

Criterion – III: Research, Consultancy and Extension

3.1 Promotion of Research

3.1.1 Is there a research committee to facilitate and monitor research? If yes, give details.

- The University has a statutory body called as Planning, Monitoring and Evaluation Board with an objective to formulate the research and development activities in the University for the benefit of society and for academic progress.
- The University has also constituted a Research Advisory Committee (RAC) to facilitate research in the University. Its main objective is to screen the new research proposals of the faculty, monitor the on-going research projects and evaluate the completed research projects.
- It also submits half-yearly mandatory reports to Department of Scientific and Industrial Research (DSIR), New Delhi giving salient features of the on-going and planned research activity and information about major equipments to avail custom duty and excise duty exemptions.
- The University is registered with the DSIR for custom duty and excise duty exemptions.
- Besides the RAC, the University has established a Research Developmental and Consultancy Cell (RDCC) to supplement the functions of RAC and promote University-Industry interactions and mobilize resources for research through consultancy work.
- An advisory Committee of the RDCC has been implementing and monitoring the activities of the Cell.
- The University has also constituted Ph.D. review and Doctoral Committees to monitor research activities, admission to M.Phil. and Ph.D. programs and to review half-yearly progress reports and thesis submitted by research scholars.

3.1.2 Is research a significant activity of the university, If yes, How does the institution promote faculty participation in research?

- Yes, Research is a foremost mandatory activity of the University departments along with regular teaching. All the Departments are actively engaged in research projects to facilitate manpower, skill and knowledge development, to serve the society in general and for academic excellence in particular. Research scholars are registered for M.Phil. and Ph.D. degrees. Five Study Centres also promote research activity.
- The major research projects of the faculty are funded by the agencies, namely, UGC, CSIR, DST, DBT, DRDO, AICTE, HRD, World Bank, Planning Department, UNDP, ICHR, ISRO, ICSSR, DAE, ZP, HKDB, etc. The faculty is encouraged to submit new research proposals, to participate in national and international conferences/symposia, to undergo special research oriented training programs, workshops.

- The faculty is regularly deputed to undergo advance training and collaborate with national or international research laboratories.
- The University also encourages faculty exchange program through assistance of international agencies like British Council. The department of biochemistry has exchange program with assistance of international agencies like British Council and Volkswagen foundation, Germany.
- The University publishes News letter regularly, highlighting the research activities of the University faculty. The Departments are encouraged to invite distinguished scientists to their laboratories, for special lectures and for collaborative research and academic exchange programs.
- The University promotes research by providing sabbatical leave facility and also on deputation basis.
- The University also brings out research journals in the Faculties of Science and Technology, Social Sciences, and Arts periodically.
- The University profile, prospectus of the departments and the University Website highlight the achievements, expertise, laboratory facilities and future plans to attract active researchers as faculty members and research fellows.
- The University sponsors national and International seminars /workshops and training programs which facilitate the interaction with other experts.

3.1.3 What provision is made in the budget for research and development?

The budget allocated for research and development in the last five years is as under: (Rs. in Lakhs)

Sl. No.	Year	2003-04	2004-05	2005-06	2006-07	2007-08	Total
1.	Total Expenditure towards research	188.25	259.30	379.55	374.65	337.05	1538.80
2.	Total budget including salary	2679.25	2792.87	2958.40	2851.30	3238.80	Average of 307.76 lakhs per year
3.	Salary & Pension	1508.00	1565.00	1527.00	1509.50	1846.50	(Average percentage for five years - 23.18)
4.	Total budget excluding salary	1171.25	1227.87	1431.40	1341.80	1392.30	
5.	Percentage of expenditure towards research for the total budget	7.026	9.28	12.83	13.13	10.40	
6.	Research expenditure as a % of budget estimate excluding salary.	16.07	21.12	26.51	27.92	24.26	

3.1.4 Does the university promote participation of the students in research in the academic programme?

- Through student Project work, M.Phil. dissertation work and Ph.D. thesis work as well as Research Project work, the students participation is ensured.
- Students of the PG program are assigned with student project in frontline areas of research in Departments like Biotechnology, Biochemistry Botany, Microbiology, Management, Social Work, Computer Science, Commerce Women's Studies, Geoinformatics, and a few other departments. Such students get automatically trained and obtain requisite skills so as to pursue the research activities in the Department under the major research projects sanctioned to faculty members.
- Curriculum also consist of research oriented topics like review articles and project work. The students are encouraged and trained to write their project reports and defend them in examinations using ICT/LCD enabled presentations in partial fulfilment of their degree courses.
- The research scholars of the department of biochemistry seek CSIR senior research fellowships during their doctoral degree programme. Five students have received said fellowship during the last seven years.
- Every year around three students of department of biochemistry are getting DBT Post Doctoral Fellowships immediately after their submission of Ph.D. thesis. They carry out their post doctoral work at reputed national laboratories of DST and CSIR.
- Two P.G. students of Microbiology Department Mr. Sayed Dastagir and Mr. Muja had visited Microbial Resource Laboratory at Peoples Republic of China and Division of Infectious Diseases, University of Pittsburgh, Pittsburgh, USA respectively. One PG student from the Department of Materials Science, namely, Mr. Satish Kumar L was selected for fellowship awarded by Raja Ramanna Centre for Advanced Technology, Indore for six months. The University also awards one research fellowship for the M.Phil. and Ph.D. program every year, in each Department on the basis of merit.
- All the students belonging to SC, ST, and Category-I are supported with research fellowship and commensurate contingent grant.
- JRF/NET/GATE qualified candidates are directly eligible for registration for Ph.D. as an additional intake.
- Research students are deputed to the national and international seminars, workshops and training programs. The University has an Association of Research Students which play vital role in promoting and monitoring of research activities on the University campus.

3.1.5 What are the major research facilities developed and are available to faculty and students on the campus?

The major research facilities are developed for the benefit of teachers and student researchers through the following means and source:

- University funds.
- UGC funds.
- Major research project funds and Infrastructure Development funds of UGC, DST, DBT etc.
- HKDB, INFOSYS, ISRO and Karnataka Science & Technology Academy Grants.

RESEARCH FACILITIES:

- All the science and professional Departments of Studies have research laboratories. Each research guide/project/special subject has been provided with equipped laboratory and necessary fixtures.
- USIC acts as a central facility.
- The INFOSYS sponsored Virtual Learning Centre provides international standard facilities for Digital Library Network.
- The campus has herbal garden, medicinal plants park, cactus garden, animal house, and cell culture laboratories.
- The five study centers, History Museum, Hyderabad Karnataka Regional Development Centre, Competitive Examination Center and Computer Center/Virtual Learning Resource Center are also available as central research facilities for the faculty and research students.
- The campus has separate research student's hostel for boys and girls. The provision of Guest House/Bachelors quarters is made for accommodation of visiting scientists/researchers from India and abroad.

RESEARCH EQUIPMENTS / INSTRUMENTS:

- The Departments of Applied Electronics, Zoology, and Chemistry have been identified and funded under the DST-FIST program during the past five years.
- Similarly, the Department of Mathematics has obtained financial grants under the UGC-SAP program.
- Eight Departments have received UGC assistance for infrastructural development and one department has received funds for the introduction of innovative programme.
- These Departments have modernized their laboratories and facilities with sophisticated equipments and software/hardware. For example, the Department of Applied Electronics has imported Vector Network Analyzer (Rhode and Schwarz, Germany, Model ZVK10, frequency range 50MHz-40GHz) which is useful in design and development of antennas, antenna arrays, novel electronic devices and systems at microwave frequencies. Gulbarga University is the only University in Karnataka State which has such expensive and sophisticated equipment (costing Rs. 48 lakhs.) This facility is also extended to the faculty of the neighbouring Universities and the teachers from affiliated colleges of the University.

- The Department of Environmental Science has developed Remote Sensing (RS) and Geographic Information System (GIS) facilities (Geoinformatics Laboratory) at a cost of Rs.20.85 lakhs under the ISRO-sponsored scheme. Karnataka Science and Technology Academy has sponsored laboratory expansion worth Rs. 5.00 lakhs. This facility is utilized for interpretation of RS satellite images for various applications like natural resources management, watershed management, urban planning, disaster management, etc., for benefit of the society in general and training of technical man power in particular.
- The Department of Chemistry has added FTIR Spectrometer from Perkin Elmer, USA for spectroscopic characterization of novel chemicals.
- The University Science Instrumentation Centre (USIC) has major facilities like liquid nitrogen plant (Phillips, the Netherlands, 5 litres per hour), Atomic Absorption Spectrophotometer, central workshop etc. to compliment the R & D activities in faculty of Science and Technology.
- The Department of Life Sciences have PCR, Fermenters, Liquid Scintillation Counters, HPLC, Cryostat, Elisa, Refrigerator high speed centrifuges, cold rooms, etc.
- The Department of Mineral Processing has pilot scale plant for Ore processing and characterisation.
- There are Computer Centres for computing related curricular and research.

RESEARCH LIBRARY FACILITY:

- The University has promoted and encouraged research activities by providing facilities like Computer Systems, on-line E-journals, Optical Fibre Networking, and Internet connectivity, INFONET, INFLIBNET, CD-ROMs.
- The library has separate reference / periodical section with back volumes and current journals/dissertations/thesis for ready reference. The virtual learning centre has on line access, video conference and other modern digital library facilities. All the books and journals are catalogued using computer programming. The library has xeroxing, computer printing and other resographic facilities.

3.1.6 Does the university subscribe research journals for reference as per the different departmental requirements?

- Yes. The University subscribes to important national and international journals for reference as per the requirements of the Departments.
- The journals are subscribed both in print form as well as in e – form. Gulbarga University was first in Karnataka to install subscription of e journals through CD ROMs in 1993-94 at a cost of 25 lakhs. INFLIBNET, INFONET facilities enable in down loading of more than 4100 on line e-journals.
- For quick e-survey of the literature, by just giving six key words, the students and the faculty are able to obtain abstracts of thousands of journals from the CD-ROM data bases subscribed by the University. The full length papers as per requirements of the faculty and students are being downloaded from approximately 4100 on-line e-journals through the INFLIBNET and INFONET facilities.

- These facilities have been strengthened by campus networking with optical fibre network and dedicated V-Sat terminal on the campus. These modern facilities are also accessible not only to the faculty members and students of the University but also the faculty and students of neighbouring Universities and the affiliated colleges.

3.1.7 Does the university extend recognition to National institutions that provide research training leading to research degrees?

- Yes. The University regulations have a provision to recognize important national laboratories belonging to CSIR, CFTRI, ICAR, Dept. of Atomic Energy, DRDO, IITs, and IISC, Bangalore as collaborating research Centres.
- The super specialised and experienced faculty/scientists from such Laboratories/organizations are recognized as guides or co-guides to supervise the research scholars of this University towards M.Phil. and Ph.D. degrees. Such faculty/scientists are also considered as collaborators for implementing interdisciplinary research projects.
- Such collaborations provide opportunity for the faculty and the research scholars of this University to utilize the sophisticated experimental facilities which are not available in the University.
- The expertise of such faculty/scientists is utilized for planning and development of modern laboratory facilities in the University. Such scientists are also appointed as members of the Boards of Studies and members of the advisory committees for development of curricula in various disciplines.
- Their services are also utilized to deliver special lectures in front-line research areas and for demonstration of new concepts experimentally so as to motivate our research scholars and faculty members regularly. Such interactions help our faculty members to prepare and submit new, viable research proposals to various funding agencies as they are extremely important to solve technological problems in industries, and to develop new technologies which contribute for the regional and national development. Such interdisciplinary research projects also help to develop global competencies in our students.
- Teachers of the Faculties of Arts, Social Science, Education, Law and Commerce of affiliated colleges are recognized as Ph.D. and M.Phil. Guides after recognizing their institutes as centers for research.

