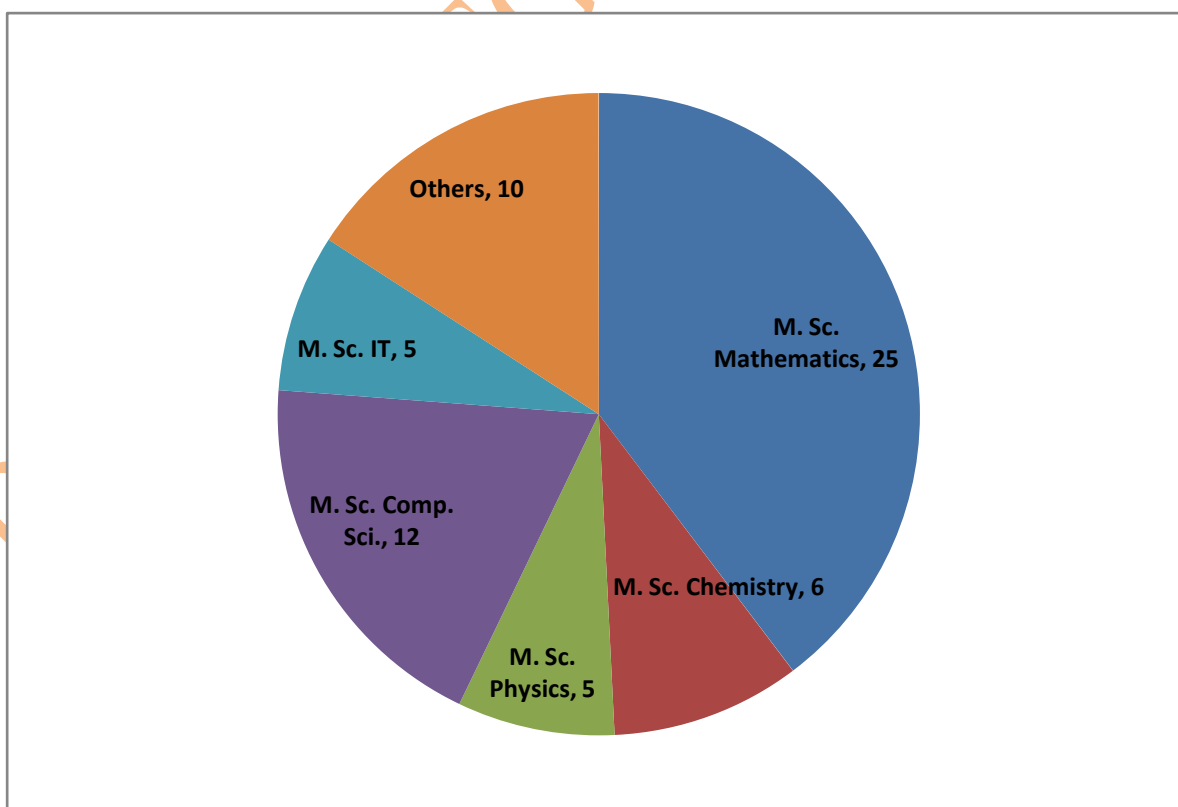
**Admission in Post Graduation in 2014 after B, Sc. Medical**



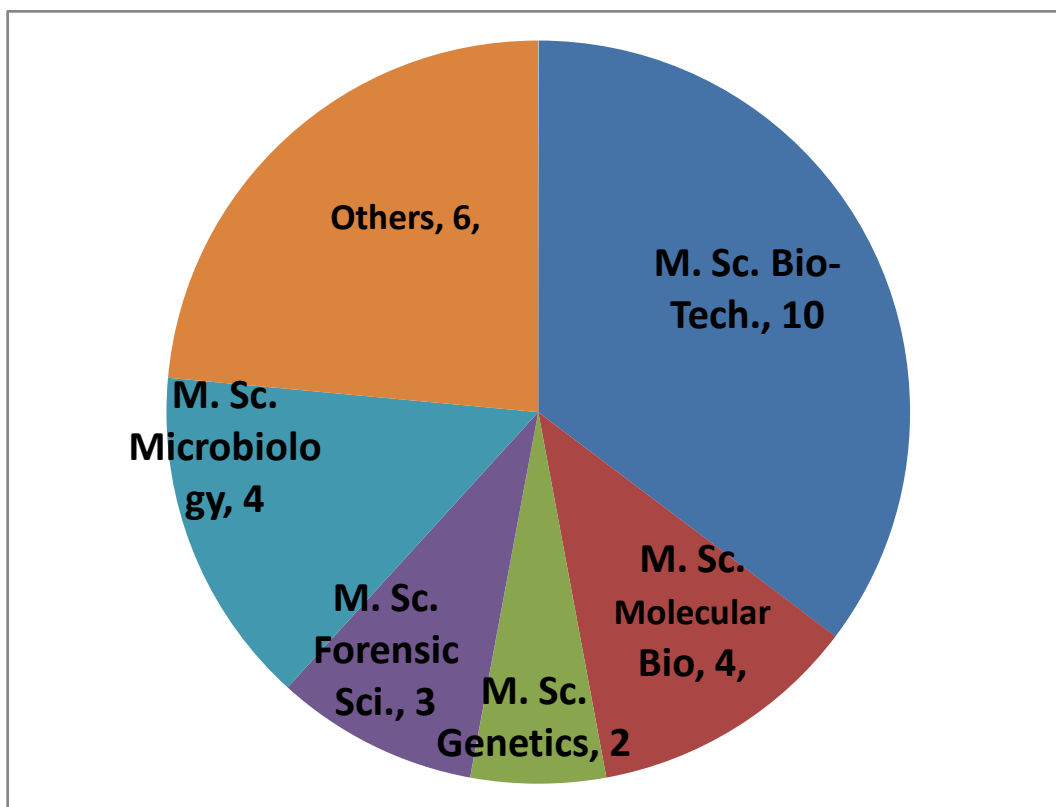
**Admission in Post Graduation in 2013 after B, Sc. Non- Medical**



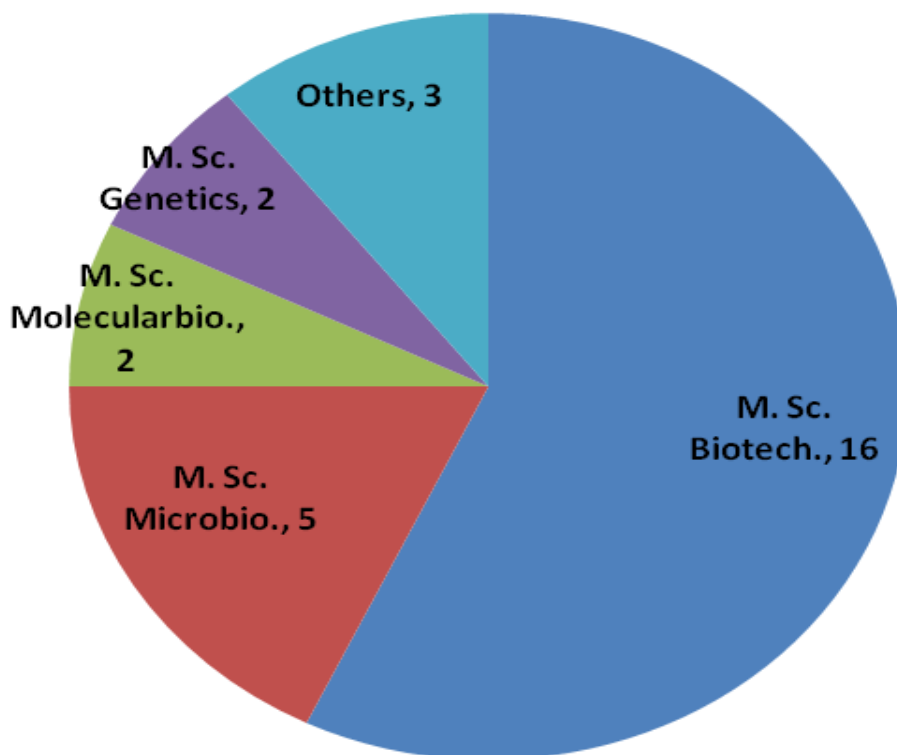
**Admission in Post Graduation in 2014 after B, Sc. Non-Medical**



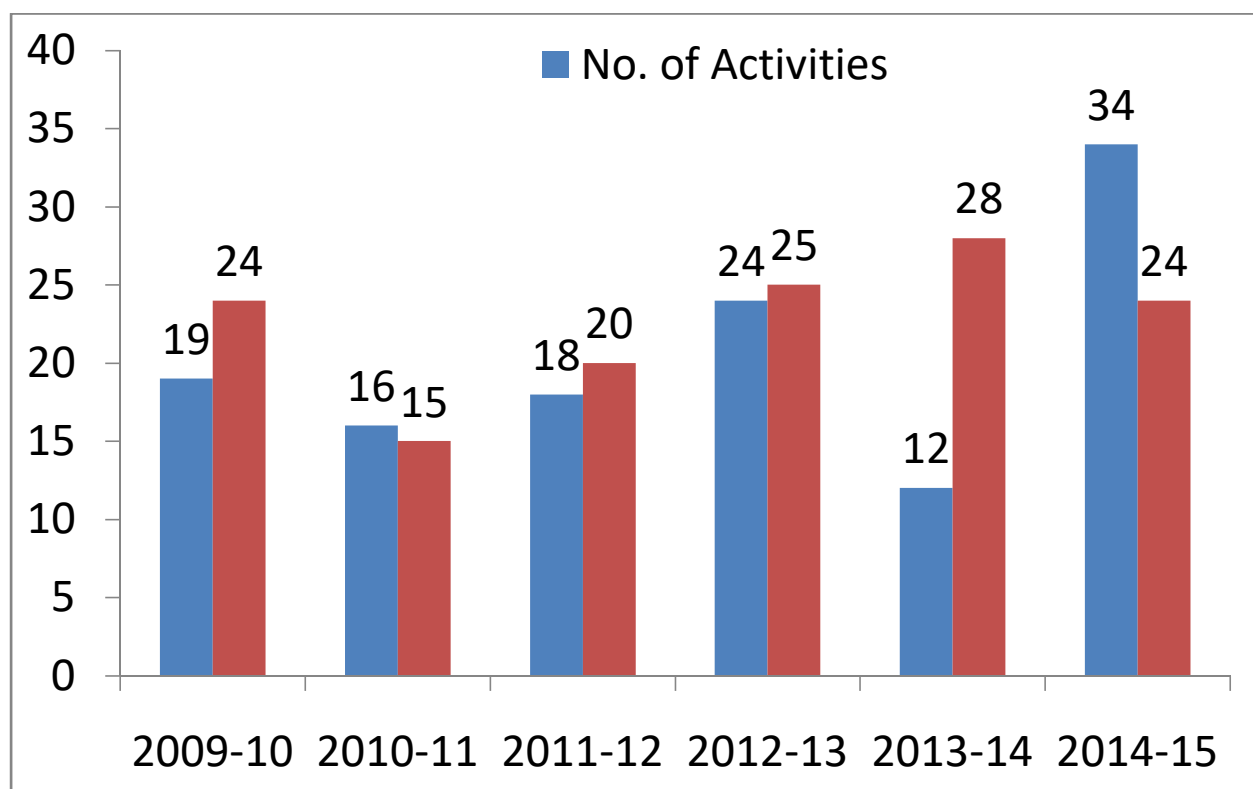
**Admission in Post Graduation in 2013 after B. Sc. Biotechnology**



**Admission in Post Graduation in 2014 after B. Sc. Biotechnology**



**7. Number of workshops/activities held for teachers and students (with title, duration and number of participants):**



**Activities held in Session 2014-2015**

Course	Title	Date	Number of students
Science fair	Role of science in sustainable development Organised by all science departments	30 Jan 2015	430
Science Quiz for students of all science departments	Organised by all science departments	30 Jan 2015	75
National Conference To celebrate World Science Day	Advances in Agricultural Biotechnology (Jointly organized by Departments of Biotechnology, Botany and Food Science & Technology) <b>Dr. Anil Grover</b> , Dept. of Plant Molecular Biology, University of Delhi, New Delhi <b>Dr. Purnanand Guptasarna</b> , Head, Dept. of Biological Sciences, IISER, Mohali <b>Dr. Aruna Bhatia</b> , Head, Dept. of	28 February 2015	245

	Biotechnology, Punjabi University, Patiala <b>Dr. Manoj Dhar</b> , Director, School of Biotechnology, University of Jammu, Jammu <b>Dr. P.K. Pati</b> , Dept. of Biotechnology, GNDU, Amritsar		
<b>Department of Bio-technology</b>			
<b>Extension lecture</b>	Bioprocess Engineering Dr. S.S. Marwaha, CEO, Punjab Biotechnology Incubator, Mohali	4 Sept., 2014	70
<b>Extension lecture</b>	Alzheimer's Disease Dr. Sumesh Handa, Neurological Surgeon, Civil Hospital, Jalandhar	20 Sept., 2014	70
<b>Workshop</b>	Animal Cell Culture Techniques Dr. Sanjeev Gautam, Department of Animal Biotechnology, Kurukshetra University	5 <sup>th</sup> February, 2015	35
<b>Educational Tour</b>	Tata Institute of Fundamental Research, Mumbai National Institute of Research in Reproductive Health, Mumbai IIT Bombay	25-27 March, 2015	17
<b>Educational Tour</b>	Dr. B R Ambedkar National Institute of Technology, Jalandhar	16 <sup>th</sup> April, 2015	21
<b>Department of Zoology</b>			
<b>Extension lecture</b>	IVF and Women Hormonal Problems Dr. Sushma Chawla, Gynaecologist, Chawla Hospital, Jalandhar	2 August 2014	79
<b>Extension lecture</b>	Neurological effects of tuberculosis Dr. Sumesh Handa, Neurological Surgeon, Civil Hospital, Jalandhar	23 Sept. 2014	68
<b>Workshop</b>	Advances in Forensics <b>Dr. R M Sharma</b> , Former Head, Forensic Science Department, Punjabi University, Patiala <b>Dr. R. Pathmanathan</b> , Australian National University, Canberra, Australia <b>Dr. I S Sidhu</b> , SGGS College, Chandigarh	3 March 2015	115
<b>Educational Tour</b>	Kanjali Wetland Area, Kapurthala &	31 March 2015	35

	Fishery Department Kapurthala		
<b>Educational Tour</b>	Panjab University, Chandigarh Museums in departments of Geology, Anthropology and Zoology so as to study Fauna diversity (Preserved), fossils and models of Human evolution	3 November 2014	48
<b>Department of Botany</b>			
<b>Extension lecture</b>	Miracles in Botanical World Dr. Saroj Arora Professor, Dept. of Botanical & Env. Sciences, GNDU, Amritsar	Aug 22, 2014	68
<b>Extension lecture</b>	Population Ecology Dr. AK Thukral Professor, Dept. of Botanical & Env. Sciences, GNDU, Amritsar	Sep 14, 2014	65
<b>Extension lecture</b>	Orchid Science to Orchid Mania Dr. Promila Pathak Professor, Deptt. of Botany, Panjab University, Chandigarh	January 24, 2015	72
<b>Workshop</b>	Photosynthesis Measurement through IRGA Dr. Renu Bhardwaj, GNDU Amritsar	21 March 2015	25
<b>Educational Tour</b>	Guru Nanak Dev University, Amritsar Sophisticated analytical instruments at Emerging Life Sciences	Aug 19, 2014	21
<b>Workshop</b>	Vermi-composting Unit Established		37
<b>Department of Food Science &amp; Technology</b>			
<b>Workshop</b>	Latest trends in Food Packaging and labeling requirements Ms Anjali Dhanjal, Scientist, Indian office of Regal Technical & Training Solution Limited, United Kingdom	25 August 2014	123
<b>Extension Lecture</b>	Electron Microscopy Dr. Virat Abhishek, DFRL Mysore	01 <sup>st</sup> Oct 2014	132
<b>Educational Tour</b>	NDRI Karnal	3 September 2014	72
<b>Educational Tour</b>	Verka Milk Plant Jalandhar	30 March 2015	73
<b>Department of Physics</b>			
<b>Night sky watching programme</b>	In association with Pushpa Gujral Science City, Jalandhar. The students were explained about various aspects of Planets and Stars. Mars, Jupiter and Surface of moon shown to participants	08 October 2014	215

	with the help of high power telescopes		
<b>Workshop</b>	Thin film coating Dr. Navjeet Sharma	25 October 2014	32
<b>Extension Lecture</b>	Nuclear Radiation Detectors Dr. Ashok Kumar, Physics Dept. Panjab University, Chandigarh	12 Sept.2014	83
<b>Extension Lecture</b>	Achievements of Indian Science: Challenges and opportunity for Science Graduates Dr. Atul Khanna, Physics Dept. GNDU, Amritsar	09 March 2015	163
<b>Educational Tour</b>	Inter-University Accelerator Centre (IUAC), New Delhi		25
<b>Department of Chemistry</b>			
<b>Extension Lecture</b>	Nanotechnology Dr. G R Chaudhary, Panjab University Chandigarh	23 August 2014	63
<b>Extension Lecture</b>	Advances in Polymer Chemistry Dr. B S Kaith Dr. B R Ambedkar National Institute of Technology, Jalandhar	21 February 2015	74
<b>Workshop</b>	Spectroscopy techniques (FTIR and UV-Visible) Dr. Rajeev Kr Sharma	24 Oct. 2014	32
<b>Workshop for lab attendants</b>	Lab safety	17 July 2014	27
<b>Educational Tour</b>	Panjab University, Chandigarh, Sophisticated Analytical Instrumentation Facility	31 March 2015	45

