

**CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION****3.1 Promotion of Research**

3.1.1 Does the institution have recognized research center/s of the affiliating University or any other agency/organization?

NO

3.1.2 Does the Institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

Yes

The Research Committee of the college is given below :

Name of the faculty	Department	Working as
Dr. Mahesh Aravind	Chemistry	Convener
Dr. A S Govind	Physics	Member
Dr. K S Suresh	Physics	Member
Dr. D Radhakrishna	Mathematics	Member
Prof. H K Gundu Rao	Computer Science	Member
Prof. R Mallikarjun Setty	Electronics	Member
Dr. Sushan Bairy	PG Mathematics	Member
Dr. M Y Anand	PG Physics	Member
Prof. Usha S	PG Commerce	Member
Dr. C Nagamani	PG Chemistry	Member

The research committee has been encouraging the faculty of the college to take up research projects funded by the UGC and other agencies. A few of the teachers have been awarded the Minor Research Project under the funding from the UGC.



Recommendation	Impact
The research committee recommended the release of registration fee and partial funding to meet travel expenses for the teachers attending and presenting conference papers.	The management has accorded the registration fee for the teacher presenters attending different conferences. The teachers are also suggested to apply to UGC for meeting the travel expenses.
The research committee of the college motivated the teachers to take up projects funded by the UGC and other agencies.	A few of the teachers applied for research projects and have been awarded the Minor Research Project under the funding from the UGC.
The research committee has been demanding a separate infrastructural facility for carrying out the research activities in the college with a computer, printer, Xerox machine, internet connectivity, etc.	The management has assured all the support once a major research project is sanctioned to any of the individuals.

3.1.3 What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes/ projects?

i. **Autonomy to the principal investigator**

The college provides complete autonomy to the principal investigator. As and when the funds from an external agency like UGC is received for any of the project proposals, the money is transferred to the account of the individual faculty who happens to be the principal investigator. The principal investigator is given full powers to utilize the funds.

ii. **Timely availability or release of resources**

The Institution makes all necessary arrangements for timely availability or release of resources for smooth progress and implementation of research schemes/projects.



- iii. **Adequate infrastructure and human resources**
Adequate infrastructure and human resources are provided by the institution for smooth progress and implementation of research schemes/projects. The college has provided space in each department to carry out minor research projects and research activities for the faculty. The college has also provided computer and internet facilities for all departments. The books and journals, according to the needs of the faculty, required for carrying out research is also procured.
- iv. **Time-off, reduced teaching load, special leave etc. to teachers**
In case of genuine needs, the researchers particularly those pursuing Ph.D, are extended help at the departmental level and College level with regard to the provisions of reducing teaching load and providing extra leave to carry out his or her research. Part – time researchers have their time table tailor – made to suit their requirements and the work load is not reduced in such instances. Study leave are granted to those teachers selected for completing M.Phil or Ph.D. under FIP scheme of UGC to the extent of two to three years depending on the case.
- v. **Support in terms of technology and information needs**
As far as the IT needs are concerned, the College has one of the best infrastructure in place for the benefits of the researchers. All the departments are provided round the clock internet access. The College also subscribes to many print and e-journals / online journals through INFLIBNET (NLIST), etc. to keep abreast the researchers of the latest developments in the subject(s) of their interest.
- vi. **Facilitate timely auditing and submission of utilization certificate to the funding authorities**
Proper auditing is performed by the chartered accountant appointed by the college and utilization certificates are submitted in time to the funding agencies. The institution monitors and facilitate timely auditing and submission of Utilization Certificate to the funding



authorities.

vii. **Any other**

The institution encourages and extends all help possible to promote research activities in the institution.

3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

The College carries out the following activities and programmes to develop and inculcate scientific aptitude, temper and research culture among students:

- Seminars, Workshops, Conferences and Invited Talks on current and relevant research topics.
- Hands-on Training on experiments for the students of science disciplines.
- Field Visits, Industrial Visits and Institutional visits.
- Student Research Projects in Department of Electronics under SPICE program of VGST, Govt. of Karnataka. Students of departments of Computer Science, Electronics, Microbiology, Zoology, Biotechnology and Genetics perform project work as per the curriculum requirements of Bangalore University
- Intercollegiate science competitions like lectures, debates, science quiz, treasure hunt, decoding, trouble shooting, science exhibitions and interclass science competitions are also conducted to foster the scientific temperament and creative as well as innovative thinking

3.1.5 Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual/collaborative research activity, etc.)

- The departments of Computer Science, Electronics, Microbiology, Zoology, Biotechnology and Genetics perform student project work as per the curriculum requirements of Bangalore University
- The following research projects are being carried out in the college.



Name of the faculty, department and Title of the research project

**Prof. R Mallikarjuna Setty and Prof. S M Mruthunjaya Swamy,
Dept. of Electronics**

- A minor research project titled 'PSoc based designing of Electronic Instrumentation Circuits' under the funding from UGC. An amount of Rs. 2=00 Lakhs has been sanctioned and the possible date of completion of the projection is Nov 2016.
- A minor research project titled 'Microcontroller based Sweep Oscillator and Frequency response display system' funded by UGC. An amount of Rs.70,000=00 has been sanctioned.
- A minor research project titled 'Developing a Microcontroller based Sensor unit for the Detection of harmful Chemicals in Beverages' funded by VGST, Govt. of Karnataka. An amount of Rs. 30,000=00 has been sanctioned. Student participants in the research project are C. Suresh and Akhil F. Hiremat
- A minor research project titled 'Construction of a simple AM generator' funded by the ELECTRONIC INSTRUMENT COMPANY, BANGALORE. A fund of Rs.5,000=00 has been released by the company.

R. Mallikarjuna Setty, Dept. of Electronics

- Project titled "MICROCONTROLLER BASED AUTOMATIC EXTERNAL DEFIBRILLATOR" funded by UGC.

**Dr. M. Subramanya Bhat and Prof. S.M. Mruthunjaya Swamy,
Dept. of Electronics**

- A minor research project titled 'Electronic Voting Machine' funded by Saga Edutech Services

Prof. Gopalakrishna, Dept. of Biotechnology

- A minor research project titled "A study on water quality and microbial diversity of few ponds in Bannerghatta National Park" funded by UGC. The amount received is Rs. 1,60,725=00.
- Pursuing a research on "A study on water quality related microbial dynamics and microbial diversity(bacteria) of a few lentic water systems in Bannerghatta national park" under the guidance of Dr. B K Chakrapani, Associate Professor, Dept. of Zoology, Vijaya College leading to Ph.D. degree of **Singhania University, Rajasthan.**



Name of the faculty, department and Title of the research project
<p align="center">Dr. C Vinutha, Dept. of Zoology Smt. Jalajakshi, Dept. of Genetics</p>
<p>➤ A minor research project titled “The Study on Distribution, Haemocytes, Chromosomal and Molecular Approach of Spiders in selected Areas of Bengaluru”. Funded by UGC. An amount of Rs.1,80,000=00 has been sanctioned by UGC.</p>
<p align="center">Dr. S B Sathyanarayan, Dept. of Mathematics</p>
<p>➤ A minor research project titled “Some Analytical and numerical solutions of boundary layer equations for simple flows” funded by UGC. An amount of Rs.60,000=00 has been received from UGC.</p>
<p align="center">Prof. S Subhadramma, Dept. of Physics</p>
<p>➤ Carrying out research on the topic “3D structural studies of biologically important molecules” under the guidance of Dr Naveen Chandra, KLE College leading to the Ph.D. degree the MGR University, Chennai</p>
<p align="center">Smt. Jyothi, Dept. of Electronics</p>
<p>➤ Carrying out research on the topic “Performance Evaluation and implementation of proposed routing protocols for WSN” under the guidance of Dr. J T Devaraju, Professor and Chairman, Dept of Electronics Science, Bangalore University.</p>
<p align="center">Smt. K V N Lakshmi, Dept. of Commerce</p>
<p>➤ Carrying out research under Dr. S. Anil Kumar NMKRV College leading to the Ph.D. degree of the Dravidian university. Topic : A study on service quality in retail banking among scheduled commercial bank in Bangalore</p>
<p align="center">Sri. S Anilkumar, Dept. of Commerce</p>
<p>➤ Carrying out research under Dr. R. Shrikanth, (details) leading to the Ph.D. degree of the Dravidian university . Topic : A study of impact of changing technology on public sector bank</p>
<p align="center">Prof. V R Vanitha, Dept. Of Mathematics</p>
<p>➤ Carrying out research on “New exact and semi-analytical solution of non-linear ODE for boundary layer problems” under Dr. Ramesh Kudunatti, Bangalore University leading to the Ph.D. degree of Bangalore University</p>
<p align="center">Prof. Sudha Sandilya, Dept. of Botany</p>
<p>➤ Carrying out research under Dr. Jacob Abraham, St. Joseph’s College leading to the Ph.D. degree of Bangalore University on the topic “Pollen study of grass and study of allergens”</p>
<p align="center">Prof. Madhumitha Ghosh Dastidar, Dept. of Microbiology</p>



Name of the faculty, department and Title of the research project

- Carrying out research on **Waste paper management by mushroom cultivation** with students as co – investigators.
- Carrying out research on **Nano bio technology- production of nano particles from bacteria and its effect on pathogens and organic wastes** with students as co – investigators
- Carrying out research on **Isolation of micro organisms from human toes and feet and study of pathogenecity** with students as co – investigators

Dr. S Ashoka, PG Department of Chemistry

- UGC Major project proposal sent on “**Development of Nature Inspired Super Hydrophobic Surfaces for Universal Applications**” for Rs.11,93,800

Dr. S M Basavarajaiah, PG Department of Chemistry

- Carrying out research project titled “**Antioxidant activity of crude extract of banana stem and evaluation of solvent potential to dissolve uric acid and struvites**” under funding from VGST with student co – investigators Kum. Suman G V and Sri. Srinivasa

The following is the list of teachers who have been guiding students to receive Ph.D. or M.Phil. from the past four years

Name of the Faculty	Department	No. of students being guided	Name of the course (M.Phil. /Ph.D., etc.)
Dr. A S Govind	Physics	2	1 M.Phil 1 Ph.D.
Rafeeq Ahmed Khan	Commerce and Management	8 nos	MBA
R. Mallikarjuna Setty,	Electronics	2	M.phil
Dr. B K Chakrapani	Zoology	2	Ph.D
Dr. C Vinutha	Zoology	4	1 Ph.D. 3 M.Phil.