3.2 Research and Publication Output

3.2.1 Give details of the ongoing minor and major projects?

The details of the successfully completed and ongoing major and minor research projects undertaken by the faculty in various Departments during the past seven years are enumerated below:

A. ONGOING MAJOR RESEARCH PROJECTS:

- Major Research projects : 23 (in 12 P.G. Departments)
- Their financial out lay: Rs 2,67,56,518/- (approximately 268 lakhs)

Name of the Teacher	Title of the project	Duration	Funding Agency	Amount Rs.
FACULTY OF SCIENCE AND TECHNOLOGY				
Bio-chemistry				
1. Dr. T.B. Karegoudar	Microbial Transformation of Lignocellulose and its Potential Applications	2004-07	DST	18,64,518
2. Dr. J. Lalitha	Purification and Characterization of Agarase from agar Liquefying Gram negative bacterium Acinetobacter Sp AG LSL-1	2006-09	UGC	10,69,700
3. Dr. K. Sreeramulu	Isolation, purification and characterization of an extreme isozyme responsible for the hydrolysis of organophosphorous compounds from the insecticide resistant pest <i>Helicoverpa migera</i> (Hubner) (Lepidoptera: Noctuidae)	2005-07	UGC	10,09,600
4. Dr. K. Sreeramulu	P-Glycoprotein ATPase: Purification, characterization and its involvement in the insecticide resistance in the agriculture crops resistant pest, <i>Helicoverpa armigera</i> .	2007-2010	DST	35,00,000
Bio-technology				
1. Dr. G.R. Naik	Molecular cloning, sequencing and over expression of alkaline protease and Xylanase from thermoalkalophilic <i>Bacillus</i> sp. JB 99	2007 ongoing	CSIR	20,00,000
Chemistry				
1. Dr. M.G. Purohit	Evaluation of plants indigenous to the Shimoga, Gulbarga and Sandur of Karnataka in India for activity against skin diseases.	2001-08	Stifel Laboratories Ltd (Ireland), England, UK	4,50,000
Computer Science				
1. Dr. B.V. Dhandra	A study on handwritten bilingual optical character recognition system	2008-11	UGC	7,76,800

Material Science				
1. Dr. A. Venkataraman	Synthesis, Characterization and Physico-Chemical Studies of Novel Polymeric Nano composites	2005-08	DST	9,07,700
2. Dr.MVN.Ambikaprasad	Development of humidity and gas sensors using conducting polymers nano composites	2008-11	DST	19,22,000
3. Dr. A. Venkataraman	Bio-synthesis of some noble metal chalcogenide nano-particles	2008-11	UGC	5,63,300
Mathematics				
1. Dr. N.B. Naduvinamani	Theoretical Study of non-Newtonian Effects of lubricants and the stability of bearings	2006-09	UGC	4,16,000
2. Dr. M. Subhas Abel	Mathematical Analysis on some aspects of momentum heat and mass transfer in non-Newtonian boundary layer flows	2005-08	DST	9,96,000
Microbiology				
1. Dr. K. Lingappa	Development of bio-process for the production of Lovastain from the regional agro-based wastes.	2008-11	UGC	9,26,800
Physics				
1. Dr. R.D. Mathad	Energy loss and ion beam effects in polymers	2004-07	BRNS DAE	10,00,000
2. Dr. V.M. Jali	Development of Radiation Resistant Ferroelectric thin films	2004-07	BRNS DAE	11,88,500
3. Dr. T. Sankarappa	Electronic and Magnetic Transport properties in Magnetic Granular Film	2004-07	DST	25,80,000
4. Dr. B.R. Kerur	Resonance scattering of X-rays near absorption edges	2004-07	BRNS	22,25,000
Statistics				
1. Dr. S.S. Nayak	Some contributions to Record values and Order Statistics	2006-09 (3 years)	CSIR	5,20,000
Zoology				
1. Dr. Pulikeshi M. Biradar	Application of vermiculture Biotechnology (VBT) in organic waste management and its role in rural development	2005-08	DST- SERC	8,10,000
2. Dr. Umesh Shagoli and Dr. S.D Amoji	Vermitechnological bioprocessing of sugar cane waste	2002-06	CSIR	6,00,000
FACULTY OF SOCIAL SCIENCES				
1. Dr. Chaya K. Degaonkar	Human Development Report for Gulbarga District	2006-07	UNDP Planning Department	5,00,000
FACULTY OF ARTS				
Hindi				
1. Dr. (Smt.) Parimala Ambekar	"Caste and Class conflict (Sociological study of Hindi-Kannada Dalit and Non-Dalit fiction)	2008-11	UGC	5,11,800
Kannada				
1. Dr. M.S. Patil	A cultural study of place name (Gramma Nama) of Gulbarga District Karnataka State	2008-11	UGC	4,18,800

B (i) MINOR RESEARCH PROJECTS COMPLETED

- Minor Research projects: 08 (in 07 P.G. Departments)
- Their financial outlay Rs.3,79,650/-

Name of the Teacher	Title of the project	Duration	Funding Agency	Amount Rs.
FACULTY OF SCIENCE AND TECHNOLOGY				
Chemistry:				
1. Dr. M.G. Purohit	Antifertility Activity of Medicinal Plants	2004-05	ACWU	10,800
Microbiology:				
1. Dr. Y.F. Neelgund & Dr. Vandana Rathod	Single Cell Oil from yeasts	2001-02	UGC/GUG	12,000
2. Principal Investigator. Dr. C.T. Shivannavar Co-Investigator: Dr. S.M. Gaddad	Investigations on the Microbial quality of drinking water in Gulbarga city	2001-02	UGC/GUG	15,000
FACULTY OF ARTS				
Kannada:				
1. Dr. S.D. Saundattimath	Survey and study of Two Endangered Dravidian Languages of Hyderabad Karnataka Area	2001-02	Central Institute of Indian Languages Govt. of India, Mysore	30,000
FACULTY OF SOCIAL SCIENCES				
Economics:				
1. Dr. Chaya K. Degaonkar and Dr. M.S. Kallur	Development Plan for Hyderabad-Karnataka Region	2000-01	UGC	45,000
Library & Inf. Sci.:				
1. Dr. N. Parvathamma	Creation of Database of Teaching Faculty of Gulbarga University and its Affiliated Colleges	2004-05	UGC	93,000
Political Science				
1. Dr. Chandrakant Yatnoor and Dr. Amaravati Mallappa	Role of India and Pakistan in Maintaining Peace and Security in South Asia as a Major Member of SAARC.	2000-02	ICSSR	88,850
Sociology				
1. Dr. S.L. Hiremath	Corporate Social Responsibility and Quality of Life.	2005-07	JVSL	85,000

B (ii) MAJOR RESEARCH PROJECTS COMPLETED:

- Major Research Projects : 43 (in 18 P.G. Departments)
- Their financial out lay : Rs 3,31,98,441/- (approximately Rs. 332 lakhs)

Name of the Teacher	Title of the Project	Duration	Funding Agency	Amount Rs.
FACULTY OF SCIENCE AND TECHNOLOGY:				
Applied Electronics				
1. Principal Investigator: Dr. A.B. Kulkarni, Co-investigators Dr.R.L.Raibagkar and Dr.K.Byrappa	Design & Development of Chiral Materials for Radar Applications	1999-03	DRDO	19,47,000
2. Principal Investigator: Dr. P.V. Hunagund Co-investigators Dr.S.N.Mulge and Dr.P.M.Hadalagi	Effect of Metallic & Dielectric Flanges on Slotted Waveguide Antenna	1999-02	DST	11,51,000
Biochemistry				
1. Dr. V.H. Mulimani	Development of Biotechnological process for the modification of galactomannan polymers	1998-01	DBT	14,00,000
2. Dr. V.H. Mulimani	Proximate Chemical analysis of nutrient and antinutritional factors of Trombay pulses and groundnut varieties.	2000-03	DAE	21,50,000
3. Dr. T.B. Karegoudar	Bioremediation of Environmental Pollutions	2001-04	AICTE	8,00,000
4. Dr. J. Lalitha	Training Women Population in Traditional and Biotechnological approaches for food processing and preservation	1998-01	DBT	8,90,000
5. Dr. K. Sreeramulu	Purification and characterization of an extreme halophilic thermostable protease from halophilic bacteria	2002-05	DST	13,00,000
Biotechnology				
1. Dr. G.R. Naik	Combating Salinity Problem in the Upper Krishna Project (UKP) area	2000-01	MOWR	6,50,000
2. Dr. G.R. Naik	Development of Immuno-diagnostic kits for sugarcane diseases	2000-02	AICTE	7,00,000
3. Dr. G.R. Naik	Selection of disease resistant line in sugarcane through cell and tissue culture	2000-03	DBT	10,00,000

4. Dr. G.R. Naik	Productivity of sugarcane lines obtained through tissue culture under problem soil conditions of Karnataka	2000-03	KSCST	2,50,000
5. Dr. G.R. Naik	Field and Sugar Mill Trials of GSBT lines, in coordination with SBI, Coimbatore and University of Agricultural Sciences, Dharwad	2001-05	DBT	45,00,000
6. Dr. G.R. Naik	Bioproductivity of firewood crops under saline conditions of Gulbarga area	2001-07	DNES	10,00,000
7. Dr. G.R. Naik	Pilot scale production of alkaline protease and cellulose free xylanase from Bacillus sp JB-99	2003-07	CSIR	18,00,000
Botany				
1. Dr. Srinath Rao	In vitro production of withanoloids from cell and hairy root cultures of Withania somnifera Dunal	2005-07	UGC	11,49,600
Chemistry				
1. Dr. M.B. Halli	Synthesis and Characterization of Biologically active coordination compounds with Benzofuran derivatives	2001-05	UGC	2,18,560
2. Dr. V.R. Kulkarni	Study of Chemical Chaos	2005-07	UGC	4,59,600
3. Dr. A. Venkataraman	Synthesis of some novel ceramic materials employing chimc douce approach	2003-06	UGC	6,10,000
Environmental Science				
1. Dr. R. Nijagunappa	Hydrogeomorphological mapping of the Gulbarga University Campus for Assessment of Ground water Resource potential and location of suitable sites	2001-02	UGC	1,39,000
Materials Science				
1. Dr. A. Venkataraman Co-Investigator: Dr. M.V.N. Ambika Prasad	Synthesis and studies of γ - Fe_2O_3 for magnetic tape recording and memory devices	1998-01	UGC	3,00,000
Mathematics				
1. Dr. N.B. Naduvinamani	Analysis of Rough Porous bearings and some aspects of Partial Elasto hydrodynamic Lubrication (PEH)	1998-01	UGC	3,75,000
2. Dr. V.R. Kulli	Theory of Domination in Graph	2005-07	DST	3,58,800

Microbiology				
1. Principal Investigator Dr. S.M. Gaddad Co-Investigator Dr. C.T. Shivannavar	Development of whole cell and polysaccharide subunit vaccine from epidemiologically typed <i>Staphylococcus aureus</i>	2004-07	DRDO	18,00,000
2. Principal Investigator Dr. S.M. Gaddad Co-Investigator: Dr. C.T. Shivannavar	Decolourisation of industrial effluents using immobilized microbial systems	1998-02	DOE	16,49,000
3. Principal Investigator Dr. S.M. Gaddad Co-Investigator: Dr. C.T. Shivannavar	Treatment of wastewater using immobilized microbial systems	1998-01	AICTE	5,00,000
Physics				
1. Dr. S.M. Hanagodimath	Fabrication of wave guides in potential optical materials by ion implantation	2000-03	NSC-UGC	2,25,000
Statistics				
1. Dr. S.S. Nayak	Partial maxima and record values (completed)	1997-2002	DST	3,61,700
Zoology				
1. Dr. S.D. Amoji and Dr. Pulkeshi M. Biradar	Organic Waste Management through Vermitechnology	2001-05	CSIR	2,37,581
2. Dr. R.S. Kulkarni	Technological approach in the study of Reproduction Biology of the fresh water fish <i>Notopterus notopterus</i>	1998-01 completed	ICAR	9,00,000
3. Dr. Saraswati B. Patil and Dr. A. Sharanabasappa	Investigations of Natural Products for contraceptive activities	2004-05 completed	CSIR	1,50,000
4. Dr. K. Vijay Kumar	S.B.Lake Development	2005-06	Karnataka Govt.	2,75,000
FACULTY OF ARTS				
Kannada				
1. Dr. P.K. Khandoba	Study and documentation of visual and performing Arts of the Lambanis	2002-03 completed	UGC	1,39,000
Hindi				
1. Dr. Parimala Ambekar	Mutidimensional Cultural conflicts	2002-04	UGC	1,30,000
FACULTY OF SOCIAL SCIENCES				
Economics				
1. Dr. B.N. Nimbur	Availability, Accessibility and Utilization of Credit Facilities extended by Banking Sector to the Minorities in Bijapur, Gulbarga and Bidar Districts.	2000-01	Ministry of Social Justice and Empowerment, Govt. of India	3,50,000