### Activities held in Session 2013-2014

Course	Title	Date	No. of Students
Science fair	Role of science in sustainable development Organised by all science departments	29-30 Jan 2014	430
Science Quiz for students of all science departments	Organised by all science departments	30 Jan 2014	82
Multi disciplinary National Conference	Science Colloquium: Emerging Trends in Basic & Applied Sciences  Jointly organized by all science departments  Dr. Ajay Kumar Sood, Indian Institute of Sciences, Bangalore  Dr. B R Mehta, Indian Institute of Technology, New Delhi  Dr. Mahavir Singh, Himachal Pradesh University, Shimla  Dr. U C Banerjee, NIPER, Mohali  Dr. Sucheta Sharma, Punjab Agriculture University, Ludhiana  Dr. Sharada Mullubhotia Potukuchi, Shri Vashno Mata University, Jammu  Dr. Ghanshyam S Chauhan, Himachal Pradesh University, Shimla  Dr. Anil Kumar, IIT Roorkee  Dr. Manoj Kumar, GNDU Amritsar  Dr. A K Ganguli, Director, Institute of Nano Science & Technology, Mohali  Dr. D K Sharma, IIT, Delhi  Dr. G S Sodhi, Khalsa College Delhi  Dr. Anupama Sharma, University Institute of Chemical Engg. & Technology, Chandigarh  Dr. B S kaith, Dr B R Ambedkar, National Institute of Technology, Jalandhar  Dr. Jagvir Singh, Punjabi University Patiala	6-7 March 2014	358

	Dr. Daizy Batish, Panjab University Chandigarh		
<b>Department of Bio-technology</b>			
Extension lecture	Fundamental Concepts in Biotechnology  Dr. Prabhjeet Singh, Professor, Department of Biotechnology, GNDU, Amritsar	18 January 2014	64
Educational Tour	Punjab Agriculture University, Ludhiana	3 December 2013	36
<b>Department of Zoology</b>			
Extension lecture	Dr. Jagvir Singh Punjabi University Patiala	23 August 2013	84
Educational Tours	Punjab Agricultural University, GADVASU, Ludhiana  Dept. of Geology & Zoology, Panjab University Chandigarh	30 July 2013  16 April 2014	40
<b>Department of Botany</b>			
Extension Lecture	Sustainable Development Dr. Renu Bhardwaj, GNDU Amritsar	Aug 31, 2013	67
Educational Tour	Botanical Garden & Deptt. Of Botany, Panjab Univ. Chandigarh	27 Nov. 2013	42
<b>Department of Food Science &amp; Technology</b>			
Extension Lecture	Healthy uses of oils Dr. Sanjeev Vyas AP Organics Pvt. Ltd., Dhuri	28 August 2013	134
National Seminar	Food Safety  Mr. Parmvir S. Deol, Managing director of Regal Technical & Training Solutions Ltd. of U.K	30 July 2013	126
Educational Tour	CSIR Palampur	December 2013	45

<b>Department of Physics</b>			
<b>Night sky watching programme</b>	In association with Pushpa Gujral Science City, Jalandhar. The students were explained about various aspects of Planets and Stars. Mars, Jupiter and Surface of moon shown to participants with the help of high power telescopes	12 November 2013	235
<b>Extension Lecture</b>	Nanotechnology Dr. Hitesh Kumar Punjab Technical University Jalandhar	25 October 2013	73
<b>Extension Lecture to celebrate National Science Day</b>	Particle Physics Dr. Harleen Dahia National Institute of Technology Jalandhar	28 February 2014	78
<b>Educational Tour</b>	Panjab University, Chandigarh	26 October 2013	43
<b>Department of Chemistry</b>			
<b>Extension Lecture</b>	Crystallography	26 October 2013	76
<b>Educational Tour</b>	Ranbaxi Pharma Ropar	25 September 2013	51

### Activities held in Session 2012-2013

Course	Title	Date	No. of Participants
Science fair	Role of science in sustainable development Organised by all science departments	6-7 October 2012	462
Science Quiz for students of all science departments Organised by all science departments		7 October 2012	75
National Conference	Medical Biotechnology Dr. Dwaipayan Bharadwaj Institute of Genomics and Integrative Biology New Delhi Dr. M. Elizabeth Sobhia Dept. of Pharmacoinformatics, NIPER ,Mohali Dr. Sharda Potukochi School of Biotechnology , SMDVU, KATRA, Jammu and Kashmir Prof P.V.K.S. Baba Deptt of Electronics, Jammu University, Jammu	2 <sup>nd</sup> February 2013	198
<b>Department of Bio-technology</b>			
Extension lecture	Monoclonal Antibodies Prof. Pratipal Singh Associate professor, National Institute of Pharmaceutical Education & Resaerch, Mohali	Sept. 1, 2012	76
Extension lecture	Biofuels Dr. B. S. Chaddha Professor, Department of Microbiology, GNDU, Amritsar	Nov. 3, 2012	72
National Conference	Medical Biotechnology	2 <sup>nd</sup> February 2013	198
Educational Tour	Punjab Agriculture University, Ludhiana		56
<b>Department of Zoology</b>			
Seminar	Environmental stress – effect on Biodiversity Dr. Jagbir Singh Professor, Punjabi University. Patiala	27 July 2012	203
Extension lecture	Biomaterials	20 September 2012	198

	Dr. Ashutosh Goel University of Aveiro, Portugal		
Workshop	Entomological Techniques Dr. H.R. Pajini Panjab University Chandigarh Dr. V.K. Walia Panjab University Chandigarh Dr. Jagbir Singh Professor Punjabi University. Patiala	14 September 2012	362
Educational Tour	Raja Ji National Park, Haridwar F.R.I., Dehradun Wadia Inst.Him. Geo. Res., Dehradun	12-14 Feb. 2013	52
<b>Department of Botany</b>			
Extension Lecture	Edible Vaccines Dr. Meena Sharma Deptt. of Botany, HMV, Jalandhar	Aug 18, 2012	68
Workshop	Genetics of Cell Division Prof. M.S. Sagoo Department of Botany, Punjabi University, Patiala	March 2, 2013	52
<b>Department of Food Science &amp; Technology</b>			
Extension Lecture	Functional foods Dr. Narpinder Singh Professor GNDU, Amritsar	01 September 2012	165
National Seminar	Newer Trends in Food Processing & Technology Prof. Haroon Naik DSWSKUAST KASHMIR Prof. Sumit Arora National Dairy Research Institute, Karnal Prof D C Saxena Sant Longowal Institute of Engg. & Technology, Longowal Prof. Naveen Gupta Panjab University, Chandigarh	22 <sup>nd</sup> February 2013	286

<b>Educational Tour</b>	CSIR Palampur	December 2012	58
<b>Department of Physics</b>			
<b>Night sky watching programme</b>	In association with Pushpa Gujral Science City, Jalandhar. The students (150) were explained about various aspects of Planets and Stars. Mars, Jupiter and Surface of moon shown to participants with the help of high power telescopes	12 Feb. 2013	150
<b>Extension Lecture</b>	LHC (Large Hydrol Colloidal) Dr. S. S. Malik Professor, GNDU, Amritsar	23 Sept. 2012	126
<b>Extension Lecture</b>	Materials Science Dr. Mehmood Mian Professor, GNDU, Amritsar	07 Nov. 2012	98
<b>Extension Lecture</b>	X-Ray Diffraction Analysis Dr. Rajnikant Jammu University, Jammu	23 Feb. 2013	85
<b>Educational Tour</b>	Panjab University, Chandigarh	26 October 2012	46
<b>Department of Chemistry</b>			
<b>Extension Lecture</b>	Stereochemistry Dr. P S Kalsi Professor Punajb Agriculture University, Patiala	26 Feb. 2013	69
<b>Extension Lecture</b>	Basics of Organic Chemistry Dr. Manoj Kumar Professor, Guru Nanak Dev University, Amritsar	14 March 2013	72
<b>Educational Tour</b>	Punjab University Chandigarh Ranbaxi Pharma Industry, Ropar	13 Feb. 2012	42

### Activities held in Session 2011-2012

Course	Title	Date
Science fair	Role of science in sustainable development Organised by all science departments	20-21 Jan. 2012
Science Quiz for students of all science departments	Organised by all science departments	21 January 2012
National Conference	Materials Science: Applications in Energy & Environment Dr. A K Grover Professor, Tata Institute of Fundamental Research, Mumbai Dr. B C Ranu Professor, Indian Association for Cultivation of Sciences, Kolkota Dr. Y N Mohapatra Professor, Indian Institute of Technology, Kanpur Dr. G S Chauhan Professor Himachal Pradesh University, Shimla Dr. R K Mahajan Professor, Guru Nanak Dev University, Amritsar Dr. S K Mehta Professor, Panjab University, Chandigarh Dr. Anupama Sharma Professor, University Institute of Chemical Technology, Panjab University, Chandigarh Dr. Mahavir Singh Professor, Himachal Pradesh University, Shimla Dr. S S Sekhon Professor, Guru Nanak Dev University, Amritsar Dr. K K Raina Professor, Thapar University, Patiala	2-3 March 2012

<b>Department of Bio-technology</b>		
Extension lecture	Immunopathology Dr. Sunil K. Arora Professor, Department of Immunopathology, PGI, Chandigarh	3rd December 2011
Workshop	Fermentation Technology Dr. S. K. Soni (Professor) Department of Microbiology, Panjab University, Chandigarh Dr. Naveen Gupta (Assistant Professor), Department of Microbiology, Panjab University, Chandigarh	22 <sup>nd</sup> Feb., 2012
Educational Tour	Punjab Agriculture University, Ludhiana	
<b>Department of Zoology</b>		
Seminar	Recent Trends in Entomology Prof Jagbir Singh Professor Panjabi University Patiala	10 Nov. 2011
Extension lecture	Use of Science in Daily life Dr. G S Randhawa Professor Department of Bio-Technology Indian Institute of Technology Roorkee	3rd Dec 2011
Extension lecture	Structural Biochemistry & Protein Engineering' Dr. Samrat Mukhopadhyay Assistant Professor, Indian Institute of Science, Education and Research, Mohali	16 February, 2012
Summer Training	Central Research Institute Kasuali	01-31 Oct 2011
<b>Department of Botany</b>		
Extension Lecture	Plant Biodiversity Prof. Daizy Batish Professor Dept. of Botany, Panjab University, Chandigarh	12 Nov. 2011
Extension Lecture	<i>The new age glass and ceramic materials in health our new hopes</i> Dr. Jui Chakroborti Assist. Professor, Center for Glass & Ceramic Research Institute, Kolkata	2 March 2012
<b>Department of Food Science &amp; Technology</b>		

Extension Lecture	Food Safety & Laws Dr Charanjeet Singh Associate Professor SLIET Longowal Sangrur	9 Nov. 2011
Extension Lecture	Fermented Food Products Dr. S. K. Soni (Professor) Department of Microbiology, Panjab University, Chandigarh	21 Feb. 2012
<b>Department of Physics</b>		
Night sky watching programme	In association with Pushpa Gujral Science City, Jalandhar. The students (150) were explained about various aspects of Planets and Stars. Mars, Jupiter and Surface of moon shown to participants with the help of high power telescopes	02.12.2011
Extension Lecture	Dr Ashok Kumar, Panjab University, Chandigarh	9-9-2010
National Conference	Materials Science: Applications in Energy & Environment	2-3 March 2012
<b>Department of Chemistry</b>		
Extension Lecture	Organic Polymers Dr G S Chauhan Himachal Pradesh University, Shimla	20 Nov. 2011
National Conference	Materials Science: Applications in Energy & Environment	2-3 March 2012

## Activities held in Session 2010-2011

Course	Title	Date
Science fair	Role of science in sustainable development Organised by all science departments	19 January 2011
Science Quiz for students of all science departments Organised by all science departments		19 January 2011
<b>Department of Bio-technology</b>		
Seminar	Natural Products and Drug Discovery	1st Dec. 2010
Seminar	Nuclear Medicine	12th Feb. 2011
<b>Department of Zoology</b>		
Seminar	Biodiversity	7 <sup>th</sup> August 2010
Extension lecture	Human Genome Project	7 <sup>th</sup> August 2010
<b>Department of Botany</b>		
Extension Lecture	Plant Biodiversity	
<b>Department of Food Science &amp; Technology</b>		
Extension Lecture	Genetically modified foods	15 Sept 2010
Extension Lecture	Modern Technologies in Food Processing	15 Sept 2010
<b>Department of Physics</b>		
National Conference	Material Science & Technology: Emerging Trends	22-10-2010
Extension Lecture	Nuclear Radiation Detectors	9-9-2010

## Activities held in Session 2009-2010

Course	Title	Date
<b>Department of Bio-technology</b>		
Seminar	<i>Plant tissue culture: modulation of plant metabolite production through elicitation</i>	11 Sept.2009
Seminar	<i>Molecular Biology</i>	27 Sept.2009
Seminar	<i>Drug Discovery Modern Approach: Proposing a new lead molecule</i>	
Workshop	<i>Workshop on Bioinformatics on Drug Discovery</i>	
International Conference	<i>International Colloquium on Biotechnology</i>	27-28 Nov. 2009
<b>Department of Zoology</b>		
International Seminar	<i>Biomaterials- an interdisciplinary and research field.</i>	27 Oct. 2009
Extension lecture	<i>Swine flu</i>	15 Sept. 2009
Seminar	<i>Dental health and awareness</i>	3 <sup>rd</sup> Feb 2010
<b>Department of Botany</b>		
Workshop	<i>Plant Taxonomy</i>	9-10 Oct 2009
Extension Lecture	<i>Plant Biodiversity</i>	12 Sept 2009
<b>Department of Food Science &amp; Technology</b>		
Workshop	<i>Food adulteration and Analysis</i>	
Seminar	<i>Food Processing</i>	12 Sept. 2009
<b>Department of Chemistry</b>		
Extension Lecture	<i>Molecular recognitions</i>	
Workshop	<i>Analytical analysis of Chemicals</i>	
<b>Department of Physics</b>		
Extension lecture	<i>Fundamentals of quantum Mechanics</i>	7 <sup>th</sup> August 2009
Extension lecture	<i>Optical fibre communications</i>	10 <sup>th</sup> Sept. 2009
Extension lecture	<i>Ceramics for mankind</i>	27 Oct. 2009
Workshop	<i>Animation of Physics Problems</i>	2 <sup>nd</sup> Sept. 2009
Interclass Quiz Competition	<i>Physics</i>	20 <sup>th</sup> Oct. 2009
Workshop	<i>Microsoft Excel in Analysis of Problems in Physics</i>	7 <sup>th</sup> Nov. 2009
National Conference	<i>High Energy Physics: Recent Developments and Future Challenges</i>	4-5 Feb. 2010

**Number of students taking project vs. total number of students. Please give list of projects department-wise during the support period.**

**List of Projects undertaken by students in Session 2014-2015**  
**List of Projects undertaken by students in Department of Biotechnology**

	Title of Project
1	To study the differences in the BMI (Body Mass Index) of class population.
2	Isolation of micro-organisms from hands
3	Purification of proteins by SDS PAGE
4	Isolation of bacteria from soil
5	Separation of Proteins by Affinity column chromatography
6	Separation of plasma from blood
7	Determination of blood groups
8	Bacterial measurement using Microscopic techniques
9	Isolation of mononuclear cells
10	Medicinal Value of Plants
11	Isolation and characterization of proteins from legumes using sds-page
12	Digestion of DNA with restriction enzymes.
13	Isolation of micro-organism from cold drink and its impact on human health.
14	Isolation of bacterial envelope proteins.
15	Placebo Therapy (Survey report).
16	Biochemical study and immobilization of microbes present in a sample collected from various sources.
17	Steroids and its effects.