3.1.6 Give details of workshops/ training programmes/ sensitization programmes conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

Many departments have been conducting workshops and conferences with a view to improve the research culture in the college. They have been given below.

Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	No. of Participants	Funded by	Approx. Expenditure
1	National Conference on Atomic Physics, Molecular Physics and X - Ray Crystallography	8 th , 9 th , 10 th Jan 2015	131	UGC and BHS Higher Education Society	2,60,000=00
2	Inspire Internship programme for I PU and II PU students of Bangalore South	1 - 3 July 2014	150	Department of Science and Technology	850000=00
3	Science Academies' Lecture Workshop on Statistical Physics, Quantum Mechanics and Crystallography	19 th , 20 th Sept 2014	128	Indian Academy of Sciences, Bangalore	70000=00
4	2 days training on project building	2/2/13 and 3/2/13	60	BHS Higher Education Society	3000=00
5	Nat. Conf. on Integrated Urban Waste Management and Environmental Health (IUWMEH), Bengaluru.	23 rd , 24 th Sept. 2013	210	BHS Higher Education Society	250000=00
6	Seminar on Verilog systems	06-03-2012	75	BHS Higher Education Society	4000=00



Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	No. of Participants	Funded by	Approx. Expenditure
7	Two day Experimental workshop on Experimental Physics for High School teachers. All the staff were resource persons.	Feb 11-12, 2011	50	Indian Association of Physics Teachers RC 12A	35000=00
8	Inspire Internship programme for II PU students	March 7 – 11, 2011	150	Department of Science and Technology	7,50,000
9	National Level Seminar on 'Emerging Trends in Chemistry with Emphasis on Environment'	23-12-2011	160	UGC and BHS Higher Education Society	200000=00
10	UGC sponsored state level seminar on Digital image Processing	20 th Feb 2010	130	UGC and BHS Higher Education Society	100000=00
11	UGC sponsored state level seminar on Emerging trends in Embedded systems	2 nd 3 rd NOV 2009	70	UGC and BHS Higher Education Society	70000=00

3.1.7 Provide details of prioritized research areas and the expertise available with the institution.

Name of the Faculty	Department	Areas of Research
Dr. A S Govind	Physics	Liquid Crystals
Dr. K S Suresh	Physics	NQR
Dr. P Aswini	Physics	Liquid Crystals
Dr. S Sundareshan	Physics	Radioactivity
Dr. R S Geetha	Physics	Radioactivity
S Subhadramma	Physics	Biological Molecules



Name of the Faculty	Department	Areas of Research
Dr. Mahesh Aravind	Chemistry	Bioremediation, Phytoremediation
Dr. C Vinutha	Zoology	Entomolgy
Dr. B K Chakrapani	Zoology	Wet Land Ecology
Prof. R Mallikarjuna Setty	Electronics	Orhtogonal Frequency Multiplexing
Dr. M Y Anand	Physics(PG)	Astrophysics
Dr. Priya	Physics(PG)	Materials Science
Dr. Sovan	Physics(PG)	Material Science
Dr. S Ashoka	Chemistry (PG)	Nano Materials and Metal Oxides
Dr. Basavarajaiiah S M	Chemistry (PG)	Biological molecules
Sudha Sandilya	Botany	Palynology
Madhumita Ghosh Dastidar	Microbiology	Nanobiotechnology
Gopalakrishna	Biotechnology	Microbial Diversity
Dr. Nagaraja Rao Chillale	Statistics	Statistical Data on HIV - AIDS virus
K V N Lakshmi	Commerce	Retail Banking
Prof. M subramany Bhat	Electronics	Wireless routing devices
Prof. R Mallikarjuna Setty	Electronics	Embedded Systems
Prof. S M Mruthyunjaya Swamy	Electronics	Embedded Systems
Jyothi V	Electronics	Wireless Routing
J Thontadharya	Electronics	Wireless Routing
Prof. H K Gundu Rao	Computer Science	Software Engineering and Imaging Processing
Prof. B Gopal	Computer Science	Data Mining



3.1.8 Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

Researchers of eminence visit the college and interact with the teachers and students during the conduct of Workshops, Seminars and conferences. Also some of the researchers are invited to deliver guest lectures in the college whereby interaction is ensured. Following is the list of researchers who have visited the college during the past four years.

Name of the Researcher/ Scientist	Designation and Organization
Department of UG/PG Physics	
Prof. A. Nakayama	Professor of Mechanical Engineer, Shizuoka University, Japan
Prof. G S D Babu	Director, Birla Institute of Astrophysics, Bangalore
Prof. M S Hegde	Professor Emeritus, Solid State Structural Unit, Indian Institute of Science
Prof. Vijay Kumar Balakrishna Shenoy	Dept. of Molecular Biophysics Unit, Indian Institute of Science
Prof. M N Ananda Ram	Former Professor and Chairman, Dept. of Physics, Bangalore University
Prof. N G Puttaswamy	Former Professor and Chairman, Dept. of Physics, Bangalore University
Prof. N Mukunda	Chairperson of Indian Academy of Science and Professor Emeritus, Indian Institute of Science
Prof. K J Rao	Professor Emeritus, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
Prof. T N Guru Row	Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
Prof. B Gopal	Professor, Molecular Biophysics Unit, Indian Institute of Science, Bangalore



Name of the Researcher/ Scientist	Designation and Organization
Prof. S Ramasesha	Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
Dr. Anshu Pandey	Assistant Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
Prof. S Yashonath	Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
Prof. Govardhan Reddy	Assistant Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
Prof. V A Raghunathan	Professor, Raman Research Institute, Bangalore
Prof. M R N Murthy	Professor, Molecular Biophysics Unit, Indian Institute of Science, Bangalore
Prof. V Venkata Raman	Professor and Chairperson, Dept. of Physics, Indian Institute of Science, Bangalore
Prof. K P Ramesh	Associate Professor, Dept. of Physics, Indian Institute of Science, Bangalore
Prof. U R Rao	Space Scientist and Former Chairman, ISRO
Mrs. Anuradha	Project Director, Communication Satellite G SAT - 12, ISRO
Mrs. Pramoda Hegde	Mission Director Operations, Communication Satellite G SAT - 12, ISRO
Mrs. T.K. Anuradha Prakash	Director of Communication Satellite G SAT - 12, ISRO
Dr. Keshav Murthy	Head, Radiation Shielding and Data Division, Indira Gandhi Center for Atomic Research, Kalpakkam, Chennai
Mr. Madhusudhan	Scientist, Jawaharlal Nehru Planetarium, Bangalore
Mr. Sireesh Padhare	Scientific Officer, Hombhi Bhabha Center for Science Education, Trombay, Mumbai
Dr. Naren	Scientist, H R Max Planck Institute of Physics, Germany



Name of the Researcher/ Scientist	Designation and Organization
Prof. Sharath Anantha Murthy	Professor and Former Chairperson, Dept. of Physics, Bangalore University
Prof. Ramakrishna Damle	Professor and Chairperson, Dept. of Physics, Bangalore University
Prof. Anavekar	Professor and Former Chairperson, Dept. of Physics, Bangalore University
Prof. B N Meera	Professor, Dept. of Physics, Bangalore University
Prof. D S Shankar Rao	Professor and Scientist E, Center for Nano and Soft Condensed Matter Research, Department of Science and Technology
Prof. Guddenavar	Professor, Department of Physics, Christ University
Prof. George Thomas	Professor and Head, Department of Physics, Christ University
Mr. Naveen K	Programme Director, Head – Orchard at Mind Tree Ltd., Bangalore

Name of the Researcher/Scientist	Designation and Organization
Department of UG/PG Chemistry	
Dr.M.Nagarajan	Retd. Professor from Central University, Hyderabad
Dr.M. FarooqAbdulla	Retd. Professor from Bangalore University, Bangalore
Dr. Nanje Gowda	Retd. Professor, BU, Bangalore and Dean of Research Studies, Christ University, Bangalore
Dr.K.N.Mahendra	Professor, Dept. of chemistry, Bangalore University, Bangalore
Dr.Nagasundara.K.R	Professor, Dept. of chemistry, Bangalore University, Bangalore
Dr.Nandini	Professor and Chairperson, Dept. of Environmental Science Studies, Jnana



	Bharati Campus, Bangalore University
Prof. Guru Row	Professor, Solid state structural chemistry unit, Indian Institute of Science , Bangalore
Ramachandra Swamy	Former Chairman, Dean of Sciences, Bangalore University , Bangalore
Dr. Tuppil Venkatesh	Professor Emeritus, St. John Medical college