2. Dr. Chaya K. Degaonkar	Gender division of labour under changing mode of production in Indian Agriculture	2001-05	UGC	3,17,560
3. Dr. Chaya K. Degaonkar	Evaluation of Water Supply Scheme in District Gulbarga	2003-04	ZP, Gulbarga	5,50,000
4. Dr. Chaya K. Degaonkar	Monitoring and Evaluation of Rastriya Sam Vikas Yojane (RSVY Planning)	2003-04	World Bank through Govt. of Karnataka	10,00,000
5. Dr. Chaya K. Degaonkar	Evaluation of Water Supply Schemes in District Bidar	2004-05	World Bank through Govt. of Karnataka	6,00,000
Political Science				
1. Dr. S.A. Palekar	The Concept of Social Justice: A Comparative Study of Dr. Martin Luther King Jr and Mahatma Basaveshwar.	2001-03	UGC	1,99,040
2. Dr. G. Sreeramulu	Women Empowerment through self help groups in Karnataka and Andhra Pradesh – A Comparative Study.	2005-06	U.G.C.	1,10,000
Sociology				
1. Dr. S.L. Hiremath	Social Reality of Rural Education Problems and Remedial Strategies	2002-06	UGC	2,86,000
2. Dr. S.L. Hiremath	Gender and Enforcement of Law	2005-06	Zilla Parishad	1,20,000
FACULTY OF COMMERCE AND MANAGEMENT				
COMMERCE				
1. Principal Investigator Dr. V.B. Coutinho Co-Investigators: Dr. Ramesh Agadi Dr. C.S. Basawaraj Dr. L.N. Rajnalkar	Unit cost of Higher Education in Karnataka.	2005-06	AIU	1,50,000

C). RESEARCH FUNDING FOR RESEARCH INFRASTRUCTURE UPGRADATION

Project / Schemes – 15

Their financial outlay – Rs. 4,66,85000/- (approximately Rs. 467 lakhs)

Departments	Title of the project	Duration	Funding Agency	Amount Rs.
Zoology	DST-FIST Programme	2000-05	DST	35,00,000
Applied Electronics	DST-FIST Programme	2002-07	DST	53,00,000
Chemistry	DST- FIST	2003 -08	DST	21,00,000

Biotechnology	Financial assistance for ongoing M.Sc. teaching program	1998	DBT	60 lakhs + 10 lakhs each year
Environmental Science	Expansion of Geoinformatics Laboratory	2006-07	KSTA	5,00,000
Environmental Science	Remote Sensing – Geology	2004-05	ISRO	18,85,000
Materials Science	Innovative program in Material chemistry	2007-12	UGC	40 ,00,000
Mathematics	SAP-DRS-I	2005-07	UGC	30,00,000
Mathematics	SAP-DRS-II	2007-12	UGC	29,00,000
Mathematics	Development of Infrastructure	2007-08	UGC	20,00,000
Chemistry	Infrastructural facilities for Laboratory	2008	UGC	15,00,000
Microbiology	Infrastructural facilities for Laboratory	2008	UGC	10,00,000
Zoology	Infrastructural facilities for Laboratory	2008	UGC	10,00,000
Biochemistry	Infrastructural facilities for Laboratory	2008	UGC	10,00,000
Physics	Infrastructural facilities for Laboratory	2008	UGC	10,00,000

Total of A – Rs. 2,67,56,518/-

Total of B (i) – Rs. 3,79,650/-

Total of B (ii) – Rs. 3,31,98,441/-

Total of C – Rs. 4,66,85,000/-

Grand Total – Rs. 10,70,19,609/-

Note: Dr. V.H. Mulimani has received the research assistance of Rs. 7.0 lakhs from ICMR during 2008, valid till 2011. The researcher had also received Rs. 7.5 lakhs of assistance from Volkswagen foundation, Germany, during 1999-2001.

3.2.2 Does the university have research funding from the Government, Industry, NGO or International agencies? Give details.

Yes. The University has received substantial funding from following agencies belonging to Central/State Governments, Industries, NGOs and other agencies supporting intellectual activities. These agencies are DST, DBT, DRDO, CSIR, DAE-BRNS, MOWR, KSSCT, AICTE, UGC, POEM, NSC, ISRO, ICAR, Ministry of Social Justice and Empowerment, Zilla Parishad, World Bank, UNDP, ZCSSK, etc. Some industries like Lupin Industries, Pune, Sugar Industries in Maharashtra, Stifel Laboratory Ltd., Ireland, UK have been collaborating in interdisciplinary projects through MOUs and generous funding and exchange programmes

(like Sunderland University, UK for development of new drugs). The Department of Law has been able to obtain funding from NGOs like Central Institute of Indian Lawyers, Mysore, JUST, AIU and Vijaneshwar Souharadha.

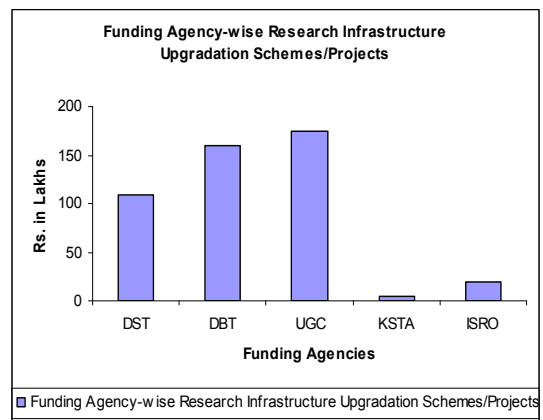
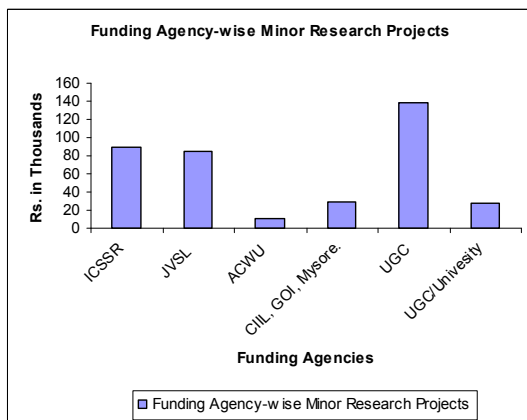
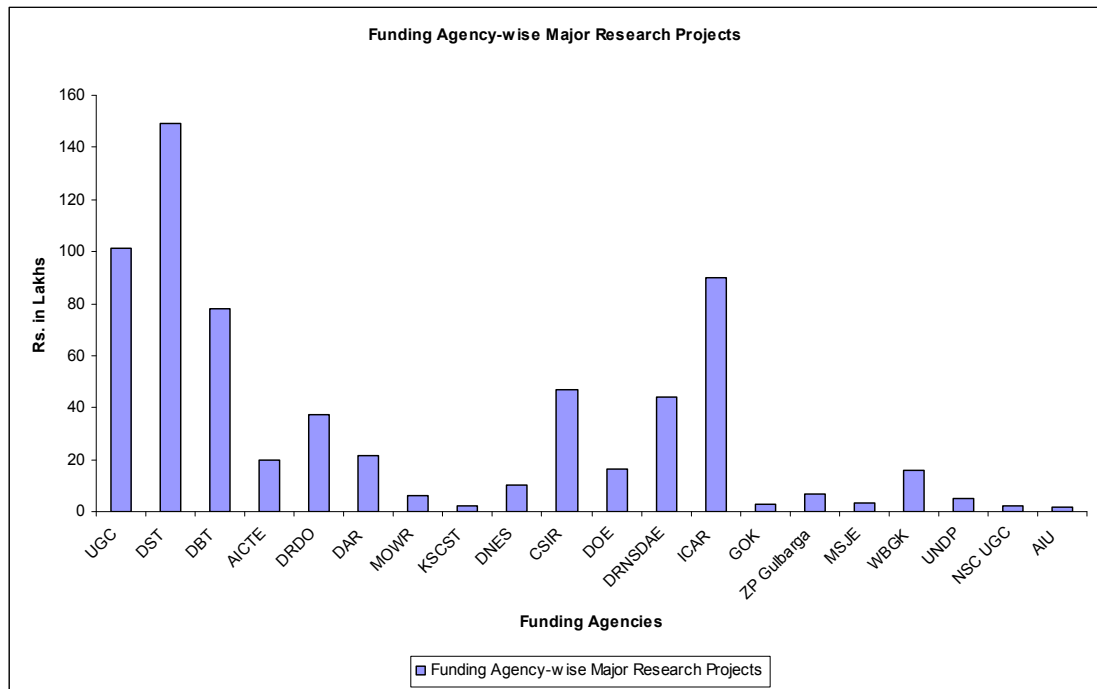
Details of research grants received from various agencies during the past five years are furnished below:

Total Funds received from various agencies (including UGC funds for X Plan period):

Major Projects	Yes	No	Agency	Number	Amount
	✓	-	UGC	21	1,01,26,160/-
	✓	-	DST	10	1,49,41,718/-
	✓	-	DBT	04	77,90,000/-
	✓	-	AICTE	03	20,00,000/-
	✓	-	DRDO	02	37,47,000/-
	✓	-	DAE	01	21,50,000/-
	✓	-	MOWR	01	6,50,000/-
	✓	-	KSCST	01	2,50,000/-
	✓	-	DNES	01	10,00,000/-
	✓	-	CSIR	05	47,07,581/-
	✓	-	DOE	01	16,49,000/-
	✓	-	BRNS DAE	03	44,13,500/-
	✓	-	ICAR	01	9,00,000/-
	✓	-	Karnataka Govt.	01	2,75,000/-
	✓	-	Zilla Panchayat, Gulbarga	02	6,70,000/-
	✓	-	Ministry of Social Justice & Empowerment	01	3,50,000/-
	✓	-	World Bank Govt. of Karnataka	02	16,00,000/-
	✓	-	UNDP Planning Dept.	01	5,00,000/-
	✓	-	NSC UGC	01	2,25,000/-
	✓	-	AIU	01	1,50,000/-
Major Projects Total					5,80,94,959/-
Minor Projects	✓	-	ICSSR	01	88,850/-
	✓	-	JVSL	01	85,000/-
	✓	-	ACWU	01	10,800/-
	✓	-	Central Institute of Indian Language GOI, Mysore.	01	30,000/-
	✓	-	UGC	02	1,38,000/-
	✓	-	UGC/University	02	27,000/-
Minor Projects Total					3,79,650/-
Industry sponsored	✓	-	Stifel Lab Ltd.	01	4,50,000/-
Any other (specify)					
Number of	✓	-	DST	01	8,10,000/-

Students Research Projects	✓		-		CSIR		01		6,00,000/-
Total									18,60,000/-
Research infrastructure upgradation	✓		-		DST		03		1,09,00000/-
	✓		-		DBT		01		1,60,00000/-
	✓		-		UGC		09		1,74,00000/-
	✓		-		KSTA		01		5,00,000/-
	✓		-		ISRO		01		18,85,000/-
Total									4,66,85000/-
UGC X Plan Assistance									3,10,00000/-
Grand Total Rs.									13,80,19,609/-

Funding Agencies-wise Major Research Projects



3.2.3 Does the University have research students currently registered for Ph.D.?

Yes. The University has a large number of research students currently registered under M.Phil. and Ph.D. programs. The details are as follows:

Year	M.Phil. admitted	Ph.D. Registered	M.Phil. Awarded	Ph.D. Awarded*
2001-2002	87	73	46	54
2002-2003	79	104	31	78
2003-2004	95	131	48	35
2004-2005	53	124	72	47
2005-2006	52	154	48	47
2006-2007	141	203	80	64
2007-2008	144	190	103	105

* From 2001 to till March 2008, 430 Ph.D. degrees awarded.