**List of Projects undertaken by students in Department of Botany**  
**Session 2014-2015**

1. The effect of chromium (Cr-VI) on growth of *Triticum aestivum* seedlings with and without nitric oxide'
2. Vermicomposting
3. The study of different pollination types found in plants of DAV College Campus
4. The study of different types of Inflorescence found in the plants of DAV Campus
5. Algal Diversity in the Vicinity of DAV College, Jalandhar
6. Study of different types of stellar system found in some Pteridophytes
7. Study of Peristomial Teeth in *Funaria* and *Polytrichum*
8. Study of fruit diversity in plants of DAV Campus, Jalandhar
9. Digitalization of vegetative and reproductive structures of members of Asteraceae family found growing in DAV Campus and surrounding areas
10. Effect of Colchicine on Chromosome of *Allium cepa*.'

**List of Projects undertaken by students in Department of Food Science & Technology  
Session 2014-2015**

TITLE OF PROJECT
Production, analysis and organoleptic evaluation of Soy based product
Organoleptic properties of Vermicelli containing Apple Pomace
Physiochemical evaluation of processed Amla product
Preparation and standardization of Jamun RTS supplemented with Amla and Bael Juice
Preparation of different types of Ice Cream
Preparation of Amla Candy
Preparation and evaluation of Rose Wine
Preparation of rice flour and buckwheat flour cookies

**List of Projects undertaken by students in Department of Physics**  
**Session 2014-2015**

<b>Title of Project</b>
Study of Variation of Refractive Index of Thin Film with Wavelength
Measurement of Rn222/Rn220 Daughter Products using DRPS/DTPS
Deposition of Thin Films and Determination of Band Gap using Absorption Spectroscopy
Measurement of Radon/Thoron in Air using Passive Technique
Natural Radiation Dose and its Health Hazards for Humans

**List of Projects undertaken by students in Department of Chemistry**  
**Session 2014-2015**

- Crossed Aldol Condensation reaction of P-methoxy Benzaldehyde with Acetone, P-methoxy Benzaldehyde with cyclopentanone and P-methoxy Benzaldehyde with cyclohexanone.  
(comparison of IR Spectra and NMR of reactants and products.),
- Hardness in drinking water in various areas of Jalandhar,
- Spectral analysis (NMR, FTIR and UV-Vis) of some organic compounds .
- Crossed Aldol Condensation reaction of Benzaldehyde with Acetone, Benzaldehyde with cyclopentanone and Benzaldehyde with cyclohexanone.  
(comparison of IR Spectra and NMR of reactants and products.)
- Crossed Aldol Condensation reaction of P-methyl Benzaldehyde with Acetone, P-methyl Benzaldehyde with cyclopentanone and P-methyl Benzaldehyde with cyclohexanone.  
(comparison of IR Spectra and NMR of reactants and products.)
- Grafting of Acrylic acid onto cellulose by free radical initiation method and sorption of Fe(II), Cu(II) and Cr(VI) ions onto graft copolymers.
- Evaluation of optimum Grafting conditions for grafting of Hydroxy ethyl methacrylate onto chitosan by free radical initiation method and swelling properties of graft copolymers.
- Chitosan based graft copolymers for controlled release of diclofenac sodium.
- Grafting of Acrylamide onto cellulose for their applications in sorption of Pb(II) and Cr(VI) ions onto graft copolymers
- Sorption of Cu(II) and Fe(II) ions onto chitosan based hydrogels.
- Grafting of NIPAM onto Dextrin for metal ion sorption studies.

**Department of Zoology**  
**Session 2014-2015**

1. Biochemical studies of amino acids from the haemolymph of *Pieris brassicae* (Lepidoptera).  
- Ruchi Sen
2. Biochemical studies of amino acids from the haemolymph of *Danaus crissipus* (Lepidoptera). – Shikha
3. Characterisation of butterfly species *Danaus crysippus* by restriction digestion and southern blotting method. - Ravneet Kaur
4. Characterisation of some butterflies on the basis of Morphotaxonomy – Sabreena
5. Butterflies of Jalandhar : genitalia based characterisation of some *Danaids* and *Papilionids* - Shazia.
6. To check the quality of water with special reference to Coliform bacteria. – Savvi Khanna.
7. Characterisation of butterfly species *Pieris brassicae* by restriction digestion and southern blotting method. – Neeru Sethi
8. To study occurrence of Brucellosis in dairy animals – Joban preet
9. Foot and mouth disease – ELISA – Suneeta
10. To study various bioinformatic tools for sequence similarity searching, data retrieval and deposition.

**Projects done by students in Session 2013-2014**

<b>Title of Project</b>	<b>Department</b>	<b>Name of Student &amp; Class</b>
Effect of aqueous extracts of <i>Acalypha indica</i> on seed germination of wheat	Botany	Anu Mahajan & Jyoti of B.Sc. III (Medical).
Microscopic analysis of structure of pollen grains of <i>Hibiscus rosa sinensis</i> and <i>Urena lobata</i> (Family Malvaceae).	Botany	Sunita Suman and Simardeep Kaur of B.Sc. II (Medical)
Microscopic examination of different type of vascular bundles in Angiosperms	Botany	Rohit of B.Sc. I (Medical)
Determination of stomatal index in leaves of <i>Tradescantia</i>	Botany	Kamalpreet Kaur of B.Sc. II (Medical)
Use of FTIR of pollen grains as qualitative marker of different species of malvaceae	Botany	Kamalpreet Kaur and Arshdeep Kaur of B.Sc. III (Medical)
Nomenclature of plants in DAV Campus helped plants improving their skills on plant taxonomy	Botany	B.Sc. III Medical Students
Check List of butterfly fauna in urban and sub-urban areas of jalandhar.	Zoology	B.Sc. II Medical Students Jobanpreet singh
Geochemical Control on Selenium occurrence in the Environment: Dietary balancing between deficiency and Toxicity.	Zoology	B.Sc. II Medical Students Abhilasha, Dolly
Characterization of Butterfly species by Molecular Techniques.	Zoology	B.Sc. II Medical Students Manohrma. Ravia
Biochemical study of free amino acids from haemolymph of butterflies.	Zoology	B.Sc. III Medical Students Heena, Sonakshi, Manisha
Collection and classification of local fauna & flora	Zoology & Botany	B. Sc. III
<b>Students of +1, +2 and Graduation have under taken various project which were shown in the Science Fair organized by College on 29-30 January 2014, details are given below.</b>		

**Projects done by students in Session 2013-2014**

<b>Title of Project</b>	<b>Department</b>
Blood group testing of college students	Zoology
Collection and identification of insect species in surroundings of college	Zoology
Collection of data of genetic disease in the area	Zoology
Study of Phenotypic character study in college.	Zoology
Vermicomposting in college hostel	Zoology
Adulteration in food materials	Food Sci. & Tech.
Milk and water testing	Food Sci. & Tech.
Hardness in drinking water in various areas of Jalandhar	Chemistry
Spectral analysis (NMR, FTIR and UV-Vis) of some organic compounds	Chemistry
Free radical initiated grafting of Acrylic acid on to Guar Gum	Chemistry
Synthesis and characterization of graft copolymers of N-isopropyl Acrylamide on to guar gum	Chemistry
Swelling study of graft copolymers	Chemistry
Immobilization of protease by guar gum based hydrogels	Chemistry
Analysis of drinking water samples for salinity, conductivity, TDS and pH.	Physics
Preparation of thin films by vacuum evaporation and optical characterization.	Physics
Preparation of synthetic seeds	Bio-technology
Identification of microbes from local water bodies.	Bio-technology
Calculation of lipid profile in students of bio-technology department.	Bio-technology
Rstriction mapping of DNA isolated from blood samples of students of bio-tech dept.	Bio-technology
Stastitcal analysis of WBC, RBC and DLC count of students of bio-tech deptt.	Bio-technology
Allelopathic impact of <i>Thevetia</i> on germination of wheat	Botany

Microscopic alterations induced by <i>Thevetia</i> on wheat roots	Botany
Allelopathic impact of <i>Thevetia</i> leaf extracts on root anatomy of Maize	Botany
Nomenclature of plants in DAV Campus	Botany

**Projects done by students in Session 2012-13**

Title of Project	Department
Allelopathic impact of <i>Thevetia</i> on germination of wheat	Botany
Microscopic alterations induced by <i>Thevetia</i> on wheat roots	Botany
Allelopathic impact of <i>Thevetia</i> leaf extracts on root anatomy of Maize	Botany
Nomenclature of plants in DAV Campus helped plants improving their skills on plant taxonomy	Botany
Collection and classification of local fauna & flora	Zoology & Botany
Spectral analysis (NMR, FTIR and UV-Vis) of some organic compounds	Chemistry
Grafting of Acrylamide acid on to Dextrin	Chemistry
Characterization of cellulose based graft copolymers	Chemistry
Immobilization of BSA by cellulose based hydrogels	Chemistry
Study of Variation of Refractive Index of Thin Film with Wavelength	Physics
Deep freezing of peas	Food Sci. & Technology

**Projects done by students in Science Fair January 2015**

Sr. No.	Model	Name Of The Students & Class	
<b>Department Of Biotechnology</b>			
1	Global Warming	Jagjeet, Sajanmeet Rajat	B. Sc .-I
2	Rain Water Harvesting And Disaster Management	Garima, Aishwarya, Sunayana	B. Sc .-II
3	Conservation And Production Of Electricity Through Heat Source	Mayank, Ojasvi	B. Sc .-II
4	Biowaste	Saima, Dixa	B. Sc –II
5	Biotoilets	Anuj, Shweta, Simmi, Harleen	B. Sc .-III
6	Biological Production From Algae	Raman, Onkar, Pallavi, Alvin	B. Sc .-III
7	Integrated Farming System	Sushmita Kapur, Sunita Suman, Simrjit Kaur	B. Sc. III
8	Organic Composting	Simran, Rahul Handa , Anjali Sharma	B. Sc. II
9	Kitchen Garden: A Wonder Store	Karishma Sanan, Pallavi Arora, Sukhdeep Kaur	B. Sc. III
10	Let's Peep Into Mitosis	Jhum Choudhary Ripandeep Kaur, Palak	B. Sc. I
11	Green House Effect	Shivani Sharma Harleen Kaur Tamanna	B. Sc. I
12	Global Warming	Vinod Kumar Shivani Verma Vijay	B. Sc. I
13	Food Preservatives	Antonia Gill Shivali Sood Jasbir Kaur Mahey	B. Sc. I
14	Seed Germination	Pulkit Vij, Ishmeet Kaur Inderpreet Kaur	B. Sc. III
15	Efficient Water Management	Ramandeep Kaur Kamalpreet Kaur Sukhleen Kaur	B. Sc. III
16	Rain Water Harvesting	Gagandeep Guntash Shifali	B. Sc. II
17	Drip Irrigation	Ajay Pal Singh Kranti Singh Gautam	B. Sc. I
18	Robotics	Neha, Shenir, Taran	B. Sc. I

<b>Department of Chemistry</b>			
19	Charcoal Refrigerator	Nisarg, Munish	10+1
20	Sewage Water Treatment	Alikhar, Santoshe Ptiya, Nm	B. Sc.-I NM
21	Global Warming	Navreet, Sadhna	B. Sc.-I NM
22	Science In Daily Life	Ravneet, Manpreet	B. Sc. I
23	Wind Generator	Balwinder, Ashima Bharti	B. Sc.-I
24	How To Make Clouds	Sakshi	B. Sc.-III
25	Global Warming	Deepashi, Simran Manisha	B. Sc.-I
26	Rain Water Harvesting	Rajwinder, Harpreet, Gagan Rishi	B. Sc.-I
27	Landslide (Natural Disaster And Management)	Amritpal Kaur Sanya Mehta Rituparna Shrada	B. Sc.-II
28	Mean Sea Level Rising (Global Warming)	Rohit, Satinder Aman Sharma Gourav	B. Sc.-II
29	Volcanic Activity	Madhav, Vivek Karan	B. Sc.-I
30	Environment Degradation And Management	Rafeeqa, Manik Dilbaj, Rashmi	B. Sc.-I
<b>Department of Physics</b>			
31	Save Electricity	Prince, Rajat Sagar	B. Sc.-II C. Sc.
32	Electricity From Speed Beakers	Tushar, Divya Hinal	B. Sc.-I NM
33	Space Science	Deepika, Saniya	B. Sc.-II NM
34	Production Of Current From Na Light	Harpreet, Harleen Diksha	B. Sc.-III
35	Robotic Hands	Rajat, Abhijeet Sumit	B. Sc.-II C. Sc.
36	Hydrolic Bridge	Barjesh, Anjna Sandeep	B. Sc.-II
37	Maximum Light Through Window Using Derivatives	Amit Puri, Nitin Manoj Kumar	B. Sc.-I NM
38	Golden Ratio	Poonam, Rahul Rashmi	B. Sc.-I NM

39	Volume Of Cuboid And Culinder Using Triple Integral	Bharti, Jasheena	B. Sc.-II NM
40	Theft alarm	Kajal, Yukti	B. Sc.-III C. Sc
41	Earth quake alarm	Simran, Gurbir Kaur, Amarjeet	B. Sc.-II NM
42	Electricity generation from wind	Deepanshu, Karan, Barjesh	B. Sc.-II NM
43	Earth Quake Alert	Monika, Anu	B. Sc.-I NM
44	Hydrolic Elevator	Upasna, Amrit Pal Singh, Manisha	B. Sc.-II C. Sc.
45	Man less Railway Corssing	Rajat, Abhijit	B. Sc.-III NM
<b>Department of Botany</b>			
46	Global Warming	Sumit	B. Sc.-II M
47	Solid Waste Management	Gagandeep Kaur, Gurjeet Kaur & Raminder Singh	B. Sc.-III M
48	Magic Of Science	Nisarg	
49	Membranne Transport	Kamalpreet, Jagdeep Kaur & Arshdeep Kaur	B. Sc. II (M)
50	Rain water harwesting	Anchal Bawa, Navjot Kaur & Anita Pathania	B. Sc.-II M
51	Algae as a Biofuel	Lovejot, Himanshu, Prabhjot	B. Sc. II M
52	Kitchen or A Drug Store?	Sumanpreet	B. Sc.-III Medical
<b>Department of Zoology</b>			
53	Replantation Technique	Neeru, Binay, Akanksha	B. Sc.-II M
54	Sericulture	Manisha, Jagdeep	B. Sc.-I M
55	Artificial Intelligence	Savi Khanna, Manohrama, Anamika	B. Sc.-III M
56	Appendicular Skeleton	Surbhi, Rishika	B. Sc.-I M
57	Parasite Of Human	Tanya, Akanksha	B. Sc.-II M
58	Skull	Sonali, Shyna	B. Sc.-II M
59	Water Harvesting	Rohini, Sakshi	B. Sc.-II M

60	Apiculture	Arshdeep, Kamalpreet Kaur	B. Sc.-I M
<b>Department of Food Science &amp; Technology</b>			
61	Water in bottle is Health in Hell (model)	Jaskaran Singh, Anchit Sharma, Karan Sharma, Simranjot Kaur	BFST-I
62	Allopathic vs Ayurvedic (model)	Amandeep, Annie Verma, Jaspreet Kaur	BFST-I
63	Food Preservation (poster)	Simarpreet, Anmol Saini, Bhakti	BFST-I
64	Canning of Food (poster)	Saloni, Bhawna	BFST-I
65	Fresh foods vs Canned foods (poster)	Tanya, Gurkirat	BFST-II
66	Layout of Dairy Industry (model)	Nishmita, Shivani, Tanya, Baljit, Amandeep	BFST-II
67	Layout of Ice Cream Industry (model)	Ratima, Aanchal, Kulveer Kaur	BFST-II
68	Waste Management (model)	Mandeep Kaur, Kamaljeet Kaur	BFST-II
69	Global Warming (poster)	Mandeep Kaur, Kamaljeet Kaur	BFST-II
70	Layout of Sugar Industry (model)	Varinderpal, Chand	BFST-III
71	Air eating giant (model)	Amandeep Singh, Bhupinder Singh, Angrez	BFST-III
72	Hydraulic arm (model)	Tannu, Ritika, Navreet	BFST-III
73	Arjuna herbal ghee (poster)	Ekta, gurupdesh, deepika	BFST-III
74	Edible Food packaging (poster)	Tannu, Ritika, Navreet	BFST-III
75	Types of Flour (poster)	Nancy, Khushpreet, Jasmeen, Harjot	BFST-III