Name of the Researcher/Scientist	Designation and Organization
Department of UG/PG Mathematics	
Dr. Vittal Rao	Professor of Mathematics, Indian institute of Science , Bangalore
Dr. Pradeep G Siddeshwar	Professor and Chairman, Dept. of Mathematics, Bangalore University
Dr. B. Chaluvvaraju	Assistant Professor, Department of Mathematics, Bangalore University , Bangalore
Mr. Phaneendar B. N.	Director – Forensic Department, Clue4 Evidence Forensic Inv. Pvt. Ltd
Name of the Researcher/Scientist	Designation and Organization
Department of Botany and Microbiology	
Prof.S.B. Sullia	Retd. Professor and Chairman, Department of Microbiology and Biotechnology, Bangalore University and Professor Emeritus, Jain University
Dr.S.Sundara Rajan	Retd. Professor of Botany, St. Josephs College and Research Head, Jain University
Prof. K.N. Ganeshiah,	Professor and Dean, University of Agricultural Sciences , Bangalore
Smt. Rukhmini	Assistant Director, Dept of Horticulture , Lalbagh, Bangalore



Dr. Rajamani	Research Head, Art Of Living
Dr. Rohit Goswami	Head, Manipal Global Education Service

Name of the Researcher/Scientist	Designation and Organization
Department of Zoology, Biotechnology and Genetics	
Dr. Hoysall Chanakya	Professor, CST ASTRA, Indian Institute of Science, Bangalore
Dr. Alagappa Mosses	Head, Dept. of Environmental Sciences, Bishop Helper College, Tiruchirapalli.
Dr. R. Nagendran Murthy	Expert Member, National Green Tribunal, Chennai.
Dr. Sadhan K. Ghosh	Professor and Head, Dept. of Mechanical Engineering, Jadavpur University, Kolkata.
Dr. S. Ravichandra Reddy	Professor of Fisheries (Retd), Department of Zoology, Bangalore University.
Dr. S.R. Anantharayana	Professor of Zoology and Director CDC, Bangalore University.
Dr. Shakunthala Katre	Professor of Zoology (Retd), Bangalore University.
Dr. Ramachandra Mohan	Professor of Zoology, Bangalore University.
Dr. Jayaprakash	Professor of Zoology, Bangalore University.
Dr. Ashadevi	Professor of Zoology, Bangalore University.
Dr. M.R.N. Murthy,	Professor, Department of Molecular Biophysics Unit, Indian Institute of Science, Bangalore.
Dr. T. V. Ramachandra	Professor, Centre for Ecological Sciences, Indian Institute of Science, Bangalore.
Dr. Meenakshi Bharath	Gynaecologist and Environmentalist
Dr. Adil Sadiq, M.S. M.Ch, FACS (USA), FMIS (USA)	Trained Robotic cardiac surgeon, Senior Cardiothoracic and Vascular Surgeon, Head, Adult Cardiothoracic Surgery, Sakra World Hospitals, Marathalli, Bangalore.
Dr. Mamatha Hunumappa B.S., M.S.,	Science writer and GWAS (Genome-wide association studies) curator, NexBio, Santa Clara,



Name of the Researcher/Scientist	Designation and Organization
Ph.D	California, USA.
Dr. Mitesh Shetty MBBS, M.Sc. (UK,)PhD	Consultant, Clinical Geneticist, Manipal Hospitals
Dr. Manjunath	Scientist, Bristol Meyer Squib
Dr. Ravi	Scientist from USA
Dr. T.S Saravanan	Prof. in Biotechnology and Research Coordinator, MGR University, Chennai
Prof. shivamallu,	Professor, National College, Basavanagudi, Bangalore
Mr. Kaushik Hatti	Vittal Mallya Foundation for Scientific Research, Bangalore
Dr. Krishna Murthy	National Center for Biological Science, Bangalore

Name of the Researcher/Scientist	Designation and Organization
Department of Computer Science	
Dr. Hanumanthappa	Professor, Post Graduate Dept. Of Computer Applications, Bangalore University
Dr. Raghu V. Hudli	CEO, Object ORB technologies
Dr. Murlidhara	Chairman, Post Graduate Dept. Of Computer Applications, Bangalore University
Mr. Sripad Krishnamurthy	Head of Capability Development, Adobe India
Mr. Sreehari S	Managing Director, India Development, Novell Netware, Bangalore
Mr. Raghavendra N. K.	CEO, Sumadhva Technologies
Dr. Gururaj Karajagi	Chairman, Academia for creative technologies
Dr. Hemanth Kumar	Chairman, Dept., of computer Science, Mysore University
Dr. Somashekar	Professor, Post Graduate Dept. Of Computer



Name of the Researcher/Scientist	Designation and Organization
Department of Computer Science	
	Applications, Bangalore University
Dr. Manjunatha Rao	Director, Dr. Ambedkar Institute of Technology, Bangalore
Dr. Shashidhara H. N.	Professor, Dept. Of telecommunication, PES Institute of Technology
Mr.Suresh	Project Director, NIIT Jayanagar
Mr.Anil	IDEA on think
Mr.Srinath	Project Manager, E MC2, Bangalore
Mr.Prabhakar	Swamy Vivekananda infotech
Smt. Indira Hegde –	Sr.Project Manager, Honeywell Automation
Mr.Vikrant –	Human resources Manager, Robert Bosch Engineering & Business solutions Ltd.
Mr.Abhay singh	Sr.Software Engineer, HP India

Name of the Researcher/Scientist	Designation and Organization
Department of Electronics	
DR. K.N. Shankara	SATISH DHAWAN PROFESSOR & former Director, ISRO, BANGALORE
Dr.P.Raghottama Rao, M. Tech (IIT), Ph.D.	Formerly Quality Control Engineer, Vikram Sarabhai Space Centre, ISRO, Trivandrum
Prof. Sujatha	Vasundara Automation and Engineering services
Prof. Venugopal	Sun Micro systems
Dr. Ananda C.M	Deputy Head, Aerospace Electronics division, National Aeronautical Laboratory, Bangalore
Dr. Balakrishnan	Director, Dept. of Robotics and artificial Intelligence, Indian Institute of Science, Bangalore



Dr. Subhash Chandra Bose	Scientist, Semiconductor Research Division, Germany
Mr. Mruthyunjaya G P,	Dy. Director, Karnataka German Technical Training Institute (KGTI - A joint venture of Govt. of Karnataka and Govt. Of India)

Name of the Researcher/Scientist	Designation and Organization
Department of UG/PG Commerce	
Manjunath	Chartered Accountant
Vijaya Raja	Chartered Accountant
Chandrashekar Shetty	Chartered Accountant
Prof. Mr. Kishore Meherwada	Faculty, Stock Market Institute, Jayanagar
Mr. Anil Shetty	CEO of B (PAC) NGO; Peace Auto Movement
Dr. Ramachandra Gowda	Chairman, Department of Commerce, Bangalore University

3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

Sabbatical leave has not been taken by the faculty of the college. However, leave under FIP scheme of UGC has been availed by the staff of the college to complete their M.Phil. or Ph.D. programme. About 15 teachers (about 12%) of the college have availed the leave under FIP scheme.

Many of these teachers motivate the students to take up simple project works which cultivate in them the spirit of inquiry and naturally the research culture. These teachers have been helping students to make necessary preparations by suggesting reference books, e – resources to be used for student seminar presentations and different lecture competitions in the college and outside the college. They also help them out in preparing for the debates on social and scientific topics.



- 3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community (lab to land)
- The research findings of the faculty members are published in national and international peer reviewed journals. The **research findings** are also **published in conferences and seminars** either as papers or as posters. Students are encouraged to participate in seminars, conferences and workshops conducted in the college and outside the college. Some of the departments like **Botany and Microbiology** have **wall magazines and newsletter** to publish the recent advances in the field of research and thus, propagating it to others in the college. Many **poster displays** are also made during science fests in the college highlighting contemporary developments in respective subjects.
 - **Dr. M Suryaprasad**, HOD, Dept. of Hindi, has been the **chief editor and publisher** of '**Guna Grahi**' an international journal on Music and Dance. He has been constantly publishing several research findings in music and dance forms. He is also a music critic publishing very many articles every week in the leading newspapers like Indian Express and Kannada Prabha.
 - Students are encouraged to continue the in-house projects at research institute/laboratories
 - ✓ **MOU** with **Sridhar Bhat's Laboratory** (Bio-Technology and Bio-Chemistry)
 - ✓ Student participation in **Bio-Reap program** in collaboration with Jawaharlal Nehru Planetarium and Indian Institute of Science
 - Involvement of staff and students in creating awareness concerning environmental issues
 - ✓ Status survey of lakes in and around Bangalore
 - ✓ Jatha (rain water harvesting) by the students of chemistry department
 - ✓ Vermi composting in the college campus



3.2 Resource Mobilization for Research

- 3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

The College at present does not have an exclusive budget for research. However, College provides a reasonable amount of fund annually to the departments which they are free to utilize for research related activities. Funds have been set aside for conducting and attending conferences, workshops, etc. An approximate sum of Rs.1,50,000=00 is set aside for this purpose. The amount is almost utilized completely and a surplus budget to the extent of about 10% would be released for this purpose from other funds.

- 3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

The seed money is provided to those teachers who are desirous of carrying out research and seek such funds. The faculty of department of electronics have utilized an amount of Rs. 21,000=00 approximately for student research projects in the past four years. No teacher from other departments has sought the seed money for research in the past four years. However, a few teachers have utilized the grant to meet registration fee to attend national and international conferences and seminars.

- 3.2.3 What are the financial provisions made available to support student research projects by students?

No special provisions are made for student research projects. The student research projects are funded from the departmental budgets wherever required. The following student research projects have been funded by BHS Higher Education Society as a special provision.