* Ph.D.s awarded are out of research scholars registered during previous years.

As on today there are 263 registered students working for their research degrees:

- For Ph.D. 179 (SC 52, ST 03, Cat-I 19, Others 105)
- For M.Phil. 84 (SC 34, ST 12, Cat-I 13, Others 35)

Approximately Rs 42 lakhs worth of scholarships are disbursed every year.

3.2.4 Does the University provide fellowship/scholarship to research scholars?

- Yes, The University awards research studentship of Rs.1600 per month and contingency of Rs.2000 per annum to one meritorious student of each Department for pursuing M.Phil. and Ph.D. programs for a period of three years.
- The University also awards research scholarship at the rate of Rs.2200 per month and an annual contingent grant of Rs.2500 to research scholars belonging to SC/ST and Category-I. This scholarship is for a period of three years. The students belonging to this category and pursuing studies towards M.Phil. Programs are awarded a scholarship of Rs.2000 per month and annual contingent grant of Rs.2500.
- Total Rs 42 lakhs worth fellowships are awarded every year.
- Apart from university fellowships, UGC sponsored Rajiv Gandhi Research Fellowship for 43 SC/ST students (Amount Rs. 46.364 lakhs) are made available.
- There are Direct CSIR/DBT/DST scholarships to students working in research projects (24 students with the payment of Rs. 23.427 lakhs per year).

3.2.5 Does the University have post-doctoral fellows currently working in the institution?

Yes. Ten research students who have completed their Ph.D. are working as Post-Doctoral Fellows in the University Departments like Biotechnology, Biochemistry, and Zoology. Post doctoral fellowship is also available from DBT and CSIR. Such students are able to continue Post-Doctoral research and teaching in the Departments till they get permanent placement.

3.2.6 Give the highlights of the collaborative research done by the faculty:

The University faculty has undertaken collaborative research projects in thrust areas not only at the national level but also at the international level. The highlights of such collaborative research projects and activities are outlined below:

- Department of **Chemistry** has a British Council funded exchange programme. This exchange programme is in operation for the last two decades. The present work is under progress on medicinal plants for fertility regulation. Under this project, British Council is funding for the visiting scientists from the University of Sunderland, UK and Gulbarga University for a period of three months to work at the University of Sunderland laboratories. So far, more than 30 visits have taken place from both the sides. The Faculty has also collaboration with CECRI, Karaikudi, IICT, Hyderabad and JNCASR, Bangalore.
- Department of **Applied Electronics** has collaboration with the Cochin University of Science and Technology; University of Spain, and Oxford University, UK; Texas A & M University, Austin, USA. There is collaboration with Defence Research Development Organization (DRDO) labs like Electronics Radar Development Establishment (LRDE), Bangalore; Microwave Tube & Research Development Centre, Bangalore, and Defence Laboratory, Jodhpur. This Department is recognized as a Research and Training Centre of DRDO for DRDO-sponsored candidates.
- Department of **Biochemistry** has collaboration with the Technical University, Munich, Germany, under Volkswagen Foundation Programme. The Department has developed bioremediation of organic chemical products. The Department has collaboration with: Prof. Weder, Technical University of Munich, Germany; Dr. Gopalakrishna, T., Scientist, Nuclear and Biotechnology Division, BARC, Mumbai; Dr. Dayanand, Dept. of Animal Biotechnology, University of Hyderabad, Hyderabad; Dr. Yogesh Savd, National Centre for Cell Science, Pune ; Dr. Y.Souche, NCCS, Pune and Prof. H.S. Savithri, Dept. of Biochemistry, IISc., Bangalore.

- The faculty members of the **Botany** Department have collaborations with various research institutes such as, ICRISAT, Hyderabad; Institute of Microbiology, Czech Academy of Sciences; USDA-ARS, Department of Plant Pathology, California University; PROMEC, South Africa; Department of Genetics and CPMB, Osmania University; Department of Botany and Biotechnology, Kakatiya University; TERI, New Delhi; and BSI, Kolkatta.
- The faculty members of the **Mathematics** Department have collaborative research work with foreign universities such as Department of Mathematics, University of Cluj, Romania and Department of Civil Engineering, National Chi Nan University, Taiwan. They have also collaborative research work with research groups from Karnatak University, Dharwad; Centre for Advanced Studies in Fluid Mechanics, Department of Mathematics, Bangalore University, Bangalore; Tata Institute of Fundamental Research (TIFR), Bangalore and Indian Statistical Institute (ISI), Kolkatta.
- Department of **Microbiology** has established liaison for its research activities with Rallies Agro Chemicals Bangalore; Central Food Technological Research Institute, Mysore; Andhra Pradesh Agricultural University, Hyderabad; Department of Pharmacology, Andhra University, Waltair; Karnataka State Sericulture Board, Bangalore; and Department of Civil Engineering, PDA Engineering College, Gulbarga; Agricultural Research Station, Gulbarga. The Department also initiated collaborative research programme on "Diversity, Molecular Biosystematics and Bioactive molecules of Actinomycetes" with Prof. Chang Lin Jiang and Prof. Wen-Jun LI of The Key Laboratory for Microbial Resources, Ministry of Education, Yunnan Institute of Microbiology, Yunnan University, Kunming, Yunnan, Peoples Republic of China. Similarly Collaborative research program is on "Epidemiology of *Klebsiella pneumonia* (particularly ESBL) with Dr. David L. Paterson, Division of Infectious Diseases, University of Pittsburgh, Pittsburgh, USA.
- Department of **Biotechnology** has a collaborative research with Sugarcane Breeding Research Institute at Coimbatore, University of Agriculture Sciences at Dharwad, for screening stress resistant somaclones obtained through tissue culture. Collaboration has been established with Biocon Ltd, Bangalore for Scale up trials of Bacillus sp. JB99 for production of thermo stable alkaline protease and xylanase. The Microbial laboratory has established the collaborative research with NIMHANS Bangalore for the Bacteriophage therapy for the multidrug resistant infection in diabetic mice model and also has collaborative work with Gangagen Biotechnologies Ltd. Bangalore for Phage isolation. The collaboration is also with M/S Raghvendra Biotechnology, Bangalore for establishing stem cell culture research training centre at Gulbarga University.
- Department of **Physics** has collaborative research program with IUAC Pune, CAT, IUC Indore National Center for Ultrafast Phenomena, Chennai, Nanotechnology center, Granfield University, UK, International Centre for Theoretical Physics, Italy.

- Department of **Materials Science** has established a collaborative research programs with IICT, Hyderabad, NCL, Pune, MRC, IISC, Bangalore, RRCAT, Indore.

Various Departments under faculty of Social Sciences are also engaged in collaborative research.

- Department of **Economics** has collaborative research programs with Central and State Govts., World Bank, UNDP, Zilla Panchayat. A project entitled "Access of minorities to credit facilities and their empowerment" was carried out in collaboration with Ministry of Social Justice and Empowerment. This Department, in collaboration with Hyderabad-Karnataka Development Board, has prepared a plan for development of this region. The planning, monitoring, and evaluation of World Bank assistance program for development of backward districts of Bidar and Gulbarga has been undertaken by the Department and is in progress. This Department has also undertaken a research project for preparation of Human Development Report at the district level for Gulbarga district, under UNDP-funded project. This Department has undertaken evaluation of various development programs of Zilla Panchayat and provided feedback for their effective functioning and implementation.
- Department of **Sociology** is carrying out a research project in collaboration with Zindal Vijayanagar Steel Ltd. This project deals with Corporate Social Responsibility and Quality of Life. The Department of **Women's Studies** has collaboration with Women and Child Development Department, Govt. of Karnataka, Integrated Child Development Scheme (UNISEF funded project), Mahila Samakhya and NGOs like MYRADA, World Vision, and Prerana etc.
- Department of **Social Work** and **NSS** unit of this University have undertaken a research project entitled "Evaluation of Literacy Program for Women in Karnataka" in collaboration with Department of Adult Education, Govt. of Karnataka. These Departments are also engaged in "Monitoring and Evaluation of Kugrama-Sugrama Yojane" of Govt. of Karnataka. These Departments have carried out a project entitled "Evaluation of Sakshara Sanman Program for Zilla Panchayat Members" with financial assistance from the Department of Adult Education, Govt. of Karnataka. It has collaboration with agencies Azim Premji foundation, Mahila Samakhya, NACO, KSPS etc.
- Department of **Kannada** has undertaken a project entitled "Survey and study of two endangered Dravidian Languages of Hyderabad Karnataka Area", funded by Central Institute of Indian Languages, Govt. of India. The Department of Marathi has undertaken a project on "History of Medieval Marathi Literature in Karnataka" in collaboration with Maharashtra Rajya Vikasa Samsthe.
- Department of **Law** has started a new LLM course in Bharateeya Nyaya Darsahna and Raja Dharma academic year 2007-08 with the collaboration of the Vijnaneshwara Sahakari Souhardha, Gulbarga and are taking the help of the library at Vijnaneshwara Bahvan, Martur. The collaboration extends for research activities also.

3.2.7 What research awards and patents were received by the faculty during the last five years?

Patents:

1. Patents have been successfully generated for two drugs related to Gastric Ulcer by Dr. M.G. Purohit, Department of Chemistry.
2. Chemistry has collaborative patent N00347 NF2005.
3. A Novel pseudomonas sp. VHM and a process for producing α galactosidase", approved by National Research Development Corporation, New Delhi in 2006; Patent submitted by Dr. V.H. Mulimani, Department of Biochemistry and is approved by National Research Development Corporation, New Delhi, on 25.12.2006.
4. "The salt resistant genes sequences from sugarcane" have been submitted to NCBI Database (DQ355031) and is under process for applying for patenting by Dr. G.R. Naik, Department of Biotechnology.

Awards and Recognitions:

The details of the awards received by the members of the faculty of this University are outlined below:

- Dr. B.G. Mulimani, Vice-Chancellor, Gulbarga University has been awarded "Dr. Raja Ramanna Award for the year 2006, Instituted by the Govt. of Karnataka, for his contributions in the field of Science Education.

International awards:

1. Dr. M.S. Malashetty: C.L. Chandna Mathematics Award; Canadian World Education Foundation, 2003.
2. Dr. Shabbir Ahmed: Begon Mathematics Award; Mathuhaya Rajal Foundation, Brunei, 2003.

National awards:

1. Dr. V.H. Mulimani: Prof. Shadakshara Swamy Endowment Lecture Award: 7th December 2000: from Society of Biological Chemists (SBC) in recognition of contribution to teaching and research in biological chemistry and allied sciences. He also received "Siroli Award" of Indian Society of Plant Physiology, New Delhi, during 2008 for the Best Evaluated Paper.
2. Prof. R.S. Kulkarni: Scientist of the year NES A Award (2004).
3. Dr. K. Vijaykumar: EP Odum gold medal 2005.
4. Dr. Kashinath Ambelge: RD's Central Hindi Directorate, New Delhi's cash award of Rs.50,000/-;

5. Dr. Kashinath Ambelge: Mahatma Gandhi Hindi Puraskar by Bangalore University;
6. Dr. P.K. Khandoba: "Vijayashree Award": Indian International Institute, New Delhi, 2005.
7. Dr.Rathod P.B.: Almond Gilson award by IAAS New Delhi.
8. Dr. R.B. Gaddagimath, "Vijayshree Award", India International Society, New Delhi.
9. Dr. L.M. Padhy: "Best University Library Award", Indian Library Association, New Delhi, 2007.
10. Dr. A.H. Rajasab: "K.C. Mehta and Manoranjan Mitra Award", 2007 from Indian Phytopathological Society, New Delhi.