**Students of Department of Mathematics, Computer Science and Geography also participated in the Science Fair and presented 48 projects.**

**Projects done by students in Science Fair, January 29-30, 2014**

**List of Models/Projects presented in Science Fair**

S.No.	Name of Project	Name of students	Class
<b>Department of Botany</b>			
1.	Natural Disaster	Balwinder Kaur, Navjeet Kaur & Manisha	10+1 Medical
2.	Solar Cooker	Nitish Puri & Navdeep Singh	10+1 Medical
3.	Transport Mechanism in Plants	Manisha Viridi, Jyoti & Gagandeep Kaur	10+1 Medical
4.	Rainwater Harvesting	Bipan, Rajan & Honey	10+2 Medical
5.	Electrical Pollution	Vanika Arora, Rahul Handa & Abhilasha Sharma	B. Sc.-I Medical
6.	Anchal Bawa, Navjot Kaur & Anita Pathania	Anchal Bawa, Navjot Kaur & Anita Pathania	B. Sc.-I Medical
7.	Helotism	Simran, Anjali Sharma & Vanita	B. Sc.-I Medical
8.	Mitochondria	Swati, Ishmeet & Inderpreet	B. Sc.-II Medical
9.	Natural Disaster	Sunita, Simardeep	B. Sc.-II Medical
10.	Peel the Peel	Arshdeep Kaur, Kamalpreet Kaur & Jagdeep Kaur	B. Sc.-III Medical
11.	Reuse the Refuse	Heena Sanan, Jyoti Bala & Anu Mahajan	B. Sc.-III Medical
12.	Kitchen or A Drug Store?	Asmita & Lovepreet	B. Sc.-III Medical
<b>Department of Zoology</b>			
13.	Vermi Composting	Jaspreet, Neelam	B. Sc. II Y Medical
14.	Respiratory System	Vaneeta	B. Sc. I Y Medical
15.	Sewage Treatment	Navjot Kaur, Anchal	B. Sc. I Y Medical
16.	Helotism	Simran, Anjali, Vanita	B. Sc. I Y Medical
17.	Working Model of Mitochondria	Inderpreet, Ishneet	B. Sc. II Y Medical
18.	Human Dialysis	Navneet, Kamalpreet Kaur, Kuljit	B. Sc.III Y Medical

19.	Blood Group Testing	Supriya, Jyoti, Sujata, Swati	B. Sc.III Y Medical
<b>Department of Physics</b>			
20.	Water level indicators	Anjana Saini, Priya, Dhirka Mahajan	B. Sc. II sem. (NonMedical)
21.	Braille Printer	Anmol, Aradhana	B. Sc. II sem. (NonMedical)
22.	EGP Machine	Arjun, Baljeet Kaur, Sachin, Dharvi	B. Sc. IV sem. (NonMedical)
23.	Earth Quake Alert	Ravneet, Manpreet	B. Sc. IV sem. (NonMedical)
24.	Hydrolic Elevator	Amandeep, Neha	B. Sc. IV sem. (NonMedical)
25.	Parking Sensing System	Moksh Mehta, Manipal Singh	B. Sc. IV sem. (NonMedical)
26.	Robotics	Danish Sehgal, Dikshant Chadha	B. Sc. IV sem. (NonMedical)
<b>Department of Biotechnology</b>			
27.	Prevention of Environmental Degradation	Aishwarya and Garima	B. Sc. I Biotechnology
28.	Climate Change- Global Warming	Diksha, Sakshi	B. Sc. I Biotechnology
29.	Renewable source of energy	Manpreet, Saima	B. Sc. I Biotechnology
30.	Petroleum Biodegradation	Babia, Kunal, Sharandeep	B. Sc. III Biotech.
31.	Bio-hydrogen Production	Swati, Vasudha, Jagjit	B. Sc. III Biotech.
32.	Rainwater harvesting	Anuj, Saru, Raman	B. Sc. III Biotech.
33.	Hydraulic Arm	Pallavi, Kartik, Onkar	B. Sc. III Biotech.
<b>Department of Chemistry</b>			
34.	Bio Hydrogen Production	Vasudha, Swati	B. Sc. II y (NM)
35.	Pollution free car	Twinkal Sandeep, Kuldeep	B. Sc. II y (NM)
36.	Salt water power generator	Ambika, Bhawan, Nellakshi	B. Sc. II y (NM)
37.	Rain water harvesting	Navjot Singh, Rajwinder Kaur	B. Sc. II y (NM)
38.	Global warming	Jagraj Singh, Rajwinder Kaur	

39.	Poor man's filter	Urvashi, Harpreet	B.Sc.-I Biotech
40.	Natural Disasters	Jaswinder Shweta	B.Sc.-II Biotech
<b>Department of Food Science &amp; Technology</b>			
41.	Chocolate Manufacturing Industry	Ramandeep Kaur, Pavneet Kaur, Navpreet Kaur	BFST – IV
42.	Glass Manufacturing Industry	Kirandeep Kaur, Kirandeep Kaur, Lovepreet Kaur, Navdeep Kaur, Ratanpreet Kaur,	BFST –III
43.	Oil Refining Industry	Jarmanjeet Singh, Tarun Kumar, Surbhi Sharma, Richa, Sanjeev Joshi, Gulsher Singh	BFST –III
44.	Adulteration in Milk	Navreet Kaur, Ramandeep, Beant Kaur	BFST –III
45.	Fruit Preservation	Rashveen, Sukhminder Mangat, Palni Kundra	BFST –II
46.	Waste to Energy	Ritika, Tannu	BFST –II
47.	Soyabean Products	Bhawna, Tanya, Amandeep Singh	BFST –II
48.	Effluent Treatment Plant	Shivani, Tanya, Rishab, Nishmita, Sharanjeet Kaur	BFST –I
49.	Vermi Composting	Nancy, Shupinder Kaur, Kulbeer Kaur, Simran Kaur	BFST –I
50.	Biscuit Industry	Navneet Singh, Baljinder, Amarjeet Singh, Jaspreet	BFST –I
51.	Adulteration in Spices	Pawandeep, Amanpreet, Puneet, Baljeet, Gurpinder	BFST –I

Students of Department of Mathematics, Computer Science and Geography also participated in the Science Fair and presented 32 projects.

**Projects done by students in Science Fair on 6-7 October 2012**

S.No.	Name of Project	Name of students	Class
<b>Department of Botany</b>			
1.	Role of Youth in Environment / Green Market	Lovepreet, Asmita and Sunakshi	B. Sc. II (Medical)
2.	Bamboos	Kamalpreet, Jagdeep Kaur & Arshdeep Kaur	B. Sc. II (Medical)
3.	Membrane Transport	Sakshi, Rohini & Priyanka	B. Sc. III (Medical)
4.	Algae as a Biofuel	Gagandeep Kaur, Gurjeet Kaur & Raminder Singh	B. Sc. II (Medical)
5.	Cell Division	Satyam, Gurpreet & Navneet	B. Sc. I (Medical)
6.	Climate Change	Rohini	B. Sc. III (Medical)
7.	Renewable Resources	Anu Mahajan & Jyoti Bala	B. Sc. II (Medical)
<b>Department of Zoology</b>			
8.	DNA Model	Pinky, Navdeep Harjinder	B. Sc. III
9.	In-Vitro Fertilization	Deekshita, Hardeep	M.Sc. I
10.	Vector Biology	Sonam, Gulshan, Madhavi	B.Sc.II
11.	Human embryology	Sonakshi, Lovepreet,	B.Sc. II
12.	Nephron	Savi, Anamika	B.Sc. I
13.	BMR Wt. & Blood Testing	Rohini, Sanampreet	B.Sc. I
14.	Era of Bioinformatics	Nikita, Kunal Sharma	B.Sc. III
<b>Department of Physics</b>			
15.	Man less Railway Corssing	Poonam, Kumar Gourav	B. Sc. I
16.	Our Gallaxy	Jatinder Kumar, Karanjit Singh	B. Sc. II
17.	Railway track safety	Karansandeep Singh, Sushma	B. Sc. II
18.	Theft alarm	Phalak Sharma, Sahil Kumar	B. Sc. I
19.	Earth quake alarm	Sushma Kalsi, Heena	B.Sc. II
20.	Electricity generation from wind	Kuldeep, Puneet	B.Sc. III
<b>Department of Biotechnology</b>			

22.	Lemon Electricity	Jasbir Kaur, Manpreet	BSc II Biotech
23.	Biofuel Production	Shivani, Poonam, Simon, Anjana	B. Sc. III (Bio-tech)
24.	Medicinal Plants	Geetanjali and Ramanpreet	B. Sc.I (Bio-tech)
25.	Ecological Changes	Pallavi	B. Sc. I (Bio-tech)
26.	Stem Cells	Babia	B. Sc. II (Bio-tech)
27.	Natural Resource	Swati and Surabhi	B. Sc.II (Bio-tech)
28.	Poster on Applications of Genetic Engineering	Chandan Deep Singh, Shivani	B. Sc. III (Bio-tech)
<b>Department of Chemistry</b>			
29.	Rain water harvesting	Krishna, Neear	B. Sc.II
30.	Clinical Tests	Mayank, Neha	B. Sc. II
31.	Thunderstorm	Akshay, Shivam	B.Sc. III
<b>Department of Food Science &amp; Technology</b>			
32.	HACCP in school canteen	Prashant ,Daljit & Neha	BFST- IV
33.	Wine Production Chart	Jatinder , Mohit	BFST- IV
34.	Paper making industry	Amanpreet, Ramanjit, Navneet	BFST III
35.	Adulteration of Spices	Pavneet, Ramandeep ,Gurbhej & Gurpreet	BFST- III
36.	Food Safety Chart	Manpreet, Vishal, Rajan &Manwar	BFST- III
37.	Milk Adultration	Sahin , Varinder	BFST II
38.	Bio Diesel as fuel	Nancy, Navpreet, Nitika	BFST I
39.	Electric Food” From Lemon	Amandeep	BFST-I
40.	Banana as a Biojoel	Ekta , Gurupadesh, Sukhraj	BFST I

**List of Students gone for Industrial Training in session 2014-15, 2013-14, 2012-13**

List of Students of Department of Bio-Technology gone for industrial training 2014-15	Please See Annexure no. II
List of Students of Department of Food Science & Technology gone for industrial training 2014-15	Please See Annexure no. II
List of Students of Department of Bio-Technology gone for industrial training 2013-14	Please See Annexure no. II
List of Students of Department of Food Science & Technology gone for industrial training 2013-14	Please See Annexure no. II
List of Students of Department of Bio-Technology gone for industrial training 2012-13	Please See Annexure no. II
List of Students of Department of Food Science & Technology gone for industrial training 2012-13	Please See Annexure no. II

7. **List of New 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 during the period which had not been conducted prior to support:**

### **New Practicals/demonstrations introduced from 2009 to 2013**

#### **Department of Bio-Technology**

##### **List of Experiments strengthened after getting DBT support**

##### **B. Sc. I Year (Sem. I & II)**

- Isolation of micro-organism from air, water and soil samples. Dilution and pour plating, Colony purification
- Verification of Beer Lamberts Law for P-nitrophenol or cobalt chloride.
- Preparation of physiological buffers
- Estimation of DNA/RNA
- Growth curve of micro-organisms
- The determination of acid value of a fat.
- The saponification value of a fat.

##### **B. Sc. II Year (Sem. III & IV)**

- Gel permeation chromatography
- Principles of compound, phase contrast, electron microscopy.
- Use and care of Light compound microscope.
- DNA isolation and agarose gel electrophoresis
- Microtomy and tissue sections preparation
- Immunological assays

##### **B. Sc. III Year (Sem. V & VI)**

- Preparation of simple growth nutrient (knop's medium), Full strength, half strength, solid and liquid.
- Preparation of complex nutrient medium (Murashige & Skoog's medium)
- Plugging and sealing of culture vessels.
- To select, Prune, sterilize and prepare an explant for culture.
- Significance of growth hormones in culture medium.
- To culture different explants for raising callus cultures.
- To demonstrate various steps of Micropropagation.
- Tissue culture media filtration

Department of Zoology

List of Experiments strengthened after getting DBT support

<b><u>Add on Biotech.</u></b> <b><u>(UGC Sponsored Program)</u></b>	<b><u>B.Sc. Medical-I</u></b>	<b><u>B.Sc. Medical-II</u></b>	<b><u>B.Sc. Medical-III</u></b>
<ol style="list-style-type: none"><li>1. Preparation of nutrient agar.</li><li>2. Antibiotic Sensitivity testing.</li><li>3. Preparation of media, cotton plugging and sterilization.</li><li>4. Identification of isolated bacteria.</li><li>5. Plasmid isolation</li></ol>	<ol style="list-style-type: none"><li>1. Various types of Chromatography techniques.</li><li>2. Study of evolutionary phenomena of Polymorphism, Mimicry and Natural selection.</li></ol>	<ol style="list-style-type: none"><li>1. Enumeration of RBC</li><li>2. Serum Antigen- Capture ELISA.</li><li>3. Antibody-Capture ELISA.</li><li>4. Sandwich ELISA.</li><li>5. Radial Immuno-diffusion.</li><li>6. Double Immuno-diffusion.</li><li>6. Genomic-DNA Extraction from bacteria.</li><li>7. Electrophoresis.</li><li>8. Antigen purification and Antibody purification</li></ol>	<ol style="list-style-type: none"><li>1. Section cutting of animal tissue for staining.</li><li>2. Usage of various stains for macromolecules.</li></ol>

## Department of Botany

### List of Experiments strengthened after getting DBT support

- **B.Sc I (Sem. I & II)**

- Examination of various stages of mitosis and mitosis using appropriate plants material (Purchase of MIPS integrated Olympus microscope and expensive stain acetocarmine under DBT grant)
- Study of plastids to examine pigment distribution in plants (e.g. Cassia, Lycopersicon and Capsicum). (Purchase of separating funnels and different chemicals like pet. Ether, diethyl ether, acetone etc. In abundance improved hand on practice by all students)
- Working out the laws of inheritance using seed mixtures & Working out the mode of inheritance of linked genes from test cross and/or F<sub>2</sub> data (Atomic model purchased under DBT helped easy working of this expt)
- Study of cyclosis in Tradescantia Staminal Cells (Best utilization of MIPS as students can see this phenomenon live).
- Material of different members of algae, bryophytes, fungi and pteridophytes were purchased in sufficient quantity for practical demonstration and hand on practice.

- **B. Sc. II (Sem. III & IV)**

- Herbarium Cabinet facility provided under DBT scheme helped maintain different angiosperms in dried form for future reference and practical demonstration which was no available earlier in the department
- Nomenclature of plants in Botanical garden and college helped improving the taxonomic knowledge of students.
- Purchase of plant material of different gymnosperms in abundance helped improving the practical quality

- **B.Sc III Yr (Sem. V & VI)**

- To prepare the standard curve of protein and determine the protein content in unknown samples
- Separation of amino acids in a mixture by paper chromatography and their identification by comparison with standards.
- Bioassay of auxin, cytokinin, GA, ABA and ethylene using appropriate plant material
- Demonstration of the technique of micropropagation by using different explants, e.g. axillary buds, shoot meristems. & Demonstration of the technique of another pollen culture & Demonstration of root and shoot formation from the apical and basal portion of stem segments in liquid medium containing different hormones
- Demonstrate the ascent of sap using a dye.
- Demonstrate the transpiration pull by mercury method.
- **Equipments/Chemical/Glassware used for experiments were purchased out of DBT Grant.** MIPS integrated olympus microscope, Atomic model, Autopipettes, Electronic Balance, Centrifuge, Hot air Oven, Laminar Air Flow, Autoclave, Hotplates, Refrigerator, BOD incubator, Stirrer, Herbarium Cabinets. Labware: BSA, amino acids Lysine, Leucine and Glycine, Ninhydrin, mercury, million's reagent, Acetocarmine, Agar-agar Sufficient Separating funnels, Dessicator, Petridshes, Beakers, Pipettes and other important articles were purchased out of this grant to make our department self sufficient for practical UG classes.