- Rs 21,000/- for electronics dept (2010 - 14)
- Rs 50,000/- for chemistry dept (2012 - 13)
- Rs 8990/- for Sanskrit dept (2012 - 13)

Total : 80,000=00 approximately for the past five years.

Under the SPiCE programme of VGST(Vision Group on Science and Technology), student research projects funded to the tune of Rs.30,000=00 have been conducted in the department of electronics under the supervision of Prof. R Mallikarjuna Setty.

Another student project has been sanctioned by VGST for PG department of Chemistry where two students have begun the work under the supervision of Dr. S M Basavarajaiah. Amount sanctioned is Rs.30,000=00.

A total amount of Rs.1,40,000=00 have been earmarked and spent for student research projects.

3.2.4 How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing interdisciplinary research.

Many of the researchers in the college have been seeking guidance and support from departments of Computer Science and Statistics in analyzing data or running some programs to obtain numerical solutions to certain problems. Researchers in Dept. of Mathematics interact with the teachers of physics in areas of Fluid Dynamics research. Faculty of Biotechnology and Zoology are carrying out a research project funded by UGC. Faculty of Zoology and Genetics are carrying out a research project funded by UGC. VGST research project carried out by electronics department had involved department of chemistry in completing its project. Department of Commerce



staffs have been interacting with the departments of statistics and computer science for analyzing data and generating graphs, interpreting data, etc.

The interdisciplinary research has been successful in the college in sharing resources, information and technical skills.

3.2.5 How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

The college is in the practice of sharing resources between departments not only for research but also for experimentation purposes. The X – ray diffractometer purchased by the PG physics department is used by the UG Physics department, PG Chemistry, and UG chemistry department. The biotechnology department shares the resources in the computer science laboratory to deliver the bioinformatics course to its students. The electronics laboratory and the computer science laboratory share the microprocessor kits available for learning about the microprocessors and different interfacing techniques. The hardware equipment for network courses is shared by both electronics and computer science laboratories.

3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If 'yes' give details.

NO

3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details of ongoing and completed projects and grants received during the last four years.



i. Minor Research Projects

Sl. No.	Duration Year From To	Title of the project	Name of the funding agency	Total Grant		Total grant received till date
				Sanctioned	Received	
1	2010 - 12	MC controller based sweep oscillator and frequency response system	UGC	70,000=00	70,000=00	70,000=00
2	2011 - 12	MC based sensor unit for detection of harmful chemicals in beverages	VGST, Govt of Karnataka	30,000	30,000	30,000
3	2014-till date	PSoc based designing of Electronic instrumentation circuit	UGC	2,00,000	-	-
4	2013-till date	Multimodal biometric: On combining signature and finger print biometrics for person verification /recognition	UGC	1,60,000/-	1,50,000/-	1,50,000/- Yet to complete the project.
5	2010-14	Some Analytical and numerical solutions of boundary layer equations for simple flows	UGC	60,000	60,000	60,000
6	2012-13	Bio degradation of Benzene, Toluene and Phenol	BHS HES	50,000	32,000	32,000
7	2013-14	The study on Distribution, Haemocytes, chromosomal and molecular approach of spiders in selected areas of Bengaluru	UGC	1,80,000	1,45,000	1,45,000



Sl. No.	Duration Year From To	Title of the project	Name of the funding agency	Total Grant		Total grant received till date
				Sanctioned	Received	
8	2009-11	Study of Anti biotic resistance bacteria and effect on	Self financed			
9	2011-13	Nano bio technology- production of nano	Self financed			
10	2010-11	Dandruff-isolation of causative agent and effect of various neutraceuticals on the growth of these micro organisms	Self financed			
11	2011-13	1. Study of Biomedical waste on human health 2. A survey of waste management in hospitals, food outlets salons and impact on human health	Self financed			
12	2012-14	Waste paper management by mushroom cultivation	Self financed			
13	2014- till date	Isolation of micro organisms from human toes and feet and study of pathogenecity	Self financed			
14	2009-11	Studies on Heat and mass transfer problems in saturated porous media	UGC	45,000	45,000	45,000



Sl. No.	Duration Year From To	Title of the project	Name of the funding agency	Total Grant		Total grant received till date
				Sanctioned	Received	
15	2013- till date	A study on water quality and microbial diversity of few ponds in Bannerghatta National Park	UGC	1,60,725	1,27,000	1,27,000
16	2011-12	MC based automatic external Defibrillator	UGC	45,000=00	45,000=00	45,000=00
17	2012-13	AM Generator	Electronic instrument company	5,000	5,000	5,000
18	2013-14	Electronic Voting machine	Saga Edutech Services	5,000	5,000	5,000
19	2009-10	MC based vehicle security using mobile MC based home security system	BHS HES	5,000	5,000	5,000
20	2010-11	Combinational digital lock	BHS HES	3,000	3,000	3,000
21	2011-12	Cell Phone based device control with voice acknowledgement	BHS HES	6,000	6,000	6,000
22	2011 - 12	Neonatal Intensive Care Unit Monitoring using PC	BHS HES	6,000	6,000	6,000
23	2012-13	MC based Heart beat measurement from finger tip	BHS HES	4,000	4,000	4,000



Sl. No.	Duration Year From To	Title of the project	Name of the funding agency	Total Grant		Total grant received till date
				Sanctioned	Received	
24	2013-14	Toxin sensing and detection	BHS HES	3,000	3,000	3,000

ii. **Major Research Project : Ongoing**

UGC Major project proposal sent on “Development of Nature Inspired Super Hydrophobic Surfaces for Universal Applications” for Rs.11,93,800=00.

3.3 Research Facilities

3.3.1 What are the research facilities available to the students and research scholars within the campus?

- The PG department of physics has a latest X – ray diffractometer with the help of which several x – ray diffraction studies can be conducted.
- The department of Botany has an inoculation chamber
- The departments of Botany, Zoology and biotechnology have incubators suitable for studying tissue cultures.
- The department of physics has facilities to carry out NQR research studies.
- The Department of Computer Science has state-of-the-art computer labs with internet facilities.
- Dept of zoology has procured High resolution Phase contrast microscope, stereo zoom microscope, camera adapter, slide warmer, incubator
- Dept of Electronics has procured 100 MHz digital storage CRO, 10 MHz function generator
- The college subscribes to various journals and has INFLIBNET (NLIST) journals and e – resources.



- The botany department has a separate Green House which houses several plant species and ornamental plants.
- The college has a well equipped and robust language lab.
- Good computer labs with state – of – the art equipment
- Good internet connectivity on all the systems in the college
- Reprographic facility and printing facility

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

The College annually upgrades the basic infrastructure required for research in terms of creating basic equipment. The College encourages the different departments to apply for minor and major research projects through which equipment can be procured in emerging areas of research.

3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities?? If 'yes', what are the instruments / facilities created during the last four years.

NO

3.3.4 What are the research facilities made available to the students and research scholars outside the campus / other research laboratories?

- Generally almost all the departments have interaction and collaboration with the university faculty for carrying our research and sharing the research resources. Some of the faculties have interactions with Indian Institute of Science and Raman Research Institute.
- Biotechnology department has interaction and tie up with Dr. Sridhar Bhat's Laboratory for student projects.

Collaborations with outside agencies through MOUs

- Department of Electronics with Vasundhara Automation



- Department of Electronics with Karnataka German Technical Training Institute
- Department of Computer Science with TETCOS
- Department of Zoology with Femto Technologies and Research (DFTR)

3.3.5 Provide details on the library/ information resource center or any other facilities available specifically for the researchers?

- The college subscribes to many peer reviewed journals.
- The college has a wide collection of books useful for research purposes.
- The college library has subscribed to INFLIBNET through which there is an easy access to e – resources and e – journals.
- The college library has a good computer library with internet facility for browsing e – resources.

3.3.6 What are the collaborative research facilities developed/ created by the research institutes in the college. For ex. Laboratories, library, instruments, computers, new technology, etc.

At this point of time the college does not have collaborative facilities created with the help of other research institutes.

3.4 Research Publications and Awards

3.4.1 Highlight the major research achievements of the staff and students in terms of

* Patents obtained and filed (process and product)	
1.	Dr. Priya of PG department of Physics has been awarded the US Patent 6,800,221 for the work titled Conductive polymer blend and a process for the preparation thereof.
2.	Dr. S Asoka of PG Department of Chemistry has been awarded the patent No:238/che/2010 dated 01-02-2010 for cheap, eco friendly and scale up combustion derived porous, ultra light nano crystalline powders for the removal of fluoride and arsenic from contaminated water
* Original research contributing to product improvement	
So far the research endeavor of the researchers in the College	



has been more on the theoretical and basic research. Project work of electronics and computer science departments contributes to product improvement of existing products.
* Research studies or surveys benefiting the community or improving the services
<ul style="list-style-type: none"> • Lake survey, Urban waste management and Biomedical waste management studies (2013-14) by Zoology department; • Nano biotechnology, Anti biotic resistance studies, Bio medical waste management studies, waste paper management studies by Microbiology department. • Waste management in food industry, hospital and saloon wastes and impact on human health (2012-14) by Microbiology department. • Awareness about Rain Water harvesting in the neighborhood of the college (2013) by Chemistry department.
* Research inputs contributing to new initiatives and social development
<ul style="list-style-type: none"> • Workshop for students at Shanti Dhama (school giving vedic and academic education to the students including tribal children of surrounding villages near Kanakapura) an initiative to improve “word power and power of imagination” - Dept of English • Workshop on counseling higher secondary teachers to the cause of education to the tribal children of the surrounding villages near Shanti dhama (2009-2011)- Dept of English