State awards:

1. Dr.Basavaraj Sabarada: "Ranga Bhoomi" Service: Award from Karnataka Nataka Academy, Bangalore: 2001.
2. Dr.Basavaraj Sabarada: "Sabarada Kavitegalu" Book: Veshweshrayya Sahitya Prashasti, Bangalore: 2002.
3. Dr.Basavaraj Sabarada: "Kenda Sampige" Book: Dr. G.S.S. Award, Karnataka Sanga Shimoga: 2002.
4. Dr.Basavaraj Sabarada: "Naaku Beedi Naatakagalu" Book: Gorooru Sahitya Award, Bangalore: 2002.
5. Dr.Basavaraj Sabarada: "Kannada Sahitya Sadhanegagi" Sahitya Bhooshana Award from All India Hindi Prachara Sabha, Chennai: 2005.
6. Dr. Basavaraj Sabarada: "Special Service towards Prasaranga" Suvarna Karnataka Ratna Prashasti, Gulbarga: 2006.
7. Dr. B.S. Police Patil: "Amara Janapada" Book: Bangalore Kannada Sahitya Parishath Akkamma Girigouda Sahitya Award: 2004.
8. Dr. B.S. Police Patil: "Suvarna Karnataka Ratna" Award: Sphota Weekly Magazine, Bangalore: 2006.
9. Dr. D.B. Nayak: "Suvarna Karnataka Ratna" Award: Sphota Weekly Magazine, Bangalore: 2006.
10. Dr. Jayashree Dande: "Ottu Sahitya Kshtrdali sallisida service : Chittaragi Shree Mathda Sharana Samskruti Award. Vijay Mahanteshwar Math, Ilkal: 2002.
11. Dr. M.S. Patil: "Shikshana Shree" Award: Shree Muragharajendra Math, Chitradurga, 2001.
12. Dr. M.S. Patil: "Shikshana Bhooshana" Award: Shree Muragharajendra Math, Chitradurga: 2003.
13. Dr. M.S. Patil: "Uttama Pradhyapaka" Suvarna Karnataka Ratna Prashasti: 2006.
14. Dr. P.K. Khandoba: "Karnataka Rajyotsava Award: Govt. of Kamataka, Bangalore, 2005.
15. Dr. S.M. Hiremath: "Kannada Kavyameemamse" Book: Ratnakar Muddana Anamica Datti Award from Kannada Sahitya Parishattu, Bangalore: 2001.

16. Dr. S.M. Hiremath: "Aadhunica Kannada Kavyameemamse" Book: Ratnakar Muddana Anamica Datti Award from Kannada Sahitya Parishattu, Bangalore: 2001.
17. Dr. S.M. Hiremath: "Aadhunica Kannada Kavyameemamse" Book: Bangalore M.G. Ranganat Smaraka Sahitya Award: 2003.
18. Dr. S.M. Hiremath: "Aadhunica Kannada Kavyameemamse" Book: Gadugina Pandit Puttaraj Gavaigala Smaraka Sahitya Award: 2003.
19. Dr. S.M. Hiremath: "President" Aland Taluk Second Sahitya Sammelanada : 21st April 2004.
20. Dr. S.M. Hiremath: "Veerashaiva Darshan, Samskruti" Book: Mundaragi Jagadgurugala Shre Mathada Sahitya Award: 2005.
21. Dr. T.M. Bhaskar: "President" Aland Taluk First Kannada Sahitya Sammelana: 2001.
22. Dr. T.M. Bhaskar: "Dr. Ambedkar Vada: Dalitaru" Gandhi Smaraka Nidhi Award: 2002.
23. Dr. T.M. Bhaskar: "Murugha Math Kannada Bhoshana Award: 2004.
24. Dr. T.M. Bhaskar: "Suvarna Karnataka Ratna Award" Sphota Weekly Magazine Bangalore: 2006.
25. Dr. V.G. Pujar: "Ramadurga Taluka Prathama Kannada Sahitya Sammelana" President: 2004.
26. Dr. Veeranna Dande: "Lahari" Magazine Rajatotsava Award: Kannada Union Chennai: 2006.
27. Dr. Veeranna Dande: "Janapada Tajinna" Dr. B.H. Gaddagimath Memorial Award: Karnataka Janapada and Yakshagana Academy, Bangalore: 2006.
28. Dr.C. Nagabhushana: "Sharana Saahithya Samskruthi-Kelavu Adhyayanagalu" Book: Kannada Sahithya Parishad: 2001-Award in the name of 'Jolada Rashi Doddanna Gowdaru'.
29. Dr. V.G. Pujar: Goruru Sahitya Pratisthan Award – 2003.
30. Dr. V.G. Pujar: R.S. Hulagabali Sahitya Award – 2003.
31. Dr. D.B. Naik: Karnataka Folklore Fellow – Karnataka Janapada Academy, Bangalore, - 2006.
32. Dr. Basavaraj Sabarad: Kayyar Kiyannarai Award – 2006.
33. Dr. Basavaraj Sabarad: Pandit Puttaraj Gawai Award – 2008.
34. Dr. Veeranna Dande: Kannada Sahitya Sangh, Chennai – Silver Jubilee Award – 2005.
35. Dr. Jayashree Dande: Vachana Sahitya Shri Award – Basava Vedike, Bangalore – 2008.
36. Dr. B.S. Police Patil: Akkamma Giri Gouda Award, Kannada Sahitya Parishat, Bangalore.
37. Dr. B.S. Police Patil: Kerala Kasargodu Sahitya Award.
38. Dr. H.T. Pote: Book Award of Karnataka Janapada Academy, Bangalore, 2006.
39. Dr. H.T. Pote: Rukaminibai Trust, Book Award – 2004.

University awards

1. Dr. B.S. Police Patil: "Amara Janapada" Book, Gulbarga University Rajyotasava Award: 2005.
2. Dr. D.B. Nayak: "Desi Samskruti": Gulbarga University Karnataka Rajyotasava Award: 2002.
3. Dr. Jayashree Dande: "Phaladolagana Ruchi" Book: Gulbarga Rajyotasava Award: 2002
4. Dr. P.K. Khandoba: "Karnataka Budakattina Lambanigalu" Book: Gulbarga University Rajyotsava Award: 2001.
5. Dr. T.M. Bhaskar: "Gouda" Drama: Gulbarga University Rajyotasava Award 2002.
6. Dr. V.G. Pujar: "Kannada Sahitya Samskruti" Book: Gulbarga University Rajyotasava Award: 2002.
7. Dr. S.M. Hiremath: "Janapada Kavyameemamse" Book: Gulbarga University Rajyotasava Award: 2004.
8. Dr. Kashinath Ambelge: Rajyotsav Puraskar of Prasaraanga, Gulbarga University.

Recognition

a) Overseas Fellowship and Grants

1. Dr. C.T. Shivannavar: Biotechnology Overseas Associateship Award in 2002-03.
2. Dr. A. Venkararaman: Fellowship of Indo Hungarian Educational Exchange Programme.
3. Dr. G.R. Naik, ACU, London Canada Titular John Weston Fellowship 2000-2001.
4. Dr. A.H. Rajasab, Visited University of California, Davis, on invitation as visiting Professor for 04 months during 2007.
5. Dr. S.L. Hiremath: Indo-French Academic Exchange Grants (2002-03).
6. Dr. S.L. Hiremath: International Sociological Association travel grants for Chairing Session in the World Congress, Montreal, Canada (2005-06).
7. Dr. K. Sreeramulu received DBT Overseas Associateship Fellowship visit Canada, during 2007-08.
8. Dr. V.H. Mulimani received the invitation from INSA and Royal Society, London, UK, to visit United Kingdom during 2008.
9. Dr. Chandrakanta Kelamani: Biotechnology Overseas Associateship Award in 2008.

b) Fellowship of Academies of concerned subjects

1. Prof. A.B. Kulkarni: Elected Fellow of Institution of Electronics and Telecommunication Engineers.
2. Dr. A.H. Rajasab: Fellow of Indian Society of Mycology and Plant pathology;
3. Dr. Srinath Rao: Fellow of PTCL.

4. Dr. S.M. Gaddad: Fellow of National Environment Science Academy, New Delhi.
5. Dr. R. Nijagunappa: Fellow of Indian Remote Sensing Society.
6. Dr. K. Vijaykumar: Fellow of National Environment Science Academy, New Delhi.

c) Membership of Professional bodies

1. Dr. A.H. Rajasab: Member of Executive council IPS (2003-04) and Scroll of Honor from Indian Phytopathological Society, New Delhi.
2. Dr. Vidyasagar: Scroll of Honor from Indian Phyto Pathological Society;
3. Dr. M.B. Halli: Executive member of ICC India.
4. Dr. K. S. Siddappa: Executive member of Indian Chemistry Teacher Association.
5. Dr. B.S. Police Patil: "President" Gulbarga Dist. Janapada Sahitya and Kalamela, Afazalpur: 2003.
6. Dr. Nagabai Bulla: "President" Gulbarga District Aland Taluk-Third Kannada Sahitya Parishat, 4^h June, 2005.
7. Dr. Laxaman Rajnakar: Executive committee member of All India Commerce Association.
8. Dr. V.H. Mulimani: Executive member of society biological chemists.
9. Dr. B.M. Baeen: Executive committee member, Indian Academy of Social Sciences, Allahabad, and also Chairman, Political Science Research Committee, IASS, Allahabad.

d) Prestigious positions.

1. Dr. Sayeda Akhtar appointed as First Vice Chancellor of Karnataka State Women's University, Bijapur, 2003-07.
2. Dr. J.S. Patil of law is appointed as Special Officer, for proposed Law University at Hubli.
3. Dr. Y.M. Jayaraj was appointed as Special Officer, Quality Assurance Cell (QAC) Govt. of Karnataka.
4. Dr. P.K. Tiwari served as Acting Vice-Chancellor of the University, during 2006. And at present he is serving as Registrar of the University.
5. Dr. B.M. Baeen, served as Registrar of the University, during 2007.
6. Dr. D.B. Naik, served as Registrar Evaluation of the University, during 2007.
7. Dr. C.S. Basavaraj, served as Finance Officer of the University, during 2007.
8. Dr. Rajnalkar Laxman, is serving as Finance Officer of the University.
9. Dr. A.B. Kulkarni, is serving as Dean/Advisor to an University at New Guinea.

Following faculty members have received awards for publication of books:

1. Dr. Kashinath Ambelge: Hindi poetry book "Adhure Shabd" – Three awards:
2. Dr. Basavaraj Sabarada: "Kenda Sampige" Book: Taayee Publisher Institute, First Prize, Koppal: 2005.
3. Dr. Basavaraj Sabarada: "Samudaya mattu Samskruti" Book: Rukminibai Award, Bangalore: 2005.
4. Dr. B.S. Police Patil: "Bidugade" Book: Appa Award, Gulbarga: 2005.
5. Dr. D.B. Nayak: "Bulayee Haadugalu" Book: Prize from Karnataka Janapada and Yakshagana Academy, Bangalore, 2001.
6. Dr. H.T. Pothe: "Dalitantaranga" Book : Rukminibai Datti Nidhi Award, Bangalore: 2004.
7. Dr. H.T. Pothe: "Dalitantaranga" Book: Gulbarga University Rajotasava Award 2005.
8. Dr. Jayashree Dande: "Phaladolagana Ruchi" Book : Savitramma Award, B.M. Shree Pratishtana, Bangalore: 2002.
9. Dr. Jayashree Dande: "Phaladolagana Ruchi" Book: Gorooru Sahitya Award, Gorooru Pratishtana, Bangalore: 2002.
10. Dr. Jayashree Dande: "Phaladolagana Ruchi" Book: Attimabbe Sahitya Award, Gorooru Pratishtana, Bangalore: 2002.
11. Dr. Jayashree Dande: "Phaladolagana Ruchi" Book, Lingayata Granth Award, Shree Vijaya Mahanteshwara Math Ilakal: 2002.
12. Dr. Jayashree Dande: "Ole Hatti Uridari" Book: Dr. Anupama Niranjana Awardi, Dr. Anupama Niranjana Pratishtana, Bangalore: 2002.
13. Dr.C. Nagabhushana: "Saahithya Samskruthi Hudukaata" Book-2002-Kaavyaananda Award;
14. Dr.C. Nagabhushana: "Alandeya Ekantha Ramiah":Book:Kannada Sahithya Parishad Award.
15. Dr. V.G. Pujar: "Suvarna Karnataka Ratna Prashasti"- "Bhasha Sahiti" – Service: Sphota Weekly Magazine, Bangalore: 2006.
16. Dr. Veeranna Dande: "Janapada Hadu and Mahakavya" Book Ku. Shi. Haridasabhatta Janapada Award Regional Janapada Rangakalegala Study Centre, Udupi: 2001.
17. Dr. V.G. Pujar: "Nuliya Chandayya" Book: Kalladevana village Shree Revanasiddhaya Smaraka Sahitya Pratishtanada Sahitya Krutiya Dasoha Award: 2002.
18. Dr. V.G. Pujar: "Sahityanveshane": Book: Gorooru Sahitya Pratishtana Award: 2003.
19. Dr. V.G. Pujar: "Sahityanveshane"Book: Shree R.S.Hulagabaali Paara Loukika Sahitya Award: 2003.
20. Dr. B.C. Mahabaleshwarappa: Book Award for "Atmasiddhi Shastra (Jain Philosophy)": 2004.

