



Dayananda Sagar Institutions



**PROSPECTUS**





Dayananda Sagar Institutions



The 4th edition of the DSI Prospectus is dedicated to the DSI Campus II; a major milestone of Dayananda Sagar Institutions in its Golden Jubilee Year. The Colleges in Campus II, which are located on Kanakapura Road, Bangalore, offer Architecture, Engineering, Information Technology and Management programs. The new campus is 25 minutes away from Campus I.

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## VISION

To be a centre of excellence in education, research & training and to produce citizens with exceptional leadership qualities to serve national and global needs.

## MISSION

To achieve our objectives in an environment that enhances creativity, innovation and scholarly pursuits while adhering to our vision.

## VALUES

The values that drive DSI and support its vision:

- **The Pursuit of Excellence**  
A commitment to strive continuously to improve ourselves and our systems with the aim of becoming the best in our field.
- **Fairness**  
A commitment to objectivity and impartiality, to earn the trust and respect of society.
- **Leadership**  
A commitment to lead responsively and creatively in educational and research processes.
- **Integrity and Transparency**  
A commitment to be ethical, sincere and transparent in all activities and to treat all individuals with dignity and respect.





## Our Founder

The Founder President of Dayananda Sagar Institutions,  
the **Late Shri R. Dayananda Sagar**  
had a great vision:

*Education for all sections of society.*

He set up the Mahatma Gandhi Vidya Peetha Trust (MGVP).  
A role model in the field of Education, he played an important role  
creating history in Indian education, winning the hearts of many, far and wide.





**Dr. D. Hemachandra Sagar**  
Chairman



**Dr. D. Premachandra Sagar**  
Vice-Chairman

*The pride of DSI is its leadership team.*

Meet our second generation visionaries.

Leaders who follow in the footsteps of our founder **Late Shri R. Dayananda Sagar**.

They are thinkers, planners, institution builders and medical doctors, enriched with insight gained from hands-on work experience, learning and sharing through interaction.

Well placed and widely travelled, they bring with them worldly wisdom in all that they do.

A brilliant and dynamic team that DSI can proudly call its *inspiration*.



# Dayananda Sagar Institutions

One of India's leading educational institutions

A front-runner in the field of education today, the Dayananda Sagar Institutions (DSI) are run under the aegis of the Mahatma Gandhi Vidya Peetha Trust, in Bangalore described as the Silicon Valley of India.

Dayananda Sagar Institutions are characterised by the quality of education across a broad range of disciplines from pre-university courses to post-graduation and doctoral programs covering Arts, Commerce, Sciences, Law, Engineering, Biological Sciences, Dental Sciences, Pharmacy, Nursing, Allied Health, as well as Business Management, Information Technology and English / Foreign Languages.

DSI's commitment to globalization in education is expressed in its collaborative research and exchange programmes involving institutions from across the world.

Besides being provided with high caliber teaching staff, the students are given a challenging academic environment, well-equipped lecture theatres, laboratories, well-stocked libraries, computer networking facilities and excellent support infrastructure for sports and cultural activities.

The hostel facilities cater to both local and international students, harmonising the cultural and recreational needs of students from all disciplines.

Stress is laid not only on the quality of education, but also on the quality of life in the campus, to ensure the transformation and greater development of DSI students.





## DSI - LOCATION - BANGALORE

### *India's picturesque silicon valley*

**DSI** colleges are situated in the heart of Bangalore (12 58 N 77 35 E, 920m altitude), India's "Garden City" also known as the "Silicon Valley", which ranks among the most dynamic, progressive and fascinating of Indian cities, is also the nerve centre for Biotechnology, Genetics and Information Technology. Burgeoning with technology firms and characterized by a high rate of development, it is one of Asia's fastest growing cities. The city of Bangalore is well connected with all principal cities of India by road, rail and air. Kempegowda International Airport has direct flights to a number of destinations across the globe.

Defence establishments such as the Department of Space, aeronautical laboratories, premier educational institutions like the Indian Institute of Science, the Indian Institute of Management and many large public sector

organisations have brought in a large technical and scientific pool, that is a reflection of the development over the last sixty years. This vast knowledge base present in varied institutions in the city, together with the ever-increasing number of professionals, many of whom are willing to work with academic institutions, makes Bangalore a great centre of learning.