3.4.2 Does the Institute publish or partner in publication of research journal(s)? If ‘yes’, indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

NO

3.4.3 Give details of publications by the faculty and students:

Publication per faculty	1.37		
Number of papers published by faculty and students in peer reviewed journals (after 2010)	National	International	Total
	21	146	167
Number of publications listed in International Database (for Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social	NIL		



Sciences Directory, EBSCO host, etc.)	
Monographs	NIL
Chapter in Books	NIL
Books Edited	29
Books with ISBN/ISSN numbers with details of publishers	03
<p>Books Authored by Prof. H S Balakrishna</p> <p>1. A Textbook of Physics: 1st Year Pre-University, 1/e</p> <p>ISBN : 9788131522714 Pages : 1306 Binding : Paperback Trim Size : 241 x 181mm Imprint : Cengage Learning India © Year : 2014</p> <p>2. A Textbook of Physics: 2nd Year Pre-University, 1/e</p> <p>ISBN : 9788131522752 Pages : 1652 Binding : Paperback Trim Size : 241 x 181 mm Imprint : Cengage Learning India © Year : 2014</p> <p>Text books for NCERT National Curriculum framework</p>	
<p>Book authored by Dr. K. Sushan Bairy : Contributions to modular equations and class invariants, Ph.D. Thesis, Bangalore University, 2011; Lambert Academic Publishing, Germany, 2013. (ISBN: 978-3-659-23898-7).</p>	
Citation Index	NIL
SNIP	NIL
SJR	NIL
Impact factor	2.27
h-index	9



Publications of Papers by Faculty

Sl. No.	Name of the Faculty	No. of International Journals	No. of National Journals	Total Publications	h - index	Average Impact Factor
1	A S Govind	6	0	6	2	1.332
2	Anuradha V	3	0	3	0	0.567
3	Ashoka S	20	0	20	8	1.97
4	Aswini P	3	0	3	0	1.4
5	B K Chakrapani	2	0	2	0	5.52
6	B P Nethravathi	5	1	6	2	0.904
7	Basavarajaiah S M	2	0	2	2	0.64
8	C Nagamani	6	0	6	0	1.67
9	C Vinutha	4	0	4	0	2.1
10	Chaitra V	4	4	8	0	0.3025
11	Gopalakrishna	2	0	2	0	
12	Gundu Rao	3	0	3	0	
13	Hina Bhargav	3	0	3	0	0.46
14	Jalajakshi	2	0	2	0	2.1
15	Jyothi V	3	0	3	1	1.93
16	Lalitha B S	3	1	4	0	
17	Mahesh Arvind	1	0	1	0	
18	Nagaraja Rao Chillale	3	1	4	0	
19	Nagashree M S	1	0	1	0	2.212
20	P Nagaraju	0	1	1	0	
21	Priya L	3	0	3	0	



Sl. No.	Name of the Faculty	No. of International Journals	No. of National Journals	Total Publications	h - index	Average Impact Factor
22	Priyadarshini	4	0	4	0	2.95
23	R S Geetha	1	0	1	0	1.2
24	Radhakrishna D	1	0	1	1	2.67
25	Sathyanarayana S B	3	0	3	0	1.4
26	Shyam Prasad	1	0	1		
27	Sovan Ghosh	7	0	7	0	1.785
28	Subhadramma S	1	0	1	0	1.5
29	Subramanya Bhat	13	0	13	2	1.97
30	Sundareshan S	6	1	7	0	0.55
31	Sunitha K M	1	0	1	0	
32	Sushan Bairy	9	6	15	4	0.654
33	Thontadharya H J	10	0	10	1	0.835
34	Veena L Pujari	6	6	12	0	
35	Vinutha V	3	0	3	1	0,735
	TOTAL Publications	146	21	167	9	2.27

Details of Papers published are given in the respective evaluative reports of the departments.

3.4.4 Provide details (if any) of

* **Research awards received by the faculty**

Sl. No.	Name of the faculty	Degree awarded	Academic year	Awarding University
1	Sathyanarayana S. B.	Ph. D.,	2014	Bangalore University
2	Priyadarshini P A	Ph.D.	2014	Bangalore University



Sl. No.	Name of the faculty	Degree awarded	Academic year	Awarding University
3	Pavithra Sandeep	M. Phil.	2013	PRIST (Ponnaiah Ramanujam Institute of Science & Technology) University, Thanjavur
4	Aswini P	Ph.D	2013	MGR University and Research Institute
5	Rajakumar B.C.	Ph.D.	2013	Bangalore University
6	Subramanya Bhat M.	Ph.D.,	2013	Bangalore University
7	Thontadharya H.J.	Ph.D.,	2013	Bangalore University
8	Chennathur Guna Shree	M. Phil	2012	Sri Venkateshwara University, Tirupathi
9	Krupa Sindhu. M. D	M. Phil	2012	Christ University
10	Sundareshan S	Ph.D	2012	MGR University and Research Institute
11	Veena L.Pujari	Ph.D	2012	Karnatak University, Dharwad.
12	Sushan Bairy K.	Ph.D.	2012	Bangalore
13	Gururaj Rao H. N.	M. Phil	2011	Vinayaka Mission, TN
14	Ravindra D. P.	M. Phil.	2011	Vinayaka Mission, TN
15	Siddaraju D	Ph,D.	2011	Bangalore University
16	Geetha R S	Ph.D	2011	MGR University and Research Institute
17	Mahesh Arvind	Ph.D.	2011	Dr.MGR University
18	Jalajakshi	M.Phil.	2010	Annamalai University



Sl. No.	Name of the faculty	Degree awarded	Academic year	Awarding University
19	Manjula.N	Ph.D.	2010	Bangalore.University

Awards received at Conferences, workshops, etc.

Dr.S.Ashoka, Department of PG Chemsitry

- Awarded Québec-India Postdoctoral International Merit Fellowship (2012-2013)

Sl. No.	Name of the faculty	Title of award Conferred	Academic year	Awarding Organization
1	Dr.Mahesh Arvind	Best Paper	2014	National Conference at Vijaya College
2	Smt Madhumitha Ghosh Dastidar	Best Paper	2014	National Conference at MLACW
3	Smt Madhumitha Ghosh Dastidar	Best Paper	2013	National Seminar in Mysore
4	Smt Usha	Best Paper	2012	National Conference at KLE College of Commerce
5	Smt Usha	Best Paper	2012	National Conference at Jain College
6	Smt Usha .S	Best Paper	2011	National Conference at PES College of Business Management
7	Smt. KVN Lakshmi	Best Paper presented with a cash prize of Rs.10,000=00	2013	International Conference at B M S College of Engineering
8	Dr. S.M.Basavarajaiah	Best Poster	2014	National Conference at Sarada vilas College Mysore



Sl. No.	Name of the faculty	Title of award Conferred	Academic year	Awarding Organization
9	Dr Sovan Ghosh	Best Poster	2013	National Conference of PANE
10	Dr. Mahesh Aravind	Best poster	2012	Indian Science Congress.
11	Jyothi R Kumar	Best Poster	2012	Vijaya College
12	Smt Madhumitha Ghosh Dastidar	Best Poster	2012	National Conference at Oxford College
13	Jyothi R Kumar	Best Poster	2012	Jyothi Nivas college, Autonomous
14	Dr Sushan Bairy	Best Research Article	2014	Vijaynagara Sri Krishnadevaraya University Bellary
15	Smt Madhumitha Ghosh Dastidar	Best Speaker	2014	International women's day at Vijaya college.
16	V. Anuradha	Best Teacher	2013	Akhila Karnataka Brahmana Sabha, Mandya, Karnataka
17	Dr P Nagaraju	Best Teacher award	2014	International school of Business Studies and Research, B'lore
18	Dr. Nagaraja Rao Chillale	Bharath Shiksha Ratan	2014	Global society for Health and Educational Development
19	Dr. Mahesh Aravind	Fellow of society of Environmental Science	2012	Indian Society of Environmental Science
20	Dr. Mahesh Aravind	Fellow of Society of Sciences	2012	Indian Society of Sciences
21	Dr. Manjunatha Bhatta	Havyasi Yakshagana Kalavida	2011	Natyashree Kalatanda® Sagara, ShimogaDT



Sl. No.	Name of the faculty	Title of award Conferred	Academic year	Awarding Organization
22	Smt Priyadarshini	Inspiring Teachers Awards	2012	Garden City College
23	Dr. M. Surya Prasad	Kempe Gowda Prashasti	2014	Bruhat Bangalore Mahanagara Palike - Govt of Karnataka
24	Dr. Mahesh Aravind	Senior Scientist	2011	Indian Science Congress Association, Bangalore Chapter
25	S Anil Kumar	Suvarna Udaya Bhanu Vidya Rathna	2015	Udaya Kala Bhanu Sangha

* Recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally

Membership in National Academic Bodies

- Dr. C Nagamani**, Department of PG chemistry
Indian Science Congress from 01/04/2014
- Dr. Mahesh Arvind**, Department of UG chemistry
 - Fellow of Society of Sciences-F.S.Sc
 - Fellow of Society of Environmental Science-F.S.E.Sc

Fellowship for both bodies awarded on 01-04-2011

3. **Dr. T.S. Shyamaprasad :**

- Electrochemical Society of India since 2005**
- Chemical Research Society Of India ;2014**
- Indian Science Congress ;2013**
- Luminescence Society of India Karnataka chapter (LSIKC) ; 2014**

Membership in International Academic bodies

Dr. C Nagamani :

The International Society for Environmental Information Sciences (ISEIS) from 2014



- * incentives given to faculty for receiving state, national and international recognitions for research contributions.