**Department of Chemistry**

**List of Experiments strengthened after getting DBT support**

<b><u>B.Sc. -I</u></b>	<b><u>B.Sc. -II</u></b>	<b><u>B.Sc. -III</u></b>
<ol style="list-style-type: none"> <li>1. Verify Lamber Beer's law for solution <math>\text{CoCl}_2 \cdot 5\text{H}_2\text{O}</math> (in water) or <math>\text{K}_2\text{Cr}_2\text{O}_7</math> (in water).</li> <li>2. Determine the concentration of <math>\text{CoCl}_2 \cdot 5\text{H}_2\text{O}</math> calorimetrically in giver solution of unknown concentration.</li> <li>3. Determine the refractive index of givin liquid (ethyl acetate, methyl acetate, chloroform) using Abbe's refractrometer and calculate specific refractions.</li> <li>4. Using Abbe's refractrometer find the composition of two liquid mixtures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Determine the end point of following titrations by counductometry method using strong acids and strong bases.</li> <li>2. Determine the end point of following titrations by counductometry method using weak acids and strong bases.</li> <li>3. Determine the end point of following titrations using potentiometer methods using weak acid and strong bases.</li> </ol>	<ol style="list-style-type: none"> <li>1. To determine the composition of mixture of acetic acid and HCl by conductometric titrations.</li> <li>2. Determine the composition of mixtures of <math>\text{NH}_4\text{OH}</math> and <math>\text{NaOH}</math> by conductometric titrations.</li> <li>3. Analysis of FTIR and UV-Vis spectra of some organic compounds.</li> </ol>

**Department of Physics**

**List of Experiments strengthened after getting DBT support**

<b><u>B.Sc. -I</u></b>	<b><u>B.Sc. -II</u></b>	<b><u>B.Sc. -III</u></b>
<ol style="list-style-type: none"> <li>1. To determine M. I. using Torsion Pendulum</li> <li>2. Determination of Stefan's Constant</li> <li>3. Study of stationary waves using Kundt's Tube</li> </ol>	<ol style="list-style-type: none"> <li>1. Determination of Wavelength of Light using Fresnel's Bi Prism</li> <li>2. Calibration of Constant Deviation, Spectrometer and determination of Unknown Wavelength</li> <li>3. Verification of Laws of Photoelectric Effect</li> </ol>	<ol style="list-style-type: none"> <li>1. Study of Poisson Distribution/Gaussian Distribution</li> <li>2. Window Thickness of GM Tube</li> <li>3. Source Strength of Beta Source</li> <li>4. Magnetic Susceptibility of a Material</li> <li>5. Determination of Dielectric Constant</li> </ol>

**Department of Food Science & Technology**  
**List of Experiments strengthened after getting DBT support**

**BFST-I:**

- Estimation of fat by Soxhlet apparatus.
- Nitrogen analysis by micro-kjeldahl method.
- Microbiological analysis using different instruments such as autoclave, laminar flow, Colony counter.

**BFST-II:**

- Study of different types of microorganism colony shapes on agar plates.
- Sterilization and disinfection of equipment used in Food Microbiology.
- To study principle and working of fruit pulper.
- Milling of rice demonstrated with rice husker and polisher.

**BFST-III:**

- To study hydrogenation of oils.
- Refining of oil.

**BFST-IV:**

- To study drying characteristics of various food products using cabinet drier
- Estimation of Sulphur dioxide.
- To study the working, principle and operation of Ball Mill.
- To study the working, principle and operation of Hammer Mill.

8. Interdepartmental activities conducted:

**Interdepartmental activities of Session 2014-2015**

Course	Title	Date
Science fair	Role of science in sustainable development Organised by all science departments	30 Jan 2015
Science Quiz for students of all science departments	Organised by all science departments	30 Jan 2015
National Conference To celebrate World Science Day	Advances in Agricultural Biotechnology (Jointly organized by Departments of Biotechnology, Botany and Food Science & Technology)	28 February 2015
<b>Department of Bio-technology</b>		
Extension lecture	Bioprocess Engineering	4 Sept., 2014
Extension lecture	Alzheimer's Disease	20 Sept., 2014
Workshop	Animal Cell Culture Techniques	5 <sup>th</sup> February, 2015
<b>Department of Zoology</b>		
Extension lecture	IVF and Women Hormonal Problems	2 August 2014
Extension lecture	Neurological effects of tuberculosis	23 Sept. 2014
Workshop	Advances in Forensics	3 March 2015
<b>Department of Botany</b>		
Extension lecture	Miracles in Botanical World	Aug 22, 2014
Extension lecture	Population Ecology	Sep 14, 2014
Extension lecture	Orchid Science to Orchid Mania	January 24, 2015
Educational Tour	Guru Nanak Dev University, Amritsar Sophisticated analytical instruments at Emerging Life Sciences	Aug 19, 2014
Workshop	Vermi-composting Unit Established	
<b>Department of Food Science &amp; Technology</b>		
Workshop	Latest trends in Food Packaging and labeling requirements	25 August 2014

Extension Lecture	Electron Microscopy	01 <sup>st</sup> Oct 2014
<b>Department of Physics</b>		
Night sky watching programme	In association with Pushpa Gujral Science City, Jalandhar. The students were explained about various aspects of Planets and Stars. Mars, Jupiter and Surface of moon shown to participants with the help of high power telescopes	08 October 2014
Workshop	Thin film coating	25 October 2014
Extension Lecture	Nuclear Radiation Detectors	12 Sept.2014
Extension Lecture	Achievements of Indian Science: Challenges and opportunity for Science Graduates	09 March 2015
<b>Department of Chemistry</b>		
Extension Lecture	Nanotechnology	23 August 2014
Extension Lecture	Advances in Polymer Chemistry	21 February 2015
Workshop	Spectroscopy techniques FTIR and UV-Visible	24 Oct. 2014
Workshop for lab attendants	Lab safety	17 July 2014

### Interdepartmental activities of Session 2013-2014

Course	Title	Date
Science fair for students of all classes	Role of science in sustainable development	29-30 Jan 2014
Quiz Competition for students of all classes		30 Jan 2014
National Conference	Science Colloquium: Emerging Trends in Basic & Applied Sciences	6-7 March 2014
<b>Department of Bio-technology</b>		
Extension lecture	Fundamental Concepts in Biotechnology	18 January 2014
<b>Department of Zoology</b>		
Extension lecture		
<b>Department of Botany</b>		
Extension Lecture	Sustainable Development Dr. Renu Bhardwaj, GNDU Amritsar	Aug 31, 2013
<b>Department of Food Science &amp; Technology</b>		
Extension Lecture	Healthy uses of oils	28 August 2013
National Seminar	Food Safety	30 July 2013
<b>Department of Physics</b>		
Night sky watching programme	In association with Pushpa Gujral Science City, Jalandhar. The students were explained about various aspects of Planets and Stars. Mars, Jupiter and Surface of moon shown to participants with the help of high power telescopes	12 November 2013
Extension Lecture	Nanotechnology	25 October 2013
Extension Lecture	Particle Physics	28 February 2014
Science fair	Role of science in sustainable development	29-30 Jan 2014
<b>Department of Chemistry</b>		
Extension Lecture	Crystallography	26 October 2013

## Interdepartmental activities of Session 2012-2013

Sr. No.	Activity	Title	Date
1.	Science Fair for all science classes		6-7 October 2012
2.	Quiz Competition for all science classes		6-7 October 2012
3.	Poster Making for all science classes		8 Feb. 2013
4.	Herbarium-Quiz-Slogan Writing Competition		Feb 8, 2013
<b>Department of Bio-technology</b>			
5.	National Conference	Medical Biotechnology	2 <sup>nd</sup> February 2013
<b>Department of Zoology</b>			
6.	Workshop	Entomological Techniques	14 September 2012
<b>Department of Botany</b>			
7.	Workshop	Genetics of Cell Division	March 2, 2013
<b>Department of Food Science &amp; Technology</b>			
8.	National Seminar	Newer Trends in Food Processing & Technology	22 <sup>nd</sup> February 2013
<b>Department of Physics</b>			
9.	Night sky watching programme	In association with Pushpa Gujral Science City, Jalandhar. The students (150) were explained about various aspects of Planets and Stars. Mars, Jupiter and Surface of moon shown to participants with the help of high power telescopes	12 Feb. 2013
10.	Extension Lecture	LHC (Large Hydrol Colloidal)	23 Sept. 2012
11.	Extension Lecture	Materials Science	07 Nov. 2012
12.	Extension Lecture	X-Ray Diffraction Analysis	23 Feb. 2013
13.	Seminar	Environmental stress – effect on Biodiversity	27 July 2012
<b>Department of Chemistry</b>			
14.	Extension Lecture	Basics of Organic Chemistry	14 March 2013
15.	Extension lecture	Biomaterials	20 September 2012

## Interdepartmental activities of Session 2011-2012

Course	Title	Date
Science Fair for all science classes		20-21 January 2012
Quiz Competition for all science classes		21 January 2012
<b>Department of Bio-technology</b>		
Workshop	Fermentation Technology	22 <sup>nd</sup> Feb., 2012
<b>Department of Zoology</b>		
Extension lecture	Use of Science in Daily life	3rd Dec. 2011
<b>Department of Botany</b>		
Extension Lecture	Plant Biodiversity	12 Nov. 2011
<b>Department of Food Science &amp; Technology</b>		
Extension Lecture	Food Safety & Laws	9 Nov. 2011
Extension Lecture	Fermented Food Products	21 Feb. 2012
<b>Department of Physics</b>		
Night sky watching programme	In association with Pushpa Gujral Science City, Jalandhar. The students (150) were explained about various aspects of Planets and Stars. Mars, Jupiter and Surface of moon shown to participants with the help of high power telescopes	02.12.2011
National Conference	Materials Science: Applications in Energy & Environment	2-3 March 2012
<b>Department of Chemistry</b>		
Extension Lecture	Organic Polymers	20 Nov. 2011
National Conference	Materials Science: Applications in Energy & Environment	2-3 March 2012

## Interdepartmental activities of Session 2010-2011

Course	Title	Date
Science Fair for all science classes		19 January 2011
Quiz Competition for all science classes		19 January 2011
<b>Department of Bio-technology</b>		
Seminar	Natural Products and Drug Discovery	1st Dec. 2010
Seminar	Nuclear Medicine	12th Feb. 2011
<b>Department of Zoology</b>		
Seminar	Biodiversity	7 <sup>th</sup> August 2010
Extension lecture	Human Genome Project	7 <sup>th</sup> August 2010
<b>Department of Botany</b>		
Extension Lecture	Plant Biodiversity	
<b>Department of Food Science &amp; Technology</b>		
Extension Lecture	Genetically modified foods	15 Sept 2010
Extension Lecture	Modern Technologies in Food Processing	15 Sept 2010
<b>Department of Physics</b>		
National Conference	Material Science & Technology: Emerging Trends	22-10-2010
Extension Lecture	Nuclear Radiation Detectors	9-9-2010

## Interdepartmental activities of Session 2009-2010

Course	Title	Date
Science Fair for all science classes		13-14 November 2009
Quiz Competition for all science classes		14 November 2009
<b>Department of Bio-technology</b>		
Seminar	<i>Plant tissue culture: modulation of plant metabolite production through elicitation</i>	11 Sept.2009
Seminar	<i>Molecular Biology</i>	27 Sept.2009
Seminar	<i>Drug Discovery Modern Approach: Proposing a new lead molecule</i>	
Workshop	Workshop on Bioinformatics on <i>Drug Discovery</i>	
International Conference	International Colloquium on Biotechnology	27-28 Nov. 2009
<b>Department of Zoology</b>		
International Seminar	Biomaterials- an interdisciplinary and research field.	27 Oct. 2009
Extension lecture	Swine flu	15 Sept. 2009
Seminar	Dental health and awareness	3 <sup>rd</sup> Feb 2010
<b>Department of Botany</b>		
Workshop	Plant Taxonomy	9-10 Oct 2009
Extension Lecture	Plant Biodiversity	12 Sept 2009
<b>Department of Food Science &amp; Technology</b>		
Workshop	Food adulteration and Analysis	6 <sup>th</sup> August 2010
Seminar	Food Processing	12 Sept. 2009
<b>Department of Physics</b>		
Extension lecture	Fundamentals of quantum Mechanics	7 <sup>th</sup> August 2009
Extension lecture	Optical fibre communications	10 <sup>th</sup> Sept. 2009
Extension lecture	Ceramics for mankind	27 Oct. 2009
Interclass Quiz Competition	Physics	20 <sup>th</sup> Oct. 2009
Workshop	Microsoft Excel in Analysis of Problems in Physics	7 <sup>th</sup> Nov. 2009
National Conference	High Energy Physics: Recent Developments and Future Challenges	4-5 Feb. 2010

9. Resources generated; SOP's, Lab manuals, teaching kits etc.:

**SOP's, Lab manuals are generated by all the participating departments and are put at college website so that the students can download them.**

**Zoology Department:**

**I. Standard operating procedures for :**

1. Collection and preservation of insect fauna
2. DNA extraction from insects.
3. Electrophoresis
4. Histopathology (tissue preparation for wax section)
5. Histopathology (tissue preparation for cryostat)
4. Biochemical estimations
  - a. Proteins
  - b. Lipid extraction
  - c. Protein separation by SDS page
5. Permanent slide of chick embryos.

**II. Practical Kits generated :**

1. Histopathology (tissue preparation for wax section)
2. Histopathology (tissue preparation for cryostat)
3. Biochemical estimations
  - a. Proteins
  - b. Lipid extraction
  - c. Protein separation by SDS page

**Food Science & Technology Department**

**BFST-I**

- Crop Science
- Fundamentals of Food Nutrition
- Introductory BioChemistry
- Principles of Food Preservation.
- General Microbiology.
- Food Chemistry.
- Food Additives.

**BFST-II**

- Food Microbiology
- Fluid Milk Processing
- Processing of Meat and Meat Products
- Post Harvest Management of Fruits and vegetables
- Cereal Milling & Legumes
- Processing of Milk & Mil Products
- Egg, Poultry & Fish Technology
- Fruits & Vegetable Processing
- Processing of Cereals and legumes.
- Food Plant Hygiene & Sanitation.

**BFST-III**

- Principles of Fermentation Technology
- Food Packaging –I
- Confectionary & Sugar Technology

- Oil & Fat Technology-I
- Processing of Milk Products-II
- Quality Assurance
- Grain Storage
- Food Packaging-II
- Spices & Flavour Technology
- Technology of Fermented Foods

### **Botany Department**

**Lab Manual** of Different classes i.e.

B.Sc.(Medical) I, II, III yr  
and B. Sc. (Biotech) I & II yr have been prepared.

**SOP/Equipment Manual** of Hot Air Oven, Centrifuge, Laminar Air Flow, Autoclave, BOD Incubator, Tromascope, Shaker, Digital Weighing Balance, Plant Tissue Homogenizer, Magnetic Stirrer etc. were prepared and displayed.

### **Biotechnology Department**

**Lab Manual** of Different classes

B. Sc. (Biotech) I, II, III, IV, V, VI Semesters

### **Chemistry Department**

**Lab Manual** of Different classes

All experiments in B. Sc. I, II, III, IV, V, VI Semesters

All experiments in B. Sc. (Biotech) I and II Semesters

All the lab manuals are uploaded at college website so that students can download it.

**SOP's**

Use of FTIR Spectrometer

Use of UV-Visible spectrometer

### **Physics Department**

**Lab Manual**

B. Sc.III

Study of Posson distribution/ Gaussian distribution using GM counter

To measure window thickness of GM tube

To measure source strength of Beta source using GM counter

To measure magnetic susceptibility of a material using Quinck's method

Determination of Dielectric constant of a Materials

B. Sc. II

Determination of wavelength of light usiong Fresnel Bi Prism

Calibration of constant Deviation Spectrometer and determination of unknown wavelength

Varification laws of Photoelectric effect.

B. Sc. I

To determine M.I. using Torsion Pedulum

Determination of Stefan's constant

Study of Stationary wave using Kundt's Tube.