Perfectly complementing its development is its culture, comprised of a cosmopolitan crowd that is also at ease with traditional pockets and keeps the city lively. When it comes to science and technology, its development is on par with the most developed countries.

Bangalore is famous for its climate, which is extremely good throughout the year and contributes significantly to a student's sense of well being.





## COME TO THE KNOWLEDGE CITY

**DSI** is situated in the heart of the South Indian city of Bangalore - regarded as the knowledge capital of India. The city offers all amenities necessary to make a student's life an enriching experience. From well-laid roads that house the workplaces of some of the world's leading MNCs, technology parks, industrial estates, large super-speciality hospitals, giant industrial houses and globally renowned specialised learning and research centres to botanical gardens, amusement parks, hotels that are a part of international chains, large shopping malls, pubs and restaurants that offer cuisine from different parts of the world.

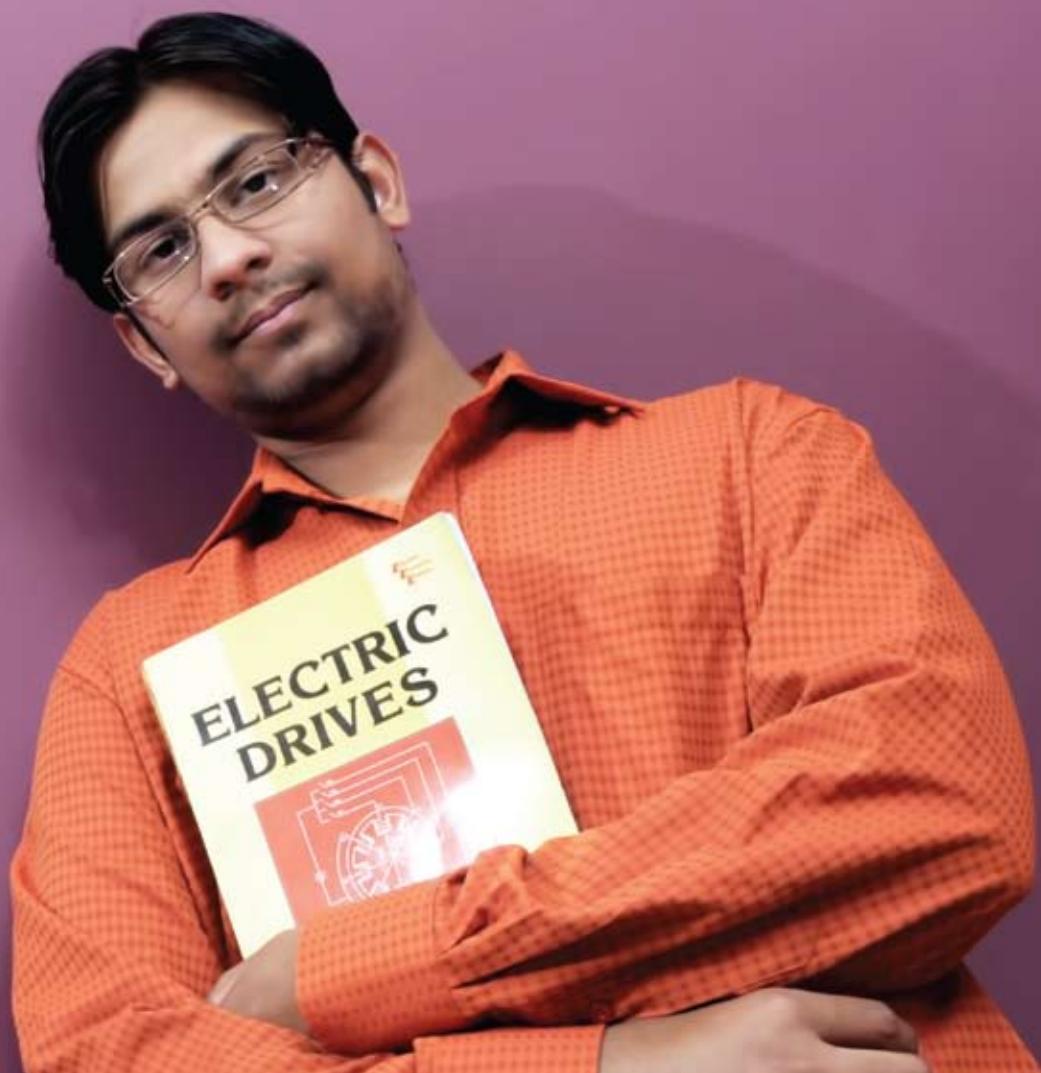
### A great experience called Bangalore

The DSI campus is modern and picturesque, sitting pretty on a hilly terrain, landscaped with natural vegetation and providing an ideal and peaceful academic atmosphere. There is a constant endeavor to offer good facilities to students enabling them to keep pace with rapid global changes, thus preparing them to be citizens of a dynamic and challenging world.

Studying at DSI will be an experience that any student will cherish for a lifetime.

### The educational experience

Being affiliated to Bangalore University, Rajiv Gandhi University of Health Sciences, and the Visvesvaraya Technological University, DSI colleges adhere to their respective syllabi. In addition to the prescribed curriculum, students are encouraged to take on project work to gain hands-on experience. Regular interaction with experts from various institutes and research centres expand the frontiers of knowledge of the students. Further, visits are arranged to various organisations as part of the curriculum. Student seminars and workshops contribute to enhance the effectiveness of learning.



## The Environment

The overall facilities with landscaped gardens, fountains, tree-lined pathways, resting places and exhaustive library collections provide the right atmosphere for profound education. Well-laid out playgrounds and indoor sports facility help in development of physical skills. Infrastructure including sports and hostel facilities of international quality are well designed and functionally furnished to provide high levels of comfort.