NIL

3.5 Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

The College has initiated the process to establish institute-industry linkages by getting departments to be involved in such activity. The following departments have established such linkages.

- The Department of Computer Science has linkage with **tetcos, a network solutions provider.**
- The Department of electronics have tie up with **Vasundhara Automation and Engineering Services** as well as with **Karnataka German Technical Training Institute**
- The Department of Biotechnology has tie – up with **Dr. Sridhar Bhat's Laboratory.**
- The Department of Zoology has MOU with **Durga Femto Technologies and Research**

3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

- No formal policy or publicity measures for consultancy services exist.
- People in need of consultancy service approach the concerned faculty through some of the people known common to both the faculty and the person/organization in need of consultancy service.
- Since the institution is well established in the society, the persons in need of consultancy directly approach the Principal who in turn directs them to the appropriate faculty.



3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

- No mechanism for formal appreciation or commendation is in existence.
- In case of paid service, the staff gets the remuneration as per the UGC guidelines

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

Broad Areas of Consultancy :

- Setting up of School / College Laboratory
- Providing necessary consultancy for the conduct of Regional / State/ National/ International conference / seminar / workshop
- Providing necessary support to introduce add-on programs
- Designing syllabus and course combinations for autonomous institutions
- Providing necessary training in the use of software / any course content
- Providing necessary help to organize exhibitions
- Providing expert opinion in faculty recruitment in different schools / colleges

The following is the list of some of the consultancy services offered by the faculty of the institution on a honorary basis.

Sl. No.	Name of the Faculty	Dr. Manjunatha Bhatta
1	Department	Sanskrit
	Nature of Consultancy	Interpretation of verses in 'Vyasa Mahabharat' in respect of Karna's role
	Beneficiary Organization	Cine Actor and Bharatnatyam Dance exponent Sri. Sridhar
	Year	2011

Sl. No.	Name of the Faculty	Sri. S Ramaprasad
2	Department	Sanskrit
	Nature of Consultancy	Interpretation of verses in 'Vyasa Mahabharat' in respect of Karna's role



	Beneficiary Organization	Cine Actor and Bharatnatyam Dance exponent Sri. Sridhar
	Year	2012
Sl. No.	Name of the Faculty	Prof. M J H Shafi
3	Department	Zoology
	Nature of Consultancy	Design of Laboratories, Equipment to be procured, Locating the staff and the recruitment process, Training teachers of PU colleges and high Schools; Providing study material
	Beneficiary Organization	Schools and Colleges in Bangalore
	Year	2010 – onwards

Sl. No.	Name of the Faculty	1. Prof. R Mallikarjuna Setty 2. Prof. M Subramanya Bhat 3. Prof. S M Mruthunjaya Swamy
4	Department	Electronics
	Nature of Consultancy	Design and Development of Economy 0 – 15 V Regulated Power Supply; AM Generator
	Beneficiary Organization	Saga Edutech Services, Bangalore
	Year	2013

Sl. No.	Name of the Faculty	Prof. H K Gundu Rao
5	Department	Computer Science
	Nature of Consultancy	Setting up of Computer Labs, purchase of systems and software
	Beneficiary Organization	Schools and Colleges
	Year	Continuous ongoing process



Sl. No.	Name of the Faculty	1. Prof. R Mallikarjuna Setty, 2. Dr. M Subramanya Bhat 3. Prof. S Mruthunjaya Swamy
6	Department	Electronics
	Nature of Consultancy	Setting of labs and providing lab manuals to institutions of Bangalore University
	Beneficiary Organization	Colleges of Bangalore University
	Year	Continuous ongoing process

Sl. No.	Name of the Faculty	Dr. Nagaraj Rao Chillale
7	Department	Statistics
	Nature of Consultancy	Academic Advisor for M.Sc. Nursing
	Beneficiary Organization	SGR College, Bangalore
	Year	Continuous ongoing process

Sl. No.	Name of the Faculty	Dr. Nagaraj Rao Chillale
8	Department	Statistics
	Nature of Consultancy	Visiting Consultant for Bio – Statistics for M.Sc. Nursing course
	Beneficiary Organization	Dr Shamala Reddy College of Nursing
	Year	Continuous

3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development?

No formal policy is in place. Further, the UGC guidelines on sharing the income from consultancy services would be adhered to. Till date, no income has been generated out of consultancy services.



3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 How does the institution promote institution-neighbourhood-community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?

- NCC cadets participate in the **Pulse Polio Immunization** programs.
- The college organizes for **blood to patients** in need of it during critical surgeries
- The NSS and NCC wings of the college organize **blood donation camp** every year to help the humanity at large which helps in countering the future emergencies. Nearly about **300 bottles of blood** are collected every year, one of the highest in the entire Bangalore City. The college has been **commended** by the **Governor for this achievement**.
- The NCC students of the College visit different centres like the **SOS Children's Village, Ramana Maharishi Blind Association, National Association for Blind**, etc. to extend help. Monetary contributions and contributions in kind are provided to these organizations every year.
- The ex-cadets of the college under the banner '**Praavinya**' have contributed the **first aid kits in neighboring areas** which are declared accident prone zones. These kits are preserved in the nearby shops and necessary training is provided in its use. The cadets of the college rush to extend help in cases of emergency.
- **Saplings are planted in the neighborhood areas to contribute to ecological balance and enhancing greenery in the surroundings.**
- **The NSS wing conducts camp in an adopted village every year where the programs on health awareness, hygiene, eye check up, dental check up, etc. are conducted. Programs on road building and harmonious living are also conducted.**
- **The NSS and NCC wings of the College has the fine practice of raising funds and collecting other valuable materials to help the victims of natural calamities.**



- **Publicity drive** taken up by the cadets of the college to create awareness about the **Polio Immunization program** and **save greenery** programmes.
- Ecological and environmental awareness, **anti-pollution drive**, **anti-smoking**, **anti-drug use**, etc. have a direct bearing on the immediate local neighborhood
- **Eye testing and eye pledge** has been creating awareness in the elderly people to safe guard themselves against the possible blindness due to neglected cataract.
- Fund collection for the development of visually challenged citizens has been helping them to evolve various activities.
- **HIV/AIDS awareness** creates conscious efforts to lead healthy life and ensure family protection.
- **Drive against child labour.**

3.6.2 What is the Institutional mechanism to track students' involvement in various social movements / activities which promote citizenship roles?

The following institutional mechanisms are in existence to track students' involvement in various social movements / activities which promote citizenship roles:

- NSS
- NCC
- Rangers and Rovers Unit of the college
- Women Empowerment Cell
- Nature Club
- Campaign against the atrocities on women including rape and domestic violence held by the students of the college during March 2014
- Campaign against corruption in public services



- HIV/AIDS awareness programmes
- Pulse Polio Immunization programmes
- Campaign against dowry harassment
- Organizing National Festivals like Independence Day, Republic Day, etc. aimed at developing civic sense and groom students as socially responsible citizens.
- Ensuring the campus to be plastic free zone and advocating disuse of plastic.

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The college solicits the stakeholder perceptions on the overall performance and quality of the institution through students, staff, Parents, and Alumni.

- The stakeholders are regularly apprised of the activities of the college during the Inaugural function of the I semester classes and the Annual College Day Function as well as the Prize Distribution Function. The parents, local dignitaries and members of the management are acquainted with the overall performance of the institute, with regards to the academic and other activities of the college. Based on the informal and verbal feedback collected from the parents and the members of the management, further improvements are taken up.
- During the parent - teachers meeting, feedback and pointers for improvements in the system are collected
- The college solicits student perceptions through their semester feedback and the campus experience feedback from the outgoing students
- Criticism and Suggestions for improvements are invited from parents during the Parent - Teachers association meeting. The College encourages the parents to meet the concerned departments of their ward as and when



deemed necessary. Perceptions are also collected during the interaction with the individual teachers or heads of departments.

- The alumni perceptions are collected during the alumni meet of the college and informally whenever the alumni visits and interacts with their teachers.
- Perceptions of teaching and non – teaching staff are collected during the regular meetings held with them. Also there is an informal and verbal feedback collected from both teaching and non – teaching staff through the corridor discussions whenever the Principal, Vice – Principal and the Dean are on rounds in the college.

3.6.4 How does the institution plan and organize its extension and outreach programmes? Providing the budgetary details for last four years, list the major extension and outreach programmes and their impact on the overall development of students.

The planning and organization of the extension programmes is done at the department level or at the different committee levels. Some programmes are planned at the institutional level. All programmes are sanctioned by the management for which a budget is set aside for each year, in consultation with the IQAC, departments, different committees and Research Cell of the College. Programmes are planned at the beginning of the year and accordingly the programmes are then earmarked in the College calendar. The following is the list of some of the programmes conducted.