3.2.8 Are there Research papers published in refereed journals periodically, by the faculty? If yes, specify.

Yes. The members of the faculty publish their research papers in refereed journals (international as well as national), in foreign journals and in Indian

journals, the impact factor and citation indices are available in with the staff members in the respective Departments.

The range for impact factor in Science Department is from 0.5 to 5.83.

Besides publishing the research papers, a few members of the faculty are on the editorial boards of reputed refereed international/national journals. Some of them are also invited to review the research papers for international refereed journals.

3.2.9 Give the list of publications by faculty members

1. Books	600
2. Research papers in International Journals	480
3. Research papers in National Journals	1625
4. Research papers in University Journals	60
5. Abstracts	525
6. Proceedings	20
7. Theses etc.	10
8. Others	60

3.3 Consultancy

3.3.1 List the broad areas of consultancy services provided by the Institution during the last 5 years.

- The Departments of Applied Electronics, Environmental Science, Biochemistry, Biotechnology, Materials Science, Botany, Microbiology, Social Work, Economics, Management, Commerce have been providing consultancy services to the industries, State/Central Governments and private agencies.
- Broad Areas:
 - 1) Environmental management
 - 2) Consumer services and Marketing
 - 3) Crop Improvement including Forestry and Medicinal plants
 - 4) Panchayat Raj and e-Governance

3.3.2 Does the institution publish the expertise available for consultancy services?

Yes. The University publishes the expertise available for consultancy services regularly on the University Website and University News Letter. INFLIBNET experts database covers expertise available.

3.3.3 Give details regarding the nature of consultancy services and revenue generated?

- Department of **Applied Electronics** has provided consultancy to National Thermal Power Corporation, New Delhi by characterizing fly-ash and coal ash samples during 2003-04 by Prof. A.B. Kulkarni and his colleagues. They also provided consultancy for characterization of Radar absorbing materials for Defence Laboratory, Jodhpur, DRDO Laboratory, during 2001-02 and generated revenue of Rs 20,000/-.
- The Chairman of **Environmental Science** Department coordinated the project implementation utilizing the expertise from the departments of Zoology, Microbiology, and Botany. For example, consultancy project "Environmental Impact Assessment related to Common Facility for Bio-medical Waste Treatment and Disposal in Gulbarga" was implemented for Centre for Environment Education (CEE), sponsored by Indo-Norwegian Environment Programme, Department of Forest, Ecology & Environment, Government of Karnataka.
- Another project entitled "Rapid Environment Impact Assessment Studies of Bhima Lift Irrigation Scheme in Afzalpur Taluka in Gulbarga District (Quantification of flora and fauna to be affected in the downstream side)" sanctioned by the Karnataka Neeravari Nigam Limited (KNNL), Bhima Lift Irrigation Scheme (BLIS) Division, Afzalpur was implemented in 2006 by the Department of **Environmental Science**.
- A project entitled "Environmental Site Assessment Phase-I" was implemented in 2007 for M/s ALSTOM Projects India Ltd., Shahabad by the **Environmental Science Department**.
- Department of **Biochemistry** has offered consultancy to M/s Lupin Industries, Tarapur, India for Bioremediation of waste effluents and obtained revenue of Rs 2,00,000.
- Department of **Management** has provided consultancy services on projects and generated revenue.
- Broad band service in Gulbarga city sponsored by SIFY, (revenue generated – Rs. 20,000).
- Consumers services by bank sponsored by State Bank of Hyderabad (SBH) (revenue generated - Rs. 25,000).
- Department of **Management**, P.G Centre, Bellary has generated revenue worth Rs. 8.00 lakhs from marketing consultancy of about 200 firms.

3.4 Extension Activities

3.4.1 What outreach programmes are organized by the institution? How are they integrated with the academic curricula?

- The University organizes a large number of out reach programmes for the benefit of all the stakeholders. They include workshops /training/awareness program/field camps, extension lectures, adoption of villages, exhibitions, endowment lectures, survey programs in the vicinity of University and affiliated colleges.
- The outreach programmes undertaken by the students are considered as part of the field work in some academic programmes like MSW, MA Sociology, BA, Library and Information Science, MA Women's Studies, MJMC etc.
- The profiles of NSS, Prasaranga and Study Centres may be perused.

3.4.2 How does the university promote university-neighbourhood network in which students acquire training, which contribute to sustained community development?

- The University promotes a well knit university-neighbourhood network in which students acquire service training. Such training contributes not only to sustained community development but also ensures value addition to these programmes. The details of the out reach programmes and community services rendered by the students and faculty of the University are outlined below:
- All the PG Departments organized **Science and other exhibitions** relevant to their subjects during the Silver Jubilee Celebrations (2004-05) for the benefit of school and college students in particular and society in general on a grand scale.
- The Departments of **Social work and Women's Studies** are involved in extension activities through projects aimed at gender empowerment environmental protection and rural development by adoption of villages and slums.
- Department of **Education** has provided extension programme by developing audio material for teaching at primary level in Karnataka state, and developed video program and computer generic software for teacher's education.
- Department of **Psychology** has outreach programme to educate the people victimized to Bhanamati, (Black magic, Witchcraft etc). Research is also undertaken on this superstitious influence by adopting affected villages.
- Besides the above, faculty members of various Departments are involved in community services programs and the same are as follows:
The staff members of the faculty of science have been working as members of local advisory committee of the District Science Centre, Gulbarga which is involved in informal science education and popularization of science in five

districts of Gulbarga Division by organizing scientific fairs, quiz programmes, exhibitions, essay and declamation contests involving students of schools and colleges. The faculty of the University participated in open-house sessions in schools and colleges to satisfy scientific queries of students in schools and colleges. They have been visiting remote and rural areas with the mobile van laboratory for popularization of science. The staff of the departments of Social sciences and Arts, offer advise and suggestions to NGOs, Gram Panchayats, Self Help Groups and render their service towards community development. A member of the faculty of Department of Economics is a technical member of District Planning Committee, Zilla Panchayat, Gulbarga.

- A member of the Department of Economics is actively involved in providing consultancy to the Govt. of Karnataka dealing with some aspects of irrigation under Upper Krishna Project, funded by the World Bank.
- Department of **Microbiology** is involved in sample testing of water and dairy products of Gulbarga Region.
- A large number of faculty members have delivered popular lectures/talks on radio and TV for the benefit of society. They have been bringing awareness about environmental issues of national importance like, Water Resources Management, National River Linking Project, Ozone Layer Depletion, Global Warming, Green House Effect, Acid Rain, Solid Waste Management, Rainwater Harvesting etc. for the benefit of the society.

Prasaranga is the main extension unit of the University involved in outreach programmes. They are as under:

- Extension lecture series,
- Kannada lecture series in border areas of neighbouring states,
- Publication of text books, general books, endowment and extension lecture series, books, biographies of regional leaders and saints,
- Rajyotsava awards and prizes to authors, artists, and performing artists.
- Publication of research journals,
- Translation of award winning books, convocation addresses, popular writing and folk literature.
- Since 2001, **34 endowment lectures** were arranged by the Prasaranga, (under sponsored **13 endowment lecture** series). Renowned national personalities were invited to deliver these endowment lectures.
- **105 extension lecture series** in rural parts of University jurisdiction were arranged
- **Published 44 text books** prescribed for graduate students of Gulbarga University.
- **14 Border Areas lecture series** were organized in border areas like (Solapur, Hyderabad, Adoni, Mumbai, Akkalkot, and other places). The lectures were delivered by eminent personalities and leaders about the importance of border harmony and co-existence as well as support to literature and language.

- The **Prasaranga** has translated all the **Convocation addresses** delivered by chief guests into Kannada (Sri. P. Chidambaram, Dr. M.S. Swaminathan, Justice V.S. Malimath, Dr Shivaram Karanth, Prof C.N.R. Rao, Prof. Raja Ramanna and others).
- **Basavadi Sharana Sahitya Kendra** and **Dr. Ambedkar Chair** and **Dasa Sahitya Peetha** have been publishing a number of books on general and special topics for the benefit of students in particular and society in general. These Centres and the Prasaranga have also been carrying out extension activities by arranging popular lectures in villages and small towns on topics of contemporary relevance.

Community Service provided by University Health Center:

- The patients from neighbouring villages are being provided free medical treatment by the University Health Centre. Water is being supplied free of cost to the neighbouring Kusnoor village.

Community Service provided by University NSS:

- The NSS units of Gulbarga University actively participated in the following community services: (1) Cleaning the environment, (2) Plantation of trees and plants, (3) Construction of roads, (4) Construction of bus shelters, (5) Literacy mission, (6) Community health programs, (7) Blood donation camps, (8) Prevention of drug addiction and rehabilitation of victims, (9) Welfare of women and childcare, and (10) HIV/AIDS Awareness programs etc.
- The NSS co-ordination wing of Gulbarga University has received "Best NSS Activity Award", by Govt. of Karnataka in 2003-2004 for its excellent community work. The Best NSS Co-ordinator's Award was also received during the year 2002-2003.
- Students undergo training on HRM, extension service and entrepreneurship as well as value education, leading to sustainable development.

3.4.3 How does the institution promote the participation of the students and faculty in extension activities of NSS, NCC, YRC and other NGOs? How often and in what roles are they involved?

- The University promotes active participation of the students and the faculty in extension activities of **NSS, NCC, YRC** and **other NGOs**. The details of the NSS activities have already been highlighted in Section 3.5.2. In addition, the University has established **Extra Mural Activities Centre** to promote such extension activities. Under this Centre, the University has established a **Ham Communication Centre** to help the administration with vital information when all communication channels fail during natural

calamities/disasters like earthquake in view of this region being in the earthquake prone area. The involvement of the faculty and the students is on regular basis and they participate as volunteers as well as supervisors.

- **NSS cell** was established at Gulbarga University in 1981 with the objective of personality development of the students through community service. Every year many out reach and extension programmes are organized for the benefit of community. During current academic year itself (2007-08), **195 NSS programme officers** are working with **20, 000 volunteers** (15790 male and 4210 female). During 2006-07, **138 special camps** of 10 days each were organized to undertake various activities.
 - Flood relief camps,
 - AIDS awareness programmes,
 - Literacy programmes,
 - Blood donation camps,
 - Sadbhavana rally,
 - Energy clubs,
 - World Heritage week.
- The NSS unit has also to its credit a honour of organizing a national seminar on **"The role of NSS in the formation of Youth in the New Millennium"** during January 7.9.2005.
- Gulbarga University has won the Best University Award for its NSS activities during the year 2002-03 from the Government of Karnataka.
- The Best NSS Co-ordinator award was also conferred to the University during 2003-04 by the Government of Karnataka.

3.4.4 Is there any research or extension work to ensure social justice and to empower under-privileged sections in particular, women and children?