A well-trained task force supervises the various installations, and keeps facilities well-maintained.

## The blossoming of DSI in Multiple Campuses

What started as a Pre-University College and grew to include undergraduate programs has developed into a varied, yet fully integrated campus over a relatively short period of time. DSI's engineering college has emerged to occupy the top slot nationally; offering the widest choice of courses in the Bachelor's, Master's and Doctoral levels. Similarly Dentistry, Nursing and Pharmacy disciplines also offer Diploma, Bachelor's and Master's programs. The Centre for Biological and Pharmaceutical research, the Dr. D. Hemachandra Sagar Centre for Advancing Science & Engineering and a new block for automobile studies & research are among the new additions.





## Health Care education has been receiving strong emphasis at the DSI campus.

MS Courses in Dentistry from the Tufts University under the distance mode will be jointly delivered by Tufts University, Sagar Hospital and DSI. An MS in Clinical Research will be offered as an academic partnership of DSI-Sagar Hospitals and University of North Texas-UHSC.

A Master's in Physiotherapy and Doctor in Pharmacy (PharmD) were launched during the year. More additions are on the agenda in the coming years. A full-fledged Allied Health Sciences College offers a variety of certificate and diploma programs.

A Bachelor's and Master's in communication, an independent Centre of Learning in Law, two independent programs in Management, Centre for English & Foreign Languages, Incubation, Innovation and Industry Interaction, Soft Skills, Sports and Culture actively contribute to enrichment of variety at the DSI Campus retaining a constant urge to remain fresh in ideas and thought.

## Official Relationships

### Affiliations

## AICTE / National bodies of Dentistry, Pharmacy, Physiotherapy and Nursing

With over 50 years of valuable experience in running large educational institutions, DSI has received all necessary accreditations from various technical bodies of the Government of India and the Government of Karnataka.

## Medicine

Completing the one-stop offer for all professional programs is part of the DSI vision. A Medical College is set to take off in a new campus, with the Government of Karnataka giving its consent. A 415-bed hospital will be attached to the medical college close to the new campus.