10. Collaborative activities with neighboring colleges:

**Collaborative activities of Session 2014-2015**

Course	Title	Date
Science fair	Role of science in sustainable development Organised by all science departments	30 Jan 2015
Science Quiz for students of all science departments	Organised by all science departments	30 Jan 2015
National Conference To celebrate World Science Day	Advances in Agricultural Biotechnology (Jointly organized by Departments of Biotechnology, Botany and Food Science & Technology)	28 February 2015
<b>Department of Bio-technology</b>		
Workshop	Animal Cell Culture Techniques	5 <sup>th</sup> February, 2015
<b>Department of Zoology</b>		
Workshop	Advances in Forensics	3 March 2015
<b>Department of Botany</b>		
Workshop	Photosynthesis Measurement through IRGA	21 March 2015
<b>Department of Food Science &amp; Technology</b>		
Workshop	Latest trends in Food Packaging and labeling requirements	25 August 2014
<b>Department of Physics</b>		
Workshop	Thin film coating	25 October 2014
<b>Department of Chemistry</b>		
Workshop	Spectroscopy techniques FTIR and UV-Visible	24 Oct. 2014
Workshop for lab attendants	Lab safety	17 July 2014

## Collaborative activities of Session 2013-2014

Course	Title	Date
Science fair for students of all classes	Role of science in sustainable development	29-30 Jan 2014
Quiz Competition for students of all classes		30 Jan 2014
<b>Department of Bio-technology</b>		
National Conference	Science Colloquium: Emerging Trends in Basic & Applied Sciences <b>Bio-technology session</b>	6-7 March 2014
<b>Department of Zoology, Botany and Food Science &amp; Technology</b>		
National Conference	Science Colloquium: Emerging Trends in Basic & Applied Sciences <b>Life Sciences Session</b>	6-7 March 2014
<b>Department of Physics</b>		
National Conference	Science Colloquium: Emerging Trends in Basic & Applied Sciences <b>Physics Session</b>	6-7 March 2014
<b>Department of Chemistry</b>		
National Conference	Science Colloquium: Emerging Trends in Basic & Applied Sciences <b>Chemical Sciences Session</b>	6-7 March 2014

### Collaborative activities of Session 2012-2013

Sr. No.	Activity	Title	Date
1.	Science Fair for all science classes		6-7 October 2012
2.	Quiz Competition for all science classes		6-7 October 2012
3.	Poster Making for all science classes		6-7 October 2012
<b>Department of Bio-Technology</b>			
4.	National Conference	Medical Biotechnology	2 <sup>nd</sup> February 2013
<b>Department of Zoology</b>			
5.	Workshop	Entomological Techniques	14 September 2012
<b>Department of Botany</b>			
6.	Workshop	Genetics of Cell Division	March 2, 2013
<b>Department of Food Science &amp; Technology</b>			
7.	National Seminar	Newer Trends in Food Processing & Technology	22 <sup>nd</sup> February 2013
<b>Department of Physics</b>			
8.	Extension Lecture	X-Ray Diffraction Analysis	23 Feb. 2013
9.	Seminar	Environmental stress – effect on Biodiversity	27 July 2012

### Collaborative activities of Session 2011-2012

Course	Title	Date
Science Fair for all science classes		20-21 January 2012
Quiz Competition for all science classes		21 January 2012
<b>Department of Bio-technology</b>		
Workshop	Fermentation Technology	22 <sup>nd</sup> Feb., 2012
<b>Department of Zoology</b>		
Seminar	Recent Trends in Entomology	10 Nov. 2011
<b>Department of Botany</b>		
Extension Lecture	Plant Biodiversity	12 Nov. 2011
<b>Department of Food Science &amp; Technology</b>		
Extension Lecture	Food Safety & Laws	9 Nov. 2011
<b>Department of Physics &amp; Chemistry</b>		
National Conference	Materials Science: Applications in Energy & Environment	2-3 March 2012

### Collaborative activities of Session 2010-2011

Course	Title	Date
Science Fair for all science classes		19 January 2011
Quiz Competition for all science classes		19 January 2011
<b>Department of Bio-technology</b>		
Seminar	Natural Products and Drug Discovery	1st Dec. 2010
Seminar	Nuclear Medicine	12th Feb. 2011
<b>Department of Zoology</b>		
Seminar	Biodiversity	7 <sup>th</sup> August 2010
<b>Department of Physics &amp; Chemistry</b>		
National Conference	Material Science & Technology: Emerging Trends	22-10-2010

## Collaborative activities of Session 2009-2010

Course	Title	Date
Science Fair for all science classes		13-14 November 2009
Quiz Competition for all science classes		14 November 2009
<b>Department of Bio-technology</b>		
Workshop	Workshop on Bioinformatics on <i>Drug Discovery</i>	
International Conference	International Colloquium on Biotechnology	27-28 Nov. 2009
<b>Department of Zoology</b>		
International Seminar	Biomaterials- an interdisciplinary and research field.	27 Oct. 2009
<b>Department of Botany</b>		
Workshop	Plant Taxonomy	9-10 Oct 2009
Extension Lecture	Plant Biodiversity	12 Sept 2009
<b>Department of Food Science &amp; Technology</b>		
Workshop	Food adulteration and Analysis	12 Sept. 2009
<b>Department of Chemistry</b>		
Workshop	Analytical analysis of Chemicals	
<b>Department of Physics</b>		
Workshop	Animation of Physics Problems	2 <sup>nd</sup> Sept. 2009
Workshop	Microsoft Excel in Analysis of Problems in Physics	7 <sup>th</sup> Nov. 2009
National Conference	High Energy Physics: Recent Developments and Future Challenges	4-5 Feb. 2010

**11. Qualitative improvements due to DBT support (please highlight 5 salient lines):**

- Increased student input at UG level in B.Sc. Medical and Non-medical.
- Better infrastructure and lab facilities with Better practical demonstrations
- Reference books purchased under DBT Grant helped to establish Departmental Library
- Regular excursions, extension lectures and workshops in each department. Visiting Faculty from reputed scientific institutes is regularly invited in each department.
- Teachers are actively undertaking research projects and students of PG & UG classes are appreciably show involvement in research activities.

**12. Strengths and weaknesses of each department (3 each)**

**Strengths:**

1. Increased student input at UG level in B.Sc. Medical and Non-medical.
2. Better practical demonstrations due to well equipped laboratories with sophisticated instruments and consumables, and academically rich departmental libraries.
3. Every department has maintained well planed academic calendar including Regular excursions, extension lectures and workshops. Visiting Faculty from reputed scientific institutes are regularly invited in each departments.

**Weaknesses:**

**Department of Bio-technology:**

1. Department needs more space for new ATC lab and store.
2. PCR and Gel documentation machines are required to further enrich the department.
3. University has not yet sanctioned Post-Graduate course in the department.

**Department of Botany:**

1. Shortage of proper plant tissue culture area.
2. Requirement of sophisticated basic equipments like spectrophotometer and plant germinator in department for IInd and IIIrd year practical.
3. University has not yet sanctioned Post-Graduate course in the department.

**Department of Zoology:**

1. Department needs more latest books to upgrade the departmental library.
2. Department require some Non-recurring grant for new equipments.

**Department of Food Science & Technology:**

1. University has not yet sanctioned Post-Graduate course in the department.
2. Department require some Non-recurring grant for new equipments.

**Department of Chemistry & Physics**

1. With increase in student strength in graduation classes shortage of laboratory space and we feel that some non-recurring grant is required at this stage.

**List of all resource persons invited in the college from 2009 to 2015  
Session 2014-2015**

<b>Course</b>	<b>Title</b>	<b>Date</b>
National Conference To celebrate World Science Day	Advances in Agricultural Biotechnology (Jointly organized by Departments of Biotechnology, Botany and Food Science & Technology)  <b>Dr. Anil Grover</b> , Dept. of Plant Molecular Biology, University of Delhi, New Delhi <b>Dr. Purnanand Guptasarna</b> , Head, Dept. of Biological Sciences, IISER, Mohali <b>Dr. Aruna Bhatia</b> , Head, Dept. of Biotechnology, Punjabi University, Patiala <b>Dr. Manoj Dhar</b> , Director, School of Biotechnology, University of Jammu, Jammu <b>Dr. P.K. Pati</b> , Dept. of Biotechnology, GNDU, Amritsar	28 February 2015
<b>Department of Bio-technology</b>		
<b>Dr. S.S. Marwaha</b>	CEO, Punjab Biotechnology Incubator, Mohali	4 Sept., 2014
<b>Dr. Sumesh Handa</b>	Neurological Surgeon, Civil Hospital, Jalandhar	20 Sept., 2014
<b>Dr. Sanjeev Gautam</b>	Department of Animal Biotechnology, Kurukshetra University	5 <sup>th</sup> February, 2015
<b>Educational Tour</b>	<b>Dr. B R Ambedkar National Institute of Technology, Jalandhar</b>	16 <sup>h</sup> April, 2015
<b>Department of Zoology</b>		
<b>Dr. Sushma Chawla</b>	Gynaecologist, Chawla Hospital, Jalandhar	2 August 2014
<b>Dr. Sumesh Handa</b>	Neurological Surgeon, Civil Hospital, Jalandhar	23 Sept. 2014
<b>Dr. R M Sharma</b>	Former Head, Forensic Science Department, Punjabi University, Patiala	3 March 2015
<b>Dr. R. Pathmanathan</b>	Australian National University, Canberra, Australia	
<b>Dr. I S Sidhu</b>	SGGS College, Chandigarh	

<b>Department of Botany</b>		<b>Annexure I</b>
<b>Dr. Saroj Arora</b>	Professor, Dept. of Botanical & Env. Sciences, GNDU, Amritsar	Aug 22, 2014
<b>Dr. AK Thukral</b>	Professor, Dept. of Botanical & Env. Sciences, GNDU, Amritsar	Sep 14, 2014
<b>Dr. Promila Pathak</b>	Professor, Deptt. of Botany, Panjab University, Chandigarh	January 24, 2015
<b>Dr. Renu Bhardwaj</b>	GNDU Amritsar	21 March 2015
<b>Department of Food Science &amp; Technology</b>		
<b>Ms Anjali Dhanjal</b>	Scientist, Indian office of Regal Technical & Training Solution Limited, United Kingdom	25 August 2014
<b>Dr. Virat Abhishek,</b>	DFRL Mysore	01 <sup>st</sup> Oct 2014
<b>Department of Physics</b>		
<b>Dr. Ashok Kumar</b>	Physics Dept. Panjab University, Chandigarh	12 Sept.2014
<b>Dr. Atul Khanna</b>	Physics Dept. GNDU, Amritsar	09 March 2015
<b>Department of Chemistry</b>		
<b>Dr. G R Chaudhary</b>	Panjab University Chandigarh	23 August 2014
<b>Dr. B S Kaith</b>	Dr. B R Ambedkar National Institute of Technology, Jalandhar	21 February 2015

**Session 2013-2014**

**Annexure I**

Course	Title	Date
Multi disciplinary National Conference	<p>Science Colloquium: Emerging Trends in Basic &amp; Applied Sciences</p> <p>Jointly organized by all science departments</p> <p>Dr. Ajay Kumar Sood, Indian Institute of Sciences, Bangalore</p> <p>Dr. B R Mehta, Indian Institute of Technology, New Delhi</p> <p>Dr. Mahavir Singh, Himachal Pradesh University, Shimla</p> <p>Dr. U C Baneerjee, NIPER, Mohali</p> <p>Dr. Sucheta Sharma, Punjab Agriculture University, Ludhiana</p> <p>Dr. Sharada Mullubhotia Potukuchi, Shri Vashno Mata University, Jammu</p> <p>Dr. Ghanshyam S Chauhan, Himachal Pradesh University, Shimla</p> <p>Dr. Anil Kumar, IIT Roorkee</p> <p>Dr. Manoj Kumar, GNDU Amritsar</p> <p>Dr. A K Ganguli, Director, Institute of Nano Science &amp; Technology, Mohali</p> <p>Dr. D K Sharma, IIT, Delhi</p> <p>Dr. G S Sodhi, Khalsa College Delhi</p> <p>Dr. Anupama Sharma, University Institute of Chemical Engg. &amp; Technology, Chandigarh</p> <p>Dr. B S kaith, Dr B R Ambedkar, National Institute of Technology, Jalandhar</p> <p>Dr. Jagvir Singh Punjabi University Patiala</p> <p>Dr. Daizy Batish Panjab University Chandigarh</p>	6-7 March 2014

<b>Department of Bio-technology</b>		
<b>Dr. Prabhjeet Singh,</b>	<b>Professor, Department of Biotechnology, GNDU, Amritsar</b>	<b>18 January 2014</b>
<b>Department of Zoology</b>		
<b>Dr. Jagvir Singh</b>	<b>Punjabi University Patiala</b>	<b>23 August 2013</b>
<b>Department of Botany</b>		
<b>Dr. Renu Bhardwaj,</b>	<b>GNDU Amritsar</b>	<b>Aug 31, 2013</b>
<b>Department of Food Science &amp; Technology</b>		
<b>Dr. Sanjeev Vyas</b>	<b>AP Organics Pvt. Ltd., Dhuri</b>	<b>28 August 2013</b>
<b>Mr. Parmvir S. Deol,</b>	<b>Managing director of Regal Technical &amp; Training Solutions Ltd. of U.K</b>	<b>30 July 2013</b>
<b>Department of Physics</b>		
<b>Dr. Hitesh Kumar</b>	<b>Punjab Technical University Jalandhar</b>	<b>25 October 2013</b>
<b>Dr. Harleen Dahia</b>	<b>National Institute of Technology Jalandhar</b>	<b>28 February 2014</b>
<b>Department of Chemistry</b>		
<b>Extension Lecture</b>	<b>Crystallography</b>	<b>26 October 2013</b>

**Session 2012-2013**

**Annexure I**

S. No.	Name	Designation & Affiliation	Topic and date
<b>Department of Biotechnology</b>			
1.	Dr. B. S. Chaddha	Professor, Department of Microbiology, GNDU, Amritsar	<i>Biofuels</i> 3 <sup>rd</sup> November 2012
2.	Prof. Pratipal Singh	Associate professor, National Institute of Pharmaceutical Education & Resaerch, Mohali	<i>Monoclonal Antibodies</i> Sept. 1, 2012
3.	Dr. Dwaipayan Bharadwaj	Institute of Genomics and Integrative Biology New Delhi	<i>Genetics of Complex Diseases: Deciphering the Enigma</i> 2 <sup>nd</sup> February 2013
4.	Dr. M. Elizabeth Sobhia	Dept. of Pharmacoinformatics, NIPER ,Mohali	<i>Structure based DRUG design</i> <i>Identification of selective and specific inhibitors of Aldose Reductases</i> 2 <sup>nd</sup> February 2013
5.	Dr. Sharda Potukochi	School of Biotechnology , SMDVU, KATRA, Jammu and Kashmir	<i>Scenario of medicinal plants commercialization in India</i> 2 <sup>nd</sup> February 2013
6.	Prof P.V.K.S. Baba	Deptt of Electronics, Jammu University, Jammu	<i>Nuclear Energy in Service of Mankind</i> 2 <sup>nd</sup> February 2013
<b>Department of Chemistry</b>			
7.	Dr. P S Kalsi	Professor Punajb Agriculture University, Patiala	<i>Stereochemistry</i>
8.	Dr. Manoj Kumar	Professor, Guru Nanak Dev University, Amritsar	<i>Basics of Organic Chemistry</i>
<b>Department of Zoology</b>			
9.	Dr. Ashutosh Goel	University of Aveiro, Portugal	<i>Biomaterials</i> 20 September 2012
10.	Dr. Jagbir Singh	Professor Punjabi University. Patiala	<i>Environ. stress – effect on Biodiversity</i> 27 July 2012
11.	Dr. Gurstej Gandhi	Professor, GNDU, Amritsar	<i>Environ. stress – effect of Mobiles</i> 27 July 2012
12.	Dr. H.R. Pajini	Panjab University Chandigarh	<i>Workshop on Entomological techniques</i> 14 September 2012
13.	Dr. V.K. Walia	Panjab University Chandigarh	<i>Workshop on Entomological techniques</i> 14 September 2012
14.	Dr. Jagbir Singh	Professor Punjabi University. Patiala	<i>Workshop on Entomological techniques</i> 14 September 2012
<b>Annexure II</b>			
<b>Department of Botany</b>			