- The university addresses the issue and concern of empowering under privileged through -
 - a) Research (historical, action research, survey, trend analysis, current topics, scheme evaluation,
 - b) Extension awareness and training on constitutional rights and ways to harness it.
 - c) Participating methods creating linkage of different stake holders, Govt-society-intellectual- beneficiary.
- The SC/ST Cell, Dr. B.R. Ambedkar Chair, Dasa Shaitya Peeta, Basavadi Sharana Kendra, Nijasharana Ambigar Choudayya Chair, Hadapada Appanna Chair and Departments of Sociology, Social Work, Economics, Political Science, Women's Studies and Education carry out research and extension activities to ensure social justice and empower under privileged section of the society. The students undertake Ph.D. work on burning social economic and political issues so as to understand and analyse the related problems and ensure social justices.

The Women's Study Department arranges not only research activities but also extension work through periodic workshops/conferences/symposia to empower women and children.

3.4.5 What is the impact of the institution's extension programmes, on the community? Specify.

Community Developments:

- Social – Inclusive growth, Empowerment.
 - Political – decentralisation, socio-economic change and leadership.
 - Economics – self help groups, Govt. and NGOs schemes.
 - Health and hygiene, environmental issues.
 - Scientific temper and rationality.
 - Usage of rural technology.
 - Literacy, dignity of labour and social service.
-
- Such research and extension activities have made significant impact on the community. Many NGOs involve with the NSS Units of the University in extension activities to create awareness about HIV/AIDS, sexually transmitted diseases, importance of breast feeding, addressing issues related to Polio, mal-nutrition of children and pregnant mothers and family planning. Such activities have helped in improvement of the life-style of the community, particularly in rural areas and to create scientific temper among the rural population. These programmes have brought out the awareness about higher education and the existence of University in the surrounding area.

3.5 Collaborations

3.5.1 How many linkages does the institution have, for research and extension?

The University has a large number of linkages of research and extension activities. Such linkage help in training the students and the faculty in the field of research and extension programmes in service of society. Such activities also provide value addition to the academic programmes of the University. The linkages for research in the faculty of Science and Technology and other department are around 25. They are as under:

I. International Collaborations	
Name of the department	Universities/Institutes/Organisations
1.Applied Electronics	University of Spain, Oxford University, UK, Texas, A & M university, Austin, USA.
2.Bio-chemistry	Technical University Munich, Germany
3.Botany	Czech Academy of Sciences, USDA-ARS, California university PROMEC South Africa.
4.Chemistry	University of Sunderland, UK
5.Microbiology	Yunnan University, Kuming, Yunnan Peoples' Republic of China. University of Pittsburg, Pittsburgh, USA
6.Mathematics	University of Cluj, Romania, National Chi Nan university, Taiwan.
7.Physics	Granfield University, UK, ICTP, Italy
II. National Collaborations	
1.Applied Electronics	Cochin University of Science and Technology, Cochin.
2.Bio-chemistry	Nuclear and Biotechnology Division, BARC, Mumbai, University of Hyderabad, Hyderabad
3.Botany	Osmania University Hyderabad, Kakaktiya University, Warangal
4.Biotechnology	UAS, Dharwad, Biocon Ltd., Bangalore. Gamgagem Biotechnology, Bangalore, Raghavendra Biotechnology, Bangalore.
5. Computer Science	University of Mysore, Mysore, Karnataka University, Dharwad, Kuvempu University, Shimoga, University of Agri. Science, Bangalore.
6.Microbiology	AP Agricultural University, Hyderabad, Andhra University, Waltair
7.Mathematics	Bangalore University, Bangalore, Karnataka University, Dharwad.
III. Central and State Governments	
1.Applied Electronics	DRDO, LRDE, MTRDC, Bangalore Defence Laboratory, Jodhpur.
2. Biochemistry	NCCS, Pune, IISC Bangalore
3. Botany	ICRISAT, Hyderabad, TERI, New Delhi, BSI, Kolkotta.
4.Biotechnology	NIMHANS, Bangalore.
5.Chemistry	CECRI, Karaikudi, IICT Hyderavbad and JNCASR, Bangalore.

6. Materials Science	IISC Bangalore, MRC Bangalore, NCL Pune, RRCAT, Indore.
7. Microbiology	NIMHANS, Bangalore.
8. Mathematics	TIFR, Bangalore, ISI Kolkotta
9. Physics	IUAC Pune, CAT, IUC Indore, NCUP Chennai,
10. Economics	World Bank, UNDP,
11. Womens Studies	Women and Child development department, Govt. of Karnataka, Integrated Child development scheme, UNISEF.
12. Social Work	Dept. of Adult Education, W&CD, Govt. of Karnataka, ICD of UNISEF.
13. Kannada	Central Institute of Indian languages, Govt. of India.
IV. Local Bodies	
1. Economics	Zilla Panchayat, HKDB,
2. Womens Studies	Mahila Samakhya
3. Marathi	Maharashtra Rajya Vikasa Samsthe.
4. Law	Vijnaneshwara Souharda Sahakari Ltd., Gulbarga.
V. Industries	
1.. Sociology	Zindal Vijayangar Steel Ltd.,
VI. N.G.Os	
1. Women's Studies	MYRADA, World Vision, Prerana.
2. Social Work	Azim Premji Foundation, NACO, KSPS

3.5.2 List the organizations and the nature of linkages and expected outcomes.

The list of organizations and expected outcome is as follows:

Departments	Organization	Expected outcome (Analysis, Inhouse training, Research, Student involvement and research)
1. Applied Electronics	Defence Research Laboratory, Jodhpur, (LRDE), MTRDC, Bangalore, CUSAT, Cochin, Texas A & M Univ, Univ of Spain, etc.	Development of microwave devices, circuits and systems.
2. Biochemistry	BARC, Mumbai, NCCS, Pune, IISc, Bangalore, M/s Lupin Laboratory, Tarapur	Technology transfer for Bioremediation toxic industrial waste

3. Biotechnology	<p>1. M/s Biocon Ltd, Bangalore</p> <p>2. University of Agricultural Science, Dharwad & SBI Coimbatore</p> <p>3. M/s Gangagen, Bangalore</p> <p>4. Biotechnology Consortium India Ltd., New Delhi</p>	<p>1. Development of technical know how and process transfer for production of alkaline protease.</p> <p>2. Strain improvement.</p> <p>1. Release of GSBT-9 Sugarcane varieties to farmers of Karnataka.</p> <p>1. Phage Therapy Development.</p> <p>1. Placement of M.Sc. Biotechnology Students in Biotechnology Industries.</p>
4. Botany	ICRISAT, Hyderabad, TERI, New Delhi, BSI, Kolkatta, California University, PROMEC, South Africa.	Transfer of study material and botanical collections.
5. Chemistry	Sunderland University, UK	<p>1. Exchange of faculty and students.</p> <p>2. Development of drug molecules against leprosy and infertility.</p>
6. Computer Science	Wipro, Infosys, HCL, TCS, Aztech, Mindtree etc.	To provide in plant training to MCA VI Semester students and help them to carry out project works.
7. Environmental Science	Karnataka State Remote sensing applications centre, Bangalore	<p>1. Remote sensing applications in data management of natural resources.</p> <p>2. Offer certificate courses in basics of Geoinformatics.</p>
8. Mathematics	Univ of Cluj, Romania, National Chi Nan University, Taiwan, TIFR, Bangalore, ISI, Kolkatta	Study of fluid flow problems
9. Microbiology	Key laboratory for Microbial Resources, PR of China.	1. Molecular Characterization of Actinomycetes.
10. Materials Science	JNCASR, Bangalore, MRC, Bangalore, RRCAT, Indore,	<p>1. Studies, synthesis and characterization of novel materials (Ceramics, Polymers, Composites, etc)</p> <p>2. Studies on Nano-structured materials</p> <p>3. To train the students in different experimental techniques, know-how of materials instrumentation techniques and perform/analyse their project and research work.</p>
11. Physics	IUAC, Pune, CAT-IUC, Indore, Granfield University, UK, ICTP, Italy	Astronomy project work facilities.
12. Economics	<p>Z.P. Gulbarga and Bidar</p> <p>World Bank</p>	<p>Evaluation of various development programmes of ZP for providing feedback.</p> <p>Providing Development plan.</p>

13.History	Department of Archaeology and Museum, Government of Karnataka.	Development of History Museum and Academic excellence.
14.Kannada	CIIL, GOI,	Survey and study of the endangered Dravidian languages of HK area.
15.Marathi	Maharashtra Rajya Vikas Samsthe	History of Medieval Marathi literature in Karnataka
16.Sociology	Jindal Vijayanagar Steel Ltd.	Study of quality of life and corporate social responsibility.
17.Social Work	Dept of Adult Education Govt. of Karnataka, Azim Premaji Founadation, NACO, KSPS, ZP, etc.	Feed back and effective implementation of Govt. programmes and NGO activities.
18.Law	Vijaneshwar Sahakari Souhardha, Martur.	New course in Naydarshana and Rajadharm and research.
19.Virtual Learning resources Centre, GUG Library	INFOSYS foundation	e-learning, ICT and research programmes
20.Womens studies	Women and Child Development Govt. of Karnataka and NGO and MYRADA	Evaluation and feedback and women status of HK area.
21. Commerce	KMF Gulbarga Milk Dairy	Feedback of consumers about Nandini products in Gulbarga city.
22. Commerce and Management	HKCCI	Sharing of resources and expertise for mutual benefit (MoU in the process)

Nature of linkage: These linkages are for research activities, usage of infrastructure and expertise, training and evaluation.

3.5.3 How does the linkage promote

- a) Curriculum development
- b) Internship
- c) On-the-job training
- d) Faculty exchange and development
- e) Research
- f) Consultancy
- g) Extension
- h) Publication
- i) Student Placement

a) Curriculum development

The Experience, interaction and feedback from such research and extension activities helps in identifying the new emerging and job oriented areas which should be included in the curricula so as to contextualize them; e.g., Nanotechnology, Microwave, Bio-informatics, Graph theory, etc. Expertise and peer suggestions of such organizations also help in curriculum development.

b) Internship

The Students of the Departments of Computer Science, Sociology, Social Work, Women's Studies, Biotechnology, Microbiology and Biochemistry go for internship in various industries/organizations to get hands on experience and realize the real-time situations. Students of professional courses like MBA has linkage with Banks, MNCs, CII, and MCA department with Infosys, HCL, TLS, etc.

c) On-the-job training

During such internship, they get on the job training with modern equipment and ICT enabled hardware/software. Such students are able to compete nationally as well as globally in getting placements. The students of department of Physics, Applied Electronics, Instrumentation Technology, Mineral Processing and Computer Science go for job training as part of their project work in various reputed industries and Institutes.

d) Faculty exchange and development

The Linkages with reputed Institutes, NGO's and Govt. Agencies help in arranging faculty exchange and academic development. Faculty from Institute and Industry is involved in teaching, soft skills development and research collaboration. It has improved the quality of work and its applications.

e) Research

Such linkages promote front-line research activities in the Departments of the University. The members of the faculty and the students are able to have access to modern sophisticated equipment and advanced data bases for literature survey for acquisition of precise and accurate data. Such collaborative research also helps in periodic calibration of our scientific equipments and also in developing new academic contacts.

f) Consultancy

The linkages help to develop national and international competency and expertise in our students and members of the faculty. The University encourages consultancy work by the faculty and suitable guidelines have been prepared to provide lucrative incentives for sharing the revenues from the consultancy work on 60:40 basis.

g) Extension

The linkages with the National and International Laboratories and the University Departments lead to the development of new technologies and innovative programmes. Such technologies are passed on to the society and stakeholders through publications in University News Letter and University Research Journals and print media and through direct outreach programmes.