## DSI partners with the Sagar Hospitals

DSI is associated with one of India's leading hospital chains: the Sagar Hospitals. Two state of the art hospitals with combined bed strength of 665, supported by a growing net work of clinics and specialty centres, come as great support to DSI Colleges. Students of Nursing, Physiotherapy, Pharmacy, Dentistry, Biological Sciences, Biotechnology and Medical Electronics have



good access to the various specialities in these high-tech hospitals. The hands-on experience, interaction with the highly qualified and experienced medical and support professionals and staff by the DSI students have generally no parallel, ensuring that students from DSI Colleges find ease in transformation into professionals at the end of university education.

In addition, state-of-the-art laboratories and other facilities, comparable to the best in the world, which the institution has spent liberally to establish, ensure that students also receive hands-on experience of working in a world-class environment, within the campus.

DSI lays emphasis on interaction with industry and other reputed institutions at the national and international level. With its wide contacts in place, DSI has not left any stone unturned to make the Post Graduate Departments truly a seat of higher learning. Students are encouraged to engage in research activities with use of the infrastructure in the campus.

An international hostel with modern conveniences and comforts has been established in the institution premises.

## Growing international academic partnerships

DSI has been successful in establishing working relationships with premier universities across the world that include universities in the US, Germany, a federation of universities in Finland, Canada, France, UK, China, South Korea and UAE.

## Overseas Students

DSI has established a benchmark in the field of professional education in the country leading to many foreign governments sponsoring students to the DSI Campus. Most of the foreign students come

on scholarships of their respective governments and others pay for the costs themselves. DSI overseas' students predominantly are from countries like Afghanistan, Bhutan, China, Malaysia, Indonesia, Sri Lanka, South Korea, Thailand, Kuwait, Nepal, Tanzania, Uganda, Rwanda, Saudi Arabia, Iran, and Iraq. Under an agreement between the Government and DSI, a batch of 85 students from Rwanda was trained in this campus.

A batch of 80 students from Saudi Arabia completed the basic course in English and later moved into professional courses. 137 students from China are attending a Foundation program in English. Students from Finland are now attending a course in DSI's College of Nursing as part of a student exchange program. One batch from Germany is currently in DSI Campus as exchange students.





# INFRASTRUCTURE AND FACILITIES

## The Campus

DSI firmly believes that the learning experience extends far beyond the four walls of a classroom. Thus great care has been taken to retain the original terrain and topography of the hillock. The Campus, spread over a sprawling 29 acres of land, is picturesque and peaceful. One can find rare species of plants, a significantly positive character for a busy academic centre located in the heart of the city, encouraging students to imbibe the many facets of a truly fulfilling and learning experience in a very quiet atmosphere.

## A Global Village

Our students are the cultural ambassadors of the countries that they have come from. DSI is truly a global village, a melting pot of cultures and ideologies, the perfect atmosphere for honing of personalities with multiple facets.

## A Technology - Led Learning Centre

With 2500 computer systems, the student information system (SIS) and several digital classrooms, DSI is one of the first educational centres to go Wi-Fi in the country. A student can sit on the lush greens, on the footsteps leading to a temple or under a tree and get connected to the world - pointers to use of technology in the campus.



## Library

A well-equipped library containing latest textbooks and journals, both Indian and international, is situated in the campus. The central library of the campus has additional facilities such as photocopying machines and computers with Internet facilities. The Library annexe is one of the best in the state presenting a relaxed ambience for students to spend long hours reading / taking notes and making references from the large collections.

## A Digital Library

One of the finest developments in the Campus is the digital library. Students, faculty and researchers can access new developments and reference material with the click of a button.

## Placements

Graduating students receive assistance through Campus interviews/placements. The placement cells in various colleges in the campuses are active working closely with the passing out students and companies looking out for fresh graduates. DSI has a strong placement record with many of the passing out students receiving multiple offers from large corporates, year after year.

## Hostels, Food Courts and Messes

Separate hostels are provided for boys and girls situated within the campus. These consist of neat rooms and dormitories, good toilet facilities and all the comfort that students seek to live in a hygienic atmosphere. The facilities also include well - ventilated

reading rooms and television. The new international hostel is unique for the extremely high levels of comfort it offers to students from all over the world. The Gym, Squash Court and associated features in this modern complex - offer world-class facilities.

## Food Court in The Residences

A 200 seater restaurant offers choice food of different regions outside the country as also from all parts of India.

## Lotus