Title of the outreach activity	Department	Year
Career Counselling to students to pursue professional courses	Commerce	2011 onwards
Interview and Group discussion strategies	Commerce	2011 onwards
Organised two day Experimental workshop on Experimental Physics for High School teachers.	Physics	2011



Title of the outreach activity	Department	Year
ICT Teaching Pedagogy skills	Computer Science	2011, 2013, 2014
National Integration	NSS	2010, 2011, 2012
Food and Nutrition	NSS	2010
Character Development and Hard Work - A documentary screening along with expert commentary by Dr. Sudha and Dr. Sundarraja Urs	NSS	2011
Plastic Free Environment	NSS	2011
Patriotism - Dance - Drama Programme	NSS	2011
Anti - Corruption	NSS	2011
Two day Dance Training on National Integration theme	NSS	2011
“Hasira Mele Benki” and “Nanda gudi” : Social and economic problems of farmers	NSS	2011
Workshop on IAS, KAS examination orientation	NSS	2011, 2012, 2013
Seminar on Verilog systems	Electronics	2012
PCB fabrication Course (2 days)	Electronics	2013



Title of the outreach activity	Department	Year
2 days training on project building	Electronics	2013
Practical training in Verilog and use of FPGA	Electronics	2014
JSP and My SQL Training	Computer Science	2012
Hypertext Pre - Processor (PHP) workshop for computer science teachers	Computer Science	2013
HTML 5.0 for Teachers by Dr. Raghu V Hudli	Computer Science	2014

3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

- Wide publicity about the events under NSS and NCC are given at the beginning of the academic year by the volunteers of these activities.
- Students interested to participate in these activities are counseled regarding the importance of extension activities like community development, Blood donation, role of youth force in nation building, care and compassion needed for under-privileged and rural classes, fostering the advantages of the democratic process, etc.
- Faculty are encouraged to serve as resource persons and experts in various extension activities including academic programmes for School and college teachers as well as students, organized by NGOs, teacher organizations and government.

To ensure that the students take part in various extension programmes the participating students are given:



- Special leave of absence, relaxation in attendance and internal examinations.
- Motivational Talks and Leadership Training to carry out extension activities.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from under-privileged and vulnerable sections of society?

- Book bank facility is provided in the library to SC/ST students. Three books per students per year are lent which need not be returned in between. If they feel they need to change the book, they are free to do so.
- Scholarships are provided to students from under – privileged sections and economically weaker sections.
- Fees of economically weaker sections of society are borne by the faculty of the college.
- Mid – day meal scheme is arranged for economically weaker sections of students
- NSS and NCC unit of the college takes special care for these section of students
- Girl students have varied options of participating in variety of events in the college. Seats are reserved for girl students in each category as per the Education Act of Karnataka
- Women empowerment cell has been organizing events frequently to empower the girl students

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

The activities have helped the students to:



- develop environmental awareness through programmes aimed at the environment, ecology and conservation of natural resources
- promote volunteerism and community work in the field of adult education and child empowerment
- acquire community orientation, leadership and the spirit of lending a support to the socio – economically and underprivileged sections of the society
- inculcate a sense of need for intervention to improve the living conditions of underprivileged sections.
- inculcate the spirit of patriotism, imbibe good citizenship qualities, be sensitive to other gender, empower girls
- develop traits like leadership skills, organizing skills, communication skills, team spirit, humility, love for humanity, etc.
- understand better rural India, their meager facilities including power supply and hence empathize with them.
- to work in teams as a team member, develop team spirit and empathy
- to negotiate among the team members, manage conflict, communicate and lead
- become socially responsible citizens

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

Before executing and implementing its various outreach activities, the NSS/NCC wing arranges for a meeting with the local Headmen/Patela, and local MLAs/Panchayat members to understand the needs of the community. The mode of implementation and the time is jointly decided in the presence of stakeholders. In this manner, the involvement of the beneficiaries and the authorities in the village/community is solicited.

Every year, a week long NSS camp is held at one of the selected villages which helps students to connect with the rural masses and identify the



challenges faced by them in day to day living. During the camps, programmes on eye check up for elderly people, dental check up, hygiene issues, etc. are conducted.

Frequently, the NCC wing of the college organizes visits to SOS Children's village, Blind Association which helps the students to connect with differently abled citizens and motivates them to develop compassion to fellow human beings. Vijay Diwas is commemorated every year on 16th December so as to establish a connect with the war veterans by laying wreaths and remembering the sacrifices of the soldiers in safeguarding the frontiers of the country. This inculcates spirit of patriotism and good citizenship.

- 3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

Organization	Activity / Relationship
National Association for Blind	Contributing funds that are collected by the cadets. Every year college has been receiving appreciation certificate from this NGO
Save Our Soul (SOS) Children's Village	Located on Bannerghatta Road. Programmes to enthuse the children in SOS Children's village are conducted periodically to show that there is a care, love and concern to the destitute children.
Bannerghatta National Park	Contribution of funds by the cadets and maintenance of cleanliness in the park premises, programmes on conserving wildlife and nature
Army Rehabilitation Centre, Bangalore	Contribution of funds to the Sainik Welfare Board by selling the National Flag Day stamps
Bangalore Traffic Police	NCC cadets join hands with the traffic police in managing the traffic during



Organization	Activity / Relationship
	special events
Law and Order Police Wing	Rallies regarding Anti-Dowry, Anti-terrorism, Drug Menace, Violence on women, domestic violence, etc.
Bangalore Bruhat Mahanagara Palike (BBMP – City Corporation)	NCC cadets involve with the BBMP during Pulse Polio immunization publicity drive and during the polio administering activities
Om Shanthi Dhama	Located in the forest area of Kanakapura, the Dept. of English is in association with them to render services of education to tribal children and stress the importance of ecological balance
Lion's Club, Rotary Club and Rashtrothana Parishat	Carry out activities like Blood donation, eye testing, medical checkup, eye pledge and other health hygiene issues
NIMHANS, Kidwai Institute of Oncology, Victoria Hospital, Red Cross Society	Blood Donation, Health awareness, Measures to prevent cancer, Awareness and prevention of Cervical Cancer
National Institute of Tuberculosis	Prevention measures of TB by doctors of the institute through invited lectures and oath taking to prevent TB
Local community	During conduct of NSS Camps, trekking by both NSS and NCC wings

3.6.10 Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

NIL



3.7 Collaboration

- 3.7.1 How does the institution collaborate and interact with research laboratories, institutes and industry for research activities. Cite examples and benefits accrued of the initiatives - collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

Research collaboration is made with the different faculties of Bangalore University. Most of the teachers utilize the equipment available in departments of Bangalore University for their research purpose. Though a formal agreement does not exist with the research institutions like Indian Institute of Science, Raman Research Institute, National Centre for Biological Sciences, etc., the faculty of the college collaborate with the professors in these institutes and share the equipment for their research purposes.

The computer Science department of the college has collaboration with 'tetcos, Jayanagar, Bangalore' for the conduct of add-on program 'Network Simulation'. The electronics department of the college has collaborated with 'Silicon Smith India' for the add-on course 'Embedded Systems'. The electronics department has a collaboration with Saga Edutech Services for product development and improvement. The student projects under the supervision of faculty members has resulted in product improvements for the organization. Electronics department also has collaboration with Karnataka German Technical Training Institute, a Govt. organization and with Vasundhara Automation and Engineering Services for training purposes. The department of Zoology has collaboration with Durga Femto Technologies and Research, Bangalore for research and training purposes. The department of Biotechnology has a collaboration with Dr. Sridhar Bhat's Laboratory, a Govt. recognized Biotechnology laboratory for student research projects and internships.

Department of Microbiology has collaborated with various organizations like Sericulture Research Institute, National Institute of Immunology, New



Delhi, under Summer Research Fellowship, VSIX Analytical laboratory, etc. for both student and faculty research projects.

The college has collaboration with the Ranga Dore Memorial Hospital, Chamarajpet, Bangalore for carrying out research on health issues of the student community.

In all the above collaborations, the main benefit is the sharing of resources and expertise available in the outside organizations. The organizations benefit from the research work carried out by staff and students.

3.7.2 Provide details on the MoUs/collaborative arrangements (if any) with institutions of national importance/other universities/industries/Corporate (Corporate entities) etc. and how they have contributed to the development of the institution.

Department	MOU with the Organization	Benefit to the institution
Electronics	<ul style="list-style-type: none"> • Silicon Smith India Ltd. • Vasundhara Automation and Engineering Services • Karnataka German Technical Training Institute • Saga Edutech Services 	<ul style="list-style-type: none"> • Professional Training to students with industrial relevance • Product development skills imbibed by students • Research atmosphere is set up • Academically motivated
Computer Science	<ul style="list-style-type: none"> • Tetcos, Bangalore 	<ul style="list-style-type: none"> • Training in Network solutions • Greater employment opportunities
Biotechnology	<ul style="list-style-type: none"> • Dr. Sridhar Bhat's Laboratory • Vittal Mallya Institute of Scientific Research Foundation (Unwritten) 	<ul style="list-style-type: none"> • Student research projects and internships • Greater employment opportunities • Student training in Bioinformatics
Zoology	Durga Femto Technologies and Research	Training Purposes and research



- 3.7.3 Give details (if any) on the industry-institution-community interactions that have contributed to the establishment / creation/up-gradation of academic facilities, student and staff support, infrastructure facilities of the institution viz. laboratories / library/ new technology /placement services etc.
- The alumni batch of 1972 – 73 have contributed computers to the library which has facilitated the creation of a new e – library browsing center.
 - The alumni of the commerce wing has been constantly supporting the VINYAAS – an intercollegiate commerce fest with monetary support and expertise in the conduct of events
 - Many alumni have their own organizations, HR recruiting services, HR Managers in corporate offices, etc. who have been contributing to heightened placement services and career counseling services to the students.
 - The alumni NCC cadets have formed a group named “Pravinyaa” under which they have been conducting activities like soft skills, personality development skills, corporate etiquette, interview guidance, placement services to NCC cadets.
 - Industry interactions have enabled the student project works of Microbiology students in industries and research institutes like Sericulture Research Institute, National Institute of Immunology, New Delhi, VSIX Analytical laboratory, etc.
 - Interaction with industries like Silicon Smith India Pvt. Ltd., Vasundhara Automation and Engineering Services, Karnataka German Technical Training Institute, Saga Edutech Services, etc. to enable students to gain industry experience, training required thereon, student project works, etc.
 - The iSOL Talent Consulting Pvt. Ltd., run by an alumni of the college has been providing training to students of the college on request basis to orient in skill based training like IT skills, soft skills, communication skills and so on.