The linkages of Departments under the faculty of Social Sciences and the central as well as State Govt. agencies and NGOs promote extension activities directly beneficial to the community in terms of health awareness programs, financial management of the budget of the family, portfolio investments, education of the rural masses etc.

h) Publication

The linkages lead to hybridization of concepts and cross breeding of the researchers. The University has more than 100 publications from the members of the faculty with co-authorship from foreign Universities/Laboratories. These publications in recent and emerging areas imply development of cutting-edge technologies.

i) Student Placement

The University-Industry linkages enable the Industry to fathom the depth of knowledge of students of this University. The students also get trained with hands on experience in relevant industries due to internship during their project work/field work. This helps in better understanding the industries. Many industries/organizations hold campus interviews to recruit the gifted students who prove to be their asset at a later stage. At least 200 students have obtained suitable jobs through such placement activities. The University has established a Placement Cell and a Cell for promotion of linkages between the University and the industries in order to cater to the needs of the stakeholders and better placement of our students. The linkage with Biotechnology consortium India Ltd. (New Delhi) has helped in 50% placements of M.Sc. Biotech students in Industries.

3.6 Best Practices in Research, Consultancy and Extension

3.6.1. Describe the best practices in research, consultancy and extension with reference to promotion of research/publication output/consultancy and extension activities/collaborations?

The University has adopted a number of measures to enhance the quality of research, consultancy and extension activities during the last five years. The details are as follows:

Research:

1. Faculty is continuously persuaded/encouraged for submission of research, projects on problems of regional and global importance. With this result, more than Rs. 10.00 crores has been generated towards research activities and infrastructural development.
2. Faculty is provided special leave facilities including sabbatical leave.
3. All the SC/ST and Category I students are provided monthly studentship and contingency grant for pursuing PhD and M.Phil. degrees.
4. Academic achievements of the staff are encouraged by providing publicity and recognition.
5. The M.Phil/Ph.D. candidate with highest merit in each department are also provided with research scholarship.
6. 43 SC-ST students got UGC sponsored Rajiv Gandhi Fellowship.

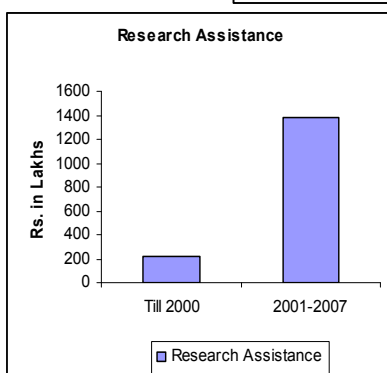
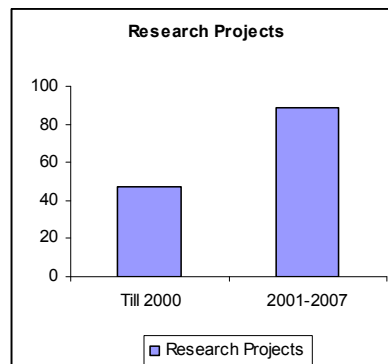
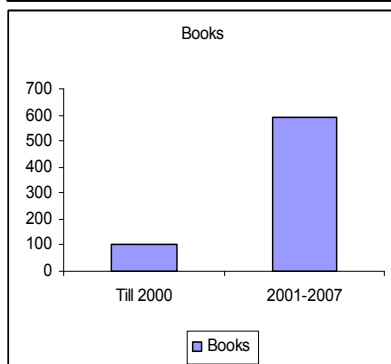
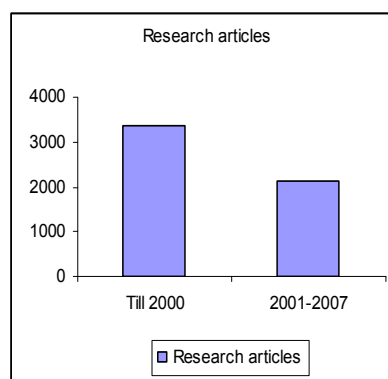
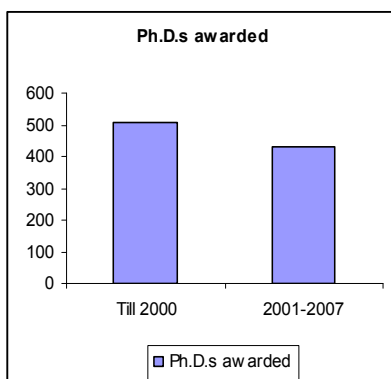
Publication out put:

1. The faculty has published 480 International level and 1625 National level papers and 600 books.
2. University publishes its own journal in Science and Technology, Social Science and Humanities after critical peer review of submitted articles.
3. Every year, staff personnel assessment is carried out for the evaluation of research publications and its quality through self appraisal/PAR.
4. Publication of a two quality research papers in reputed journals is made mandatory for PhD students before submission of thesis.
5. Prasaraanga Unit of Gulbarga University, Gulbarga publishes books written by faculty and providing annual awards for best books in different languages.

Promotion of Research and Publication – An Evaluation

- The University has made significant progress in research project output and publications. It is evident from the following table and graphs.

Sl. No.	Research Output	Till 2000	2001-2007
1	Ph.D.s awarded	506	430
2	Research articles	3355	2135
3	Books	105	590
4	Research projects	47	89
5	Research Assistance	Rs. 219.49 lakhs.	Rs. 1380.00 lakhs



Consultation:

1. The University has established University Industry Linkage Centre for contextual research, training, campus interview and consultancy.
2. The guidelines are prepared for sharing the revenue earned through consultancy on 60:40 basis. The University share will be used for infrastructure development of the concerned faculty laboratories.

Extension activity:

1. Extension programme like science exhibition, endowment lecture, village adoption, field camps are periodical and annual features of University activities. Prasaranga, NSS, NCC and faculty members are directly involved in organising the programme.
2. Gulbarga University NSS Unit has received best NSS activity award for the year 2003-04. The co-ordinator of NSS received the Best NSS Co-ordinator Award in 2002-03.

Study Centres:

The University has established the following study Centres/Chairs, through public, govt. and donor's contributions, which have objectives of designing the principles of mass education, social justice, through extension lectures, publications and promotional material.

1. Basavadi Sharana Sahitya Centre,
2. Ambigara Choudhayya Chair,
3. Hadapada Appanna Chair,
4. Dr. B.R. Ambedkar Study Center
5. Das Sahitya Peetha

Collaborations:

1. University faculty has wide range of linkages for collaboration work at International, National and Regional level. Zilla Panchayat, State and Central Govt. Agencies, local bodies, Central Laboratories, Industries, NGOs and Institutes from India and abroad are involved in this significant activity of academic importance. The details are as mentioned in table 3.5.1.
2. The Extra Mural Research Wing is responsible for extending the research and consultancy work for benefit of all stakeholders.
3. An industrialist and philanthropist has provided a seed money of Rs. 10.00 lakhs for the establishment of "Science and Technology Creativity Centre" to nurture innovative ideas and promote R&D activities of the gifted students. This Centre has been established and functioning in the USIC. This Centre promotes innovative ideas, partially funds research programmes, encourages student involvement in R&D activities, creates data base for the expertise of the faculties and development of new technologies. The students are also trained through entrepreneurship development program so as to facilitate establishment of industries in consultation with the senior faculty members. The innovative ideas of the alumni, present students and faculty members help in inculcation of the knowledge base to serve the community through establishment and development of the industry and creation of wealth, prosperity through suitable placement.

For Re-accreditation:**1. What were the evaluative observations made under Research, Consultancy and Extension in the previous assessment report and how have they been acted upon?**

- **Observation made by the Peer Team:**

Research activities of teachers may be strengthened by sensitizing them to the funding opportunities and the expertise available in other Universities.

Measures undertaken:

The authorities of the University have made effort to encourage faculty to apply to various funding agencies. As a result, around Rs. 10.00 crores of grants has been received from several funding agencies – national, state and regional level.

A one day workshop was organized to sensitize the teachers from Gulbarga University, Gulbarga and nearby institutes in association with DST, New Delhi (sensitization cum awareness program for technology information facilitation program) to provide first hand information on financial assistance available from central agencies. More than 135 participants were enlightened on the various aspects of project submission. Key officials from CSIR, DBT, UGC, and KSCST were invited to interact with faculty and provide necessary information for submitting projects. The University is expecting to receive substantial research grants during the current year, as many departments and teachers have already presented their proposals before the expert committees/tasks force of UGC, DBT, DST and other agencies.

Looking in to the administrative problems faced by project investigators in implementation of the projects, the University Syndicate has issued revised guidelines vide No. GUG/PMEB/RandD/2006-07/102 dated 26.03.2007 for smooth functioning and effective utilization of funds.

The Principal Investigators of the Research Schemes have been given more autonomy and powers in utilizing the funds. A senior professor has been appointed as Special Officer for Development Section for immediate action and bringing awareness of expertise available during implementation of projects.

- **Observation made by the Peer Team:**

Young teachers who publish and show an aptitude for guiding research may be encouraged to act as research supervisors and the condition of minimum five years of experience in teaching could be waived.

Measures undertaken:

In view of the suggestions made in the NAAC's Peer Team Report, the condition of minimum of five years of experience in teaching has been reviewed by various academic bodies.

As per the existing Statute governing eligibility for guiding Ph.D. students, "All Professors, Readers and Lecturers in PG Departments having Ph.D. Degree shall be eligible to guide students for the Ph.D. programme provided that a Lecturer in addition should also have a total of five years teaching experience as a full time teacher. However, in all cases, the Doctoral Committee shall satisfy that the person has a sustained record of post doctoral research and publications. This new Statute requires total of five years of teaching experience for a lecturer with Ph.D., instead of the requirement, as per old Statute, of five years teaching experience after obtaining Ph.D. This modification in the new Statute is an encouragement to the young teachers to act as research supervisors.

2. What are the other quality sustenance and enhancement measures undertaken by the institution since the previous Assessment and Accreditation with regard to Research, Consultancy and Extension?

The University has initiated several measures in this direction. They are as follows:

a) Research Activities

- Ph.D. Regulations have been thoroughly revised and updated. The new regulations provide for continuous monitoring of progress as evidenced by publication of two research papers and colloquium presentations, before the submission of thesis.
- Doctoral Committee has been formed to review research work.
- Research scholarship for Ph.D. and M. Phil students.
- The promotion of Research has helped in submission and sanction of new research projects worth around Rs.10.00 crores.
- Mobilization of funds for research infrastructure from UGC and DST.
- Ph.D. output is on the increase.
- The staff members of the Dept. of Chemistry have two patents to their credit. The process is on for obtaining two more patents by the faculty of Bio-technology and Biochemistry.
- The research publications by the faculty is on the increase as evidenced by the articles published in national and international journals.
- The University promotes research activity through its five Study Centres, sponsored by the philanthropists / state government.
 1. Basavadi Sharana Sahitya Centre,
 2. Ambigara Choudhayya Chair,
 3. Hadapada Appanna Chair,
 4. Dr. B.R. Ambedkar Study Center
 5. Das Sahitya Peetha

b) Consultancy Activities

- The Departments of Applied Electronics, Environmental Science, Management, Commerce, Zoology, Social Work and Economics have offered consultancy services and generated resources.
- Faculty of all the departments provide honorary consultancy to Industry, NGOs and Government Organizations on regular basis.

c) Collaborations

- The University has successfully established linkage with national and international institutions, NGOs and Government organizations. The linkage promotes the curricular, co-curricular and extra-curricular activities of the University.
- All the science departments have linkage with several national and international laboratories for research and development activities.
- The departments of social science, commerce and management have collaboration with the State Government Organizations, NGOs, Industries as well as Local Bodies.

d) Extension Activities

- The University has promoted extension activities through NSS, which has won best award both for the University NSS cell as well as co-ordinator.
- The University has Prasaranga which has undertaken unique activities publication of text books, extension lecturers, convocation address etc.
- The University confers Rajyothsava Award in the field of arts and fine arts.
- Promotion of Endowment Lectures for all the faculties and holding them at different places to achieve good stakeholder relationship.
- Promotion of linguistic harmony by organizing Border Area Literary and Cultural Conventions regularly.
- Significant contributions by five Study Centers promoting research as well as extension activities – Dr.B.R.Ambedkar Study Centre, Basavadi Sharana Sahitya Kendra, Ambigara Chowdaiah Chair, Hadapada Appanna Chair, Dasa Sahitya Chair.
- Establishment of Science and Technology Creativity Centre.