15.	Dr. Meena Sharma	Deptt. of Botany, HMV, Jalandhar	<i>Edible Vaccines</i> Aug 18, 2013
16.	Prof. M.S. Sagoo	Department of Botany, Punjabi University, Patiala	<i>one-day workshop on Genetics of Cell Division</i> 2 March 2013
<b>Department of Food Science &amp; Technology</b>			
17.	Prof. Haroon Naik	DSWSKUAST KASHMIR	<i>Preservation of Fruits and Vegetables</i> 22 <sup>nd</sup> February 2013
18.	Prof. Sumit Arora	National Dairy Research Institute, Karnal	<i>Fortification of Dairy Products</i> 22 <sup>nd</sup> February 2013
19.	Prof D C Saxena	Sant Longowal Institute of Engg. & Technology, Longowal	<i>Non conventional Sources of Starch</i> 22 <sup>nd</sup> February 2013
20.	Prof. Naveen Gupta	Panjab University, Chandigarh	<i>Applications of Enzymes in Food Industry</i> 22 <sup>nd</sup> February 2013
21.	Dr. Narpinder Singh	Professor GNDU, Amritsar	<i>Functional foods</i> 01 September 2012
<b>Department of Physics</b>			
22.	Dr. S. S. Malik	Professor GNDU, Amritsar	<i>LHC (Large Hydrol Colloidal)</i> 23 Aug. 2012.
23.	Dr. Mehmood Mian	Professor GNDU, Amritsar	<i>Materials Science</i> 07 Nov.2012
24.	Dr. Rajnikant	Jammu University, Jammu	<i>X-Ray Diffraction Studies</i> 23 Feb. 2013

**List of all resource persons invited in the college from 2009 to 2013  
Session 2011-2012**

S. No.	Name	Designation & Affiliation	Topic and date
<b>Department of Biotechnology</b>			
1.	Dr. Sunil K. Arora	Professor, Department of Immunopathology, PGI, Chandigarh	Immunopathology on 3rd December 2011
2.	Dr. S. K. Soni	(Professor) Department of Microbiology, Panjab University, Chandigarh	Workshop on Fermentation Technology on 22 <sup>nd</sup> Feb., 2012
3.	Dr. Naveen Gupta	(Assistant Professor), Department of Microbiology, Panjab University, Chandigarh	Fermentation Technology on 22 <sup>nd</sup> Feb., 2012
<b>Department of Chemistry</b>			
4.	Dr. G S Chauhan	Professor Himachal Pradesh University, Shimla	<i>Organic Polymers for enzyme immobilization</i> 20 Nov. 2011
5.	Dr. R K Mahajan	Professor, Guru Nanak Dey University, Amritsar	<i>Interactions Between Pyridinium Gemini Surfactants &amp; Bile Salts with Phenothiazine Tranquilizer Drugs</i> 2 March 2012
6.	Dr. B C Ranu	Professor, Indian Association for Cultivation of Sciences, Kolkata	<i>Green Catalysis by Copper and Iron Nanoparticles</i> 2 March 2012
7.	Dr. S K Mehta	Professor, Panjab University, Chandigarh	<i>Nanosensors: A New Perspective in Electrochemistry</i> 2 March 2012
8.	Dr. Anupama Sharma	Professor, University Institute of Chemical Technology, Panjab University, Chandigarh	Polymeric nano composites : The "N Effect" properties 3 March 2012
<b>Department of Zoology</b>			
9.	Prof Jagbir Singh	Professor Panjab University Patiala	Recent Trends in Entomology 10 November 2011
10.	Dr. G S Randhawa	Professor Department of Bio-Technology Indian Institute of Technology Roorkee	Use of Science in Daily life 3rd December 2011
11.	Dr. Samrat Mukhopadhyay	Assistant Professor, Indian Institute of Science, Edu. and Research, Mohali	'Structural Biochemistry & Protein Engineering' on 16th February, 2012

<b>Department of Botany</b>		
12.	Prof. Daizy Batish	Professor Dept. of Botany, Panjab University, Chandigarh Plant Diversity 12 Nov 2011
13.	Dr. Jui Chakroborti	Assist. Professor, Center for Glass & Ceramic Research Institute, Kolkota <i>The new age glass and ceramic materials in health: our new hopes</i> 2 March 2012
<b>Department of Food Science &amp; Technology</b>		
14.	Dr Charanjeet Singh	Associate Professor SLIET Longowal Sangrur Advances in Food Packaging 9 Nov. 2011
15.	Dr. S. K. Soni	(Professor) Department of Microbiology, Panjab University, Chandigarh Fermentation Technology A Tool for value addition of Foods 21 Feb. 2012
<b>Department of Physics</b>		
16.	Dr. A K Grover	Professor, Tata Institute of Fundamental Research, Mumbai <i>Zero-magnetization systems: Materials for niche applications in Spintronics</i> 2 March 2012
17.	Dr. Y N Mohapatra	Professor, Indian Institute of Technology, Kanpur <i>Organic Semiconductors as emergin electronic materials</i> 2 March 2012
18.	Dr. Mahavir Singh	Professor, Himachal Pradesh University, Shimla <i>Interesting properties and applications of magnetic nano particles</i> 3 March 2012
19.	Dr. S S Sekhon	Professor, Guru Nanak Dev University, Amritsar Fuel Cells on 3 March 2012
20.	Dr. K K Raina	Professor, Thapar University, Patiala <i>Lyotropic Liquid Crystalline Non- aqueous Complexes as Templates fo Nano-structures</i> 3 March 2012

**Session 2010-2011**

S. No.	Name	Designation	Affiliation
<b>Department of Biotechnology</b>			
1.	Dr. Sanjai Saxena	Assistant Professor	Department of Biotechnology and Environmental Sciences, Thapar University, Patiala
2.	Dr. Vijayata	Assistant Professor	Department of Nuclear Medicine, Institute of Emerging areas in Science and Technology, Panjab University, Chandigarh
<b>Department of Zoology</b>			
3.	Prof Jagbir Singh	Professor	Panjabi University Patiala
4.	Prof. Gurtej Gandhi	Professor	Guru Nanak Dev University, Amritsar
<b>Department of Botany</b>			
5.	Prof. Daizy Batish	Professor	Dept. of Botany, Panjab University, Chandigarh
<b>Department of Food Science &amp; Technology</b>			
6.	Dr S.S. Thind	Professor	Punjab Agriculture University, Patiala
7.	Dr Naveen Gupta	Associate Professor	Panjab University Chandigarh
<b>Department of Physics</b>			
8.	Prof. R. K. Bedi	Professor	Guru Nanak Dev University; Amritsar
9.	Prof. Ravi Ranade	Professor	Department of Material Science, National Institute of Technology, Hamirpur (H.P.)
10.	Prof. Mahavir Singh	Professor	Himachal Pradesh University, Shimla
11.	Dr. R. K. Moudgil	Associate Professor	Department of Physics; Kurukshetra University Kurukshetra
12.	Prof. S. K. Tripathi	Professor	Panjab University Chandigarh
13.	Prof. Atul Khanna	Professor	Guru Nanak Dev University; Amritsar
14.	Dr. B S Acharya	Professor	Dept. of High Energy Physics; Tata Institute of Fundamental Research; Mumbai
15.	Dr. J. Goswami	Professor	Panjab University Chandigarh

**Session 2009-2010**

S. No.	Name	Designation	Affiliation
<b>Department of Biotechnology</b>			
1.	Dr. E. Momotani	Senior Scientist	National Institute of Animal Health (NIAH), <i>Japan</i>
2.	Dr. S. V. Singh	Principal Scientist	Central Institute for Research on Goats (CIRG), Mathura, India
3.	Dr. Sharda M. Potukochi	Professor	Shri Mata Vaishno Devi University (SMVDU), Katra, Jammu, India
4.	Dr. D. S. Chauhan	Scientist E	Central Jalma Institute for Leprosy & Other Mycobacterial Diseases (CJIL), Agra, India
5.	Dr. Amitabh Mishra	Manager (Biotechnology)	National Research & Development, Corporation (NRDC), New Delhi, India
6.	Dr. P. K. Singh	Scientific Technical Executive	VitaeGen Biotch, Varanasi, India
7.	Dr. Jyoti Prakash	Scientist	Jean-Pierre Aubert Research Centre, <i>France</i>
8.	Dr. Manjinder Khera	Scientist	Department of Biotchnology, University of Durban, <i>South Africa</i>
9.	Dr. P. K. Pati	Professor & Head of the Department	Department of Biotechnology, Guru Nanak Dev University, Amritsar, India
10.	Dr. Sukesh Chander Sharma	Professor	Department of Biochemistry, Panjab University Chandigarh, India
11.	Dr. J. S. Viridi	Professor	Department of Microbiology, South Campus, University of Delhi, Delhi India
12.	Dr. A. V. Singh	Research Associate	Central Institute for Research on Goats (CIRG), Mathura, India
13.	Dr. Prikshit Tyagi	WHO Expert	Serum Institute of India Ltd., Hadapsar, <b>Pune</b> , India
14.	Dr. Y. F. Chang	Director, Infectious Disease research program	Animal Health Diagnostic Center Cornell University, <i>United States of America, (USA)</i>
15.	Dr. Avneet Saini	Assistant Professor	GGDSD College, Chandigarh, India
16.	Mr. Rajnikant Namdeo	Head Operations	IBI Biosolutions Pvt. Ltd., Chandigarh India
<b>Department of Zoology</b>			
17.	Dr. T P Singh	Dist. Epidemiologist	Civil Hospital Jalandhar
18.	Dr. Jose M F Ferreira	Professor	Ceramic and Glass Engineering Department CICECO University of Aveiro; Portugal.
19.	Dr. Aashish Verma	Professor	Sri Guru Ram Dass Medical College Amritsar
<b>Department of Botany</b>			
20.	Prof. M.B. Siddiqui	Professor	Deptt. of Botany; Aligarh Muslim University; Aligarh
21.	Prof. Daizy Batish	Professor	Dept. of Botany, Panjab University, Chandigarh

<b>Department of Food Science &amp; Technology</b>			
22	<b>Dr. Roop Lal</b>	District Health Officer	Civil Hospital; Jalandhar
23	<b>Dr. Dalbir Singh</b>	Associate Professor	Food Sc & Tech Deptt, GNDU Amritsar
<b>Department of Chemistry</b>			
24.	<b>Dr. Subodh Kumar</b>	Professor	Chairman; Department of Chemistry; Guru Nanak Dev University; Amritsar
25.	<b>Dr. R Lal</b>	Professor	
<b>Department of Physics</b>			
26.	<b>Dr. Arvind Dhillon</b>	Professor	IISER; Mohali
27.	<b>Dr. Derick Engles</b>	Professor	Department of Electronics; Guru Nanak Dev University; Amritsar
28.	<b>Dr. Ashutosh Goyal</b>	Assistant Professor	Ceramic and Glass Engineering Department CICECO University of Aveiro; Portugal
29.	<b>Dr. D P Singh</b>	Associate Professor	Department of Physics; Guru Nanak Dev University; Amritsar
30.	<b>Dr. Bikash Sinha</b>	Former Director	Saha Institute of Nuclear Physics & variable Energy Cyclotron Centre; Kolkata
31.	<b>Dr. J Pashupati</b>	Professor Emeritus	Dept. of High Energy Physics; Indian Institute of Sciences; Bangalore
32.	<b>Dr. B S Acharya</b>	Professor	Dept. of High Energy Physics; Tata Institute of Fundamental Research; Mumbai
33.	<b>Dr. C P Singh</b>	Professor Emeritus	Dept. of High Energy Physics; BHU; Banaras
34.	<b>Dr. Bindu Bambah</b>	Professor	Dept. of Physics; University of Hyderabad
35.	<b>Dr. Suman Bala Beri</b>	Professor	Dept. of Physics; Panjab University; Chandigarh
36.	<b>Dr. B K Singh</b>	Associate Professor	Dept. of High Energy Physics; BHU; Banaras
37.	<b>Dr. Ashawani Kumar</b>	Associate Professor	National Institute of Technology; Kurukshetra

**List of Students Undertaken projects in Industries and Institutions.**

**Students Training programmers in B. Sc, Biotech 1<sup>st</sup>, 2<sup>nd</sup> And 3<sup>rd</sup> Year 2014-2015**

S.No.	Training done at:-	Duration of Training	Student's Name
1	Verka Milk Plant, Jalandhar	15 Days, 16 <sup>th</sup> December, 2014 to 31 <sup>st</sup> December, 2014	Harleen, Manjinder, Gurpreet, Davinder, Neha, Sandeep Kumar, Pallavi, Navpreet, Saru, Mehak, Banita, Simmy, Binny, Palvi puri, Iemanjot, Raman, Shabnam, Anuj, Paramsumit, Shweta, Kartik, Kamal, Ravi, Jaswinder, Aman, Nancy, Nikita, Dixa, Japjot, Harmeet
2	Gurdaspur Co-operative milk plant	15 Days, 16 <sup>th</sup> June, 2014 to 30 <sup>th</sup> June, 2014.	Onkarjit Kaur, Alvin,
3	Bathinda Distt. Co-operative, Verka Milk Plant	24 <sup>th</sup> December, 2014 to 9 <sup>th</sup> January, 2015.	Manpreet, Yadveer
4	Jagatjit Industries, Limited, Hamira	30 days, 19 <sup>th</sup> January, 2015 to 18 <sup>th</sup> February, 2015.	Saroop

**SUMMER TRAINING OF BEST-IV STUDENTS in SESSION 2014-15**

S.No.	Roll No.	Name	Institute/ Food Industry
1.	15201	Beant Kaur	Markfed Canneries, Jalandhar
2.	15202	Ramandeep Kaur	Pepsico Channo Distt Sangrur
3.	15203	Shalinee Mishra	JDU Sahakari Sangh, Orai
4.	15204	Shivani Kaul	Sukhjit Starch, Phagwara
5.	15205	Harnoor Singh	Markfed Canneries, Jalandhar & Sukhjit Starch, Phagwara
6.	15206	Rashveen Kahlon	Markfed Canneries, Jalandhar
7.	15207	Sukhminder Mangat	Pepsico Channo, Distt Sangrur
8.	15208	Palni Kundra	Markfed Canneries, Jalandhar
9.	15209	Ratnanjali Sharma	Sukhjit Starch, Phagwara
10.	15210	Jarmanjit Singh	FICCI Lab
11.	15211	Tarun Kumar	FICCI Lab & Jagatjit Industries, Hamira
12.	15212	Shivani Sharma	Glaxo Smithkline Nabha

13.	15213	Sanjiv Joshi	Verka Milk Plant Amritsar <b>Annexure II</b>
14.	15214	Sachin	FICCI Lab & Jagatjit Industries, Hamira
15.	15215	Navreet Kaur	Markfed Canneries, Jalandhar
16.	15216	Gulsher Singh	Verka Milk Plant Amritsar & Jagatjit Industries, Hamira
17.	15217	Ratanpreet Kaur	VRV Foods Sansarpur
<b>S.No.</b>	<b>Roll No.</b>	<b>Name</b>	<b>Institute/ Food Industry</b>
18.	15218	Navdeep Kaur	Cadbury India Baddi
19.	15219	Kirandeep Kaur	Bunge Rajpura
20.	15220	Lovepreet Kaur	Bunge Rajpura
21.	15221	Kirandeep Kaur	Bunge Rajpura
22.	15222	Surbhi Sharma	Bunge Rajpura
23.	15223	Richa Chaudhary	Bunge Rajpura
24.	15224	Inderpreet Kaur	Markfed Canneries, Jalandhar
25.	15225	Robin Kochar	Verka Milk Plant Ludhiana
26.	15226	Harmandeep Kaur	Glaxo Smithkline Nabha
27.	15227	Harbrinder Kaur	Glaxo Smithkline Nabha
28.	15228	Arvinder Thind	Glaxo Smithkline Nabha
29.	15229	Mantoj Singh	Glaxo Smithkline Nabha
30.	15230	Prabhdeep Singh	Markfed Canneries, Jalandhar
31.	15231	Daljinder Singh	Markfed Canneries, Jalandhar
32.	15232	Karamjit Singh	Markfed Canneries, Jalandhar
33.	15233	Varinder Kumar	Markfed Canneries, Jalandhar