3.7.4 Highlighting the names of eminent scientists/participants who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	List of Eminent Speakers
1	National Conference on Atomic Physics, Molecular Physics and X - Ray Crystallography	8 th , 9 th , 10 th Jan 2015	<ol style="list-style-type: none"> 1. Prof. B Thimme Gowda, Hon. Vice - Chancellor, Bangalore University 2. Prof. K J Rao, Professor Emeritus, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore 3. Prof. V A Raghunathan, Professor, Raman Research Institute 4. Prof. M R N Murthy, Professor, Molecular Biophysics Unit, Indian Institute of Science 5. Prof. T N Guru Row, Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore 6. Prof. D S Shankar Rao, Center for Nano and Soft Condensed Matter Research, Department of Science and Technology 7. Prof. K P Ramesh, Associate Professor, Department of Physics, Indian Institute of Science



Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	List of Eminent Speakers
2	Inspire Internship programme for I PU and II PU students of Bangalore South	1 - 3 July 2014	1. Prof. N. Balakrishnan, Dept of Aerospace and Super computer Education and Research Center, Indian Institute of Science
			2. Prof. Prajval Shastri, Professor, Indian Institute of Astrophysics
			3. Prof. Dheeraj Bhaire, Agumbe Rainforest Research Station
			4. Prof. T N Guru Row, Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
			5. Prof. Vittala Rao, Center for Electronic Design and Technology, Indian Institute of Science, Bangalore
			6. Prof. Kesava Rao, Chemical Engg. Dept, Indian Institute of Science
			7. Prof. K. N. Ganeshiah, GKVK
			8. Prof. C. D. Reddy, Indian Institute of Geomagnetism, Mumbai
			9. Sri. Madhusudan, Scientific Officer, Jawaharlal Nehru Planetarium
			10. Prof. V. Venkataraman, Professor and Chairperson, Dept. of Physics, Indian Institute of Science
			11. Prof. M R N Murthy, Professor, Molecular Biophysics Unit, Indian Institute of Science
			12. Prof. B. R. Nagraj, TIFR, Bangalore
			13. Prof. T. V. Ramachandra, Centre for Ecological Sciences, Indian Institute of Science



Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	List of Eminent Speakers
3	Science Academies' Lecture Workshop on Statistical Physics, Quantum Mechanics and Crystallography	19 th , 20 th Sept 2014	1. Prof. N Mukunda, Professor Emeritus, Dept. of Physics, Indian Institute of Science and Chairperson, Indian Academy of Sciences
			2. Prof. K J Rao, Professor Emeritus, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
			3. Prof. T N Guru Row, Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
			4. Prof. Ramasesha, Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
			5. Prof. Anshu Pandey, Assistant Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
			6. Prof. Govardhan Reddy, Assistant Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
			7. Prof. Yashonath, Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore
			8. Prof. B Gopal, Professor, Molecular Biophysics Unit, Indian Institute of Science, Bangalore
			9. Prof. Sharath Ananthamurthy, Professor and Chairperson, Dept. of Physics, Bangalore University



Sl. No.	Title of the Conference / Workshop/ Seminar	Date	List of Eminent Speakers
5	Nat. Conf. on Integrated Urban Waste Management and Environmental Health (IUWMEH), Bengaluru.	23 rd , 24 th Sept.2013	1. Dr. Hoysall Chanakya , Professor, CST, ASTRA, Bangalore
			2. Dr. Alagappa Moses , Head, PG and Research, Department of Environmental sciences
			3. Ms. Nalini Shekar , Co - Founder, Hasiru Dala
			4. Dr. Meenakshi Bharath, MBBS, DGO , Gynaecologist and Environmentalist
			5. Dr. R Nagendran Murthy , Expert Member, National Green Tribunal, Chennai
			6. Dr. Sadhan K Ghosh , Professor and Head, Dept. of Mathematical Engineering, Jadhavpur University

Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	List of Eminent Speakers
6	Inspire Internship programme for II PU students	March 7 - 11, 2011	1. Dr.Ramaswami Subramaniam , Dean, Institute for Stem Cell Biology and Regenerative Medicine (inSTEM) National Center for Biological Sciences.
			2. Dr.Chandrappa , Professor, Department of Chemistry, Bangalore University
			3. Sirish Padhare , Scientific Officer, Homi Bhabha Center for Science Education
			4. Prof. Sakuntala Katre , Professor of Zoology and Dean (Retired), Bangalore University



Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	List of Eminent Speakers
	Inspire Internship program for II PU students		5. Dr.Achala L Nargund , Department of Mathematics MES College
			6. Shekhar C Mande, Senior Scientist, Center for DNA Finger Printing, Hyderabad
			7. Prof. Sadashiva INSA Scientist, Raman Research Institute
			8. Prof. MRN Murthy Molecular BioPhysics Department Indian Institute of Science
			9. Prof. Guru Row T N Solid State and Structural Chemistry Unit Indian Institute of Science
			10. Dr. R S Keshava Murthy Head,Radiation Shielding and Data Division Indira Gandhi Center For Atomic Research , Kalpakkam
			11. Prof.Muralidhara Coordinator, Computer Applications, Department of MCA Program, Bangalore University
			12. Prof. SundaraRajan Professor of Botany(Retd) St. Joseph's College
		13. Prof. Pradeep G Siddeshwar Professor of Mathematics Bangalore University	



Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	List of Eminent Speakers
7	National Level Seminar on 'Emerging Trends in Chemistry with Emphasis on Environment'	23-12-2011	1. Prof. K S Rangappa Vice - Chancellor, Karnataka State Open University
			2. Prof. M N Sudheendra Rao Professor, Indian Institute of Science, Bangalore
			3. Prof. K N Mahendra Professor and Chairperson, Dept. of Chemistry, Bangalore University
			4. Dr. R Lakshminarayana Environmental Officer, Karnataka State Pollution Board
			5. Prof. N M Nanje Gowda Dean, Chemistry University

Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	List of Eminent Speakers
8	UGC sponsored state level seminar on Digital image Processing	20 th Feb 2010	1. Dr. Shashidhara H. L Professor, Department of Telecommunication, PES Institute of Technology, Bangalore.
			2. Dr. R. Muralishankar Professor, Dept. of Telecommunication, PES Institute of Technology, Bangalore.
			3. Dr. K. Vijaya Lakshmi Professor, Dept. of Computer Science, BMS College of Engineering, Bangalore
			4. Dr. Suma Professor, Dept. of Computer Science, BMS College of Engineering, Bangalore



Sl. No.	Title of the Conference/ Workshop/ Seminar	Date	List of Eminent Speakers
9	UGC sponsored state level seminar on Emerging trends in Embedded systems	2 nd 3 rd NOV 2009	1. Dr. S K sinha Associate Professor, CEDT, Indian Institute of Science
			2. Dr. A S Manjunatha CEO and MD, Manvish eTech Pvt. Ltd., Bangalore
			3. Dr. J T Devaraju Chairperson, Department of Electronics Science, Bangalore University, Bangalore
			4. Dr. Shivakumar Associate Pofessor, Dept. of IT, Malnad College of Engineering, Hassan
			5. Pramila Madhavan Alpha Labtech India, etc.
			6. M. Siddalingawamy R & D Section, HCL, Noida
			7. Santosh Microchip India Ltd.

3.7.5 How many of the linkages/collaborations have actually resulted in formal MoUs and agreements ? List out the activities and beneficiaries and cite examples (if any) of the established linkages that enhanced and/or facilitated.

(a) Curriculum development

The curriculum for value added courses in departments of Computer Science, electronics, biotechnology are developed and implemented for the benefit of the students enrolled for such courses with the help of MOUs with certain organizations.

**(b) Internships/On-the-job training**

The students of computer science, electronics and chemistry who execute real-life projects get the on-job-training. Students of Biotechnology get the internship training in Dr. Sridhar Bhat's laboratory. The add-on course in Bioinformatics is exclusively handled by the staff of Vittal Mallya Foundation for Research which provides a real-life on-job-training experience.

(c) Research

The number of faculty of the college carrying out research in research institutes of repute has been on the rise. The college has also just begun the collaborative research with certain organizations though a formal agreement on this count does not exist at this point of time. The college has also made a beginning in the research on health issue and is sure to be benefitted since the health in the age group of 18-21 years is generally neglected and not much importance on different health parameters is provided in the Indian context

(d) Consultancy

The consultancy services rendered by the faculty of department of electronics have enabled research and development for the faculty whereas it has been benefitting the organization in product development.

(e) Extension

The collaborations have been very important in carrying out the extension activities since men, material and money are provided by the collaborators. The blood donation camp, eye testing camp, health care camps do need Doctors, Nurses, Beds, etc. which are made available from the collaborator like Lion's Club, Kidwai Institute of Oncology, etc.

The collaboration with the local community establishes good will and facilitates the smooth conduct of the special camps and trekking.

**(f) Publication**

The data pertaining to certain group of people having critical problems with respect to eye care or health care is identified. Such other useful data obtained is passed on to the relevant authorities of the state to carry out intervention strategies to solve the problems. This is usually done through the NSS coordinator of Bangalore University.

(g) Student Placement

Collaboration with the industries for running add-on courses have been increasing the employability opportunities of students of the college.