**Students Training programmers in B. Sc, Biotech 1<sup>st</sup>, 2<sup>nd</sup> And 3<sup>rd</sup> Year 2013-2014**

<i>Sr. No</i>	<i>Student Name</i>	<i>Class</i>	<i>Name Of Institution</i>	<i>Topic</i>
01.	Yashpinder Kaur	Bsc 1 <sup>st</sup>	Verka Milk Plant Ludhiana (Punjab)	Have studied its organization and working
02.	Cherry Mahajan	Bsc 1 <sup>st</sup>	Doaba Milk Plant Jalandhar (Punjab)	Milk Processing and milk products
03.	Surbhi Thakur	Bsc 1 <sup>st</sup>	CHC, Indora-Kangra(H.P)	Laboratory Training
04.	Pardeep Kumar	Bsc 1 <sup>st</sup>	University Of Horticulture And Forestry, Nauni, Solan (H.P)	Exposure to molecular biology techniques
05.	Esha Dhir	Bsc 1 <sup>st</sup>	Plus Biotech Center Jalandhar (Punjab)	Lab set up and working of various equipments
06.	Karamveer Kaur	Bsc 1 <sup>st</sup>	Omega Test House Panchkula (Punjab)	Laboratory set up of PTC and Mol. Bio.
07.	Preetika Sharma	Bsc 1 <sup>st</sup>	Omega Test House Panchkula (Punjab)	Molecular biology techniques
08.	Jasbir Kaur	Bsc 1 <sup>st</sup>	Omega Clinical Laboratory Kapurthala (Punjab)	Microbiology
09.	Manpreet Kaur	Bsc 1 <sup>st</sup>	Orbit Biotechnology Pvt.Ltd	Conceptualizing Molecular Scissors & Gene Cloning
10.	Sneh Supreet	Bsc 1 <sup>st</sup>	Omega Test House Panchkula (Punjab)	Chemical, Microbiological & Civil Engg.
11.	Babia Sharma	Bsc 1 <sup>st</sup>	Orbit Biotechnology Pvt.Ltd	Conceptualizing Molecular Scissors & Gene Cloning
12.	Shivali	Bsc 1 <sup>st</sup>	CHC Indora Kangra (H.P)	Laboratory Training
13.	Swati Sahdev	Bsc 1 <sup>st</sup>	Hamdard (WAKF) Laboratories New Delhi	Drug Qurs Jiryan
14.	Harpreet Saini	Bsc 2 <sup>nd</sup>	Verka Milk Plant Ludhiana (Punjab)	Working and organization of milk plant
15.	Manpreet Kaur	Bsc 2 <sup>nd</sup>	Verka Milk Plant Ludhiana (Punjab)	Milk powder and cheese production techniques
16.	Mehak Thakur	Bsc 2 <sup>nd</sup>	Verka Milk Plant Ludhiana (Punjab)	Milk pasteurization and milk products

17.	Manjinder Singh	Bsc 2 <sup>nd</sup>	Orbit Biotech Pvt, Ltd Mohali (Punjab)	<b>Annexure II</b> Food microbes and their utilities
18.	Arshdeep Kaur	Bsc 2 <sup>nd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Technique
19.	Harjot Kaur	Bsc 2 <sup>nd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Technique
20.	Sonika Attri	Bsc 2 <sup>nd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Microbes in fermentation and their uses
21.	Bharti Jaggi	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Microbes in fermentation and their uses
22.	Shivani	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Design and working of the milk plant
23.	Pritika Dadwal	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation products and quality analysis
24.	Poonam Mehta	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation products and quality analysis
25.	Anjana	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Adulterants and their identification
26.	Chanpreet	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Study of various milk adulterants and their identification
27.	Harsimrat Kaur	Bsc 3 <sup>rd</sup>	Verka Milk Plant Mohali (Punjab)	To check milk quality and study of milk treatment plant
28.	Kirandeep Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Milk powder and cheese production techniques
29.	Sandeep Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Milk powder and cheese production techniques
30.	Neethu Jayan	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Milk powder and cheese production techniques
31.	Simon Khongsai	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Technique
32.	Nancy Kapil	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training
33.	Amritpreet Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training
34.	Navneet	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training

35.	Jaspal Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	<b>Annexure II</b> Fermentation Training
36.	Parneet Kaur	Bsc 3 <sup>rd</sup>	Verka Milk Plant Mohali (Punjab)	Fermentation Training
37.	Narinderpreet Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training
38.	Chandandeep	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training
39.	Prachi Mangat	Bsc 3 <sup>rd</sup>	Verka Milk Plant Mohali (Punjab)	Fermentation Training

**SUMMER TRAINING OF BEST-IV STUDENTS in SESSION 2013-14**

No.	Name	Industry Name	No. of Days
1	Ramandeep Kaur	Pepsico Channo, Sangrur	45 Days
2	Rashveen Kahlon	Markfed Canneries, Jalandhar	45 Days
3	Navreet Kaur	Markfed Canneries, Jalandhar	45 Days
4	Sukhminder	Pepsico India, Guwahati	45 Days
5	Shalinee Mishra	Verka Milk Plant, Jalandhar	45 Days
6	Palni Kundra	Markfed Canneries, Jalandhar	45 Days
7	Beant Kaur	Markfed Canneries, Jalandhar	45 Days
8	Harnoor Singh	Markfed Canneries, Jalandhar	45 Days
9	Ratnanjali	Himachal food processing Industry, HP	45 Days
10	Sanjeev Joshi	Adani Wilmar, Mundra, Gujarat	45 Days
11	Jarmanjeet Singh	Adani Wilmar, Mundra, Gujarat	45 Days
12	Tarun	Adani Wilmar, Mundra, Gujarat	45 Days
13	Shivani Kaul	Himachal food processing Industry, HP	45 Days
14	Richa Choudhary	VRV Food	45 Days
15	Surbhi Sharma	VRV Food	45 Days
16	Kirandeep Kaur	Bunge India Pvt Ltd, Rajpura	45 Days
17	Kirandeep Kaur	Bunge India Pvt Ltd, Rajpura	45 Days
18	Lovepreet Kaur	Bunge India Pvt Ltd, Rajpura	45 Days
19	Ratanpreet Kaur	Bunge India Pvt Ltd, Rajpura	45 Days
20	Navdeep kaur	Bunge India Pvt Ltd, Rajpura	45 Days
21	Sachin	NDRI Karnal	45 Days
22	Shivani Sharma	Smithkline Beecham, Nabha	45 Days
23	Inderpreet Kaur	Markfed Canneries, Jalandhar	45 Days
24	Harmandeep Kaur	Smithkline Beecham, Nabha	45 Days
25	Harbrinder Kaur	Smithkline Beecham, Nabha	45 Days
26	Robin Kochhar	Verka Milk Plant Ludhiana	45 Days
27	Daljinder Singh	Markfed Canneries	45 Days
28	Arvinder Kumar	Markfed Canneries	45 Days
29	Mantoj	Markfed Canneries	45 Days
30	Karamjit Singh	Markfed Canneries	45 Days
31	Prabhdeep Singh	Markfed Canneries	45 Days
32	Varinder	Markfed Canneries	45 Days

**Students Training programmers in B. Sc, Biotech 1<sup>st</sup>, 2<sup>nd</sup> And 3<sup>rd</sup> Year 2012-2013**

<i>Sr. No</i>	<i>Student Name</i>	<i>Class</i>	<i>Name Of Institution</i>	<i>Topic</i>
01.	Yashpinder Kaur	Bsc 1 <sup>st</sup>	Verka Milk Plant Ludhina (Punjab)	Have studied its organization and working
02.	Cherry Mahajan	Bsc 1 <sup>st</sup>	Doaba Milk Plant Jalandhar (Punjab)	Milk Processing and milk products
03.	Surbhi Thakur	Bsc 1 <sup>st</sup>	CHC, Indora- Kangra(H.P)	Laboratory Training
04.	Pardeep Kumar	Bsc 1 <sup>st</sup>	University Of Horticulture And Forestry, Nauni, Solan (H.P)	Exposure to molecular biology techniques
05.	Esha Dhir	Bsc 1 <sup>st</sup>	Plus Biotech Center Jalandhar (Punjab)	Lab set up and working of various equipments
06.	Karamveer Kaur	Bsc 1 <sup>st</sup>	Omega Test House Panchkula (Punjab)	Laboratory set up of PTC and Mol. Bio.
07.	Preetika Sharma	Bsc 1 <sup>st</sup>	Omega Test House Panchkula (Punjab)	Molecular biology techniques
08.	Jasbir Kaur	Bsc 1 <sup>st</sup>	Omega Clinical Laboratory Kapurthala (Punjab)	Microbiology
09.	Manpreet Kaur	Bsc 1 <sup>st</sup>	Orbit Biotechnology Pvt.Ltd	Conceptualizing Molecular Scissors & Gene Cloning
10.	Sneh Supreet	Bsc 1 <sup>st</sup>	Omega Test House Panchkula (Punjab)	Chemical , Microbiological & Civil Engg.
11.	Babia Sharma	Bsc 1 <sup>st</sup>	Orbit Biotechnology Pvt.Ltd	Conceptualizing Molecular Scissors & Gene Cloning
12.	Shivali	Bsc 1 <sup>st</sup>	CHC Indora Kangra (H.P)	Laboratory Training
13.	Swati Sahdev	Bsc 1 <sup>st</sup>	Hamdard (WAKF) Laboratories New Delhi	Drug Qurs Jiryan
14.	Harpreet Saini	Bsc 2 <sup>nd</sup>	Verka Milk Plant Ludhiana (Punjab)	Working and organization of milk plant
15.	Manpreet Kaur	Bsc 2 <sup>nd</sup>	Verka Milk Plant Ludhiana (Punjab)	Milk powder and cheese production techniques
16.	Mehak Thakur	Bsc 2 <sup>nd</sup>	Verka Milk Plant Ludhiana (Punjab)	Milk pasteurization and milk products

17.	Manjinder Singh	Bsc 2 <sup>nd</sup>	Orbit Biotech Pvt, Ltd Mohali (Punjab)	<b>Annexure II</b> Food microbes and their utilities
18.	Arshdeep Kaur	Bsc 2 <sup>nd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Technique
19.	Harjot Kaur	Bsc 2 <sup>nd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Technique
20.	Sonika Attri	Bsc 2 <sup>nd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Microbes in fermentation and their uses
21.	Bharti Jaggi	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Microbes in fermentation and their uses
22.	Shivani	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Design and working of the milk plant
23.	Pritika Dadwal	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation products and quality analysis
24.	Poonam Mehta	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation products and quality analysis
25.	Anjana	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Adulterants and their identification
26.	Chanpreet	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Study of various milk adulterants and their identification
27.	Harsimrat Kaur	Bsc 3 <sup>rd</sup>	Verka Milk Plant Mohali (Punjab)	To check milk quality and study of milk treatment plant
28.	Kirandeep Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Milk powder and cheese production techniques
29.	Sandeep Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Milk powder and cheese production techniques
30.	Neethu Jayan	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Milk powder and cheese production techniques
31.	Simon Khongsai	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Technique
32.	Nancy Kapil	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training
33.	Amritpreet Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training

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34.	Navneet	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	<b>Annexure II</b> Fermentation Training
35.	Jaspal Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training
36.	Parneet Kaur	Bsc 3 <sup>rd</sup>	Verka Milk Plant Mohali (Punjab)	Fermentation Training
37.	Narinderpreet Kaur	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training
38.	Chandandeep	Bsc 3 <sup>rd</sup>	Doaba Milk Plant Jalandhar (Punjab)	Fermentation Training
39.	Prachi Mangat	Bsc 3 <sup>rd</sup>	Verka Milk Plant Mohali (Punjab)	Fermentation Training

**SUMMER TRAINING OF BFST-III STUDENTS**

S.No.	NAME OF STUDENT	Roll No.	Time period	INDUSTRY NAME	SUMMARY OF TRAINING
1.	Navneet Kaur	7801			
2.	Amanpreet Kaur	7802	45 Days	Verka Milk Plant, Ludhiana	Studied various aspects involved in procurement of milk and its storage, processing of different products like pasteurized milk, paneer, butter, ghee. Also gained experience how to check different quality parameters of milk and milk products.
3.	Manwar Saini	7803	45 Days	Verka Milk Plant, Gurdaspur	
4.	Pavneet Kaur	7804	45 Days	Verka Milk Plant, Ludhiana	
5.	Ramandeep Kaur	7805	45 Days	Verka Milk Plant, Ludhiana	
6.	Gurpartap Singh	7806	45 Days	Verka Milk Plant, Ludhiana	
7.	Ramanjit Kaur	7807	45days	Verka Milk Plant, Ludhiana	
8.	Nancy Thakur	7808	45days	Verka Milk Plant, Ludhiana	
9.	Navjot Kaur	7812	45days	Verka Milk Plant, Ludhiana	
10.	Gagandeep Kaur Sandhu	7813	60days	Verka Milk Plant, Ludhiana	
11.	Sangeeta Kumari	7814	60days	Verka Milk Plant, Ludhiana	
12.	Kamini Devi	7815	60days	Verka Milk Plant, Ludhiana	
13.	Priyanka Mehta	7818	45days	Verka Milk Plant, Mohali	
14.	Gurbhej Singh	7819	45days	Verka Milk Plant, Mohali	
15.	Dilpreet Singh	7820	45days	Verka Milk Plant, Mohali	
16.	Gurpreet Singh	7821	45days	Verka Milk Plant, Mohali	
17.	Sukhbinder Singh	7822	45days	Verka Milk Plant, Ludhiana	
18.	Manpreet Kaur	7809	45days	Markfed Canneries, Jalandhar	
19.	Vishal Kashyap	7810	45days		
20.	Rajan Salhotra	7811	45days		

21.	Vanshika Handa	7816	45days	AG Fats Limited, Kapurthala	Studied various aspects involved in extraction of rice bran oil like solvent extraction, degumming, neutralization, bleaching, dewaxing, deodorizing, and winterization.
22.	Navpreet Kaur	7817	45days	Nestle India Ltd, Moga	Studied various aspects involved in the production of different products like condensed milk, powdered milk, instant drink, chocolate and confectionary items, frozen products etc. Also gained experience in various physio-chemical and microbial testing like determination of total solids, fat content, total nitrogen, free fatty acids, solubility index, wetability etc.

**SUMMER TRAINING OF BFST-IV STUDENTS**  
**SESSION 2012-13**

	NAME OF STUDENT	Roll No.	Time Period	INDUSTRY NAME	SUMMARY of TRAINING
1.	Maninder Pal Kaur	9801			
2.	Jyoti	9802	45days	Nestle India Ltd, Moga	Studied various aspects involved in the production of different products like condensed milk, powdered milk, instant drink, chocolate and confectionary items, frozen products etc. Also gained experience in various physio-chemical and microbial testing like determination of total solids, fat content, total nitrogen, free fatty acids, solubility index, wetability etc.
3.	Mandeep Kaur	9805	60days		
4.	Daljeet Brar	9813	45days		
5.	Rajinder Singh	9819	60days		
3.	Gurpreet Kaur	9803	60days	Mrs Bectors Food Ltd, Phillaur	Gained knowledge of procurement of raw material and biscuit manufacturing process and packaging. Also gained experience how to check the quality parameters of raw material and finished product.
4.	Anjali Dhanjal	9804	60days		
5.	Shiekha	9807	60days		
6.	Jasbir Kaur	9808	60days		
7.	Jitender Singh	9821	60days		
8.	Sonam	9806	45days	Weikfield Foods Pvt Ltd, Solan	Gained experience in chemical analysis of different ingredients like maize starch, edible salt, custard powder. Also studied the processing of custard powder.

9.	Parshant Sahni	9809	45days	JagatJit Industries Ltd, Hamira	Gained knowledge of manufacturing of fermented beverages like distilled spirits, scotch whisky, gin, vodka, rum. Also experienced the analysis of water like taste & flavour, total hardness, pH, turbidity on boiling, conductivity etc.	
10.	Parneet Kahlon	9810	45days	Verka Milk Plant, Mohali	Studied various aspects involved in procurement of milk and its storage, processing of different products like pasteurized milk, paneer, butter, ghee. Also gained experience how to check different quality parameters of milk and milk products.	
11.	Avneet Kaur	9811	45days			
12.	Mohit Monga	9812	60days			
13.	Sandeep Kaur	9814	45days			
14.	Harleen Kaur	9816	45days			
15.	Neha Thakur	9817	45days			
16.	Rohit Miglani	9818	45days			
17.	Simranjit Kaur	9820	45days			
18.	Sukhina	9823	45days			
19.	Aditya	9822	60days			Milk Producers Co-op
20.	Rajesh Kumar	9825	60days			Union, Hanumangarh
21.	Amrit Pal Singh	9815	60days	Doaba milk Plant		
22.	Navdeep Singh	9824	45days	Smithkline Beecham Ltd, Nabha	Gained knowledge regarding the production of different health drinks like horlicks, junior horlicks, mother horlicks, boost and also gopika ghee. Also gained experience in microbial testing like test for salmonella and shigella, E. Coli, SPC, etc. as well as other tests like detection of milk adulteration, protein content etc.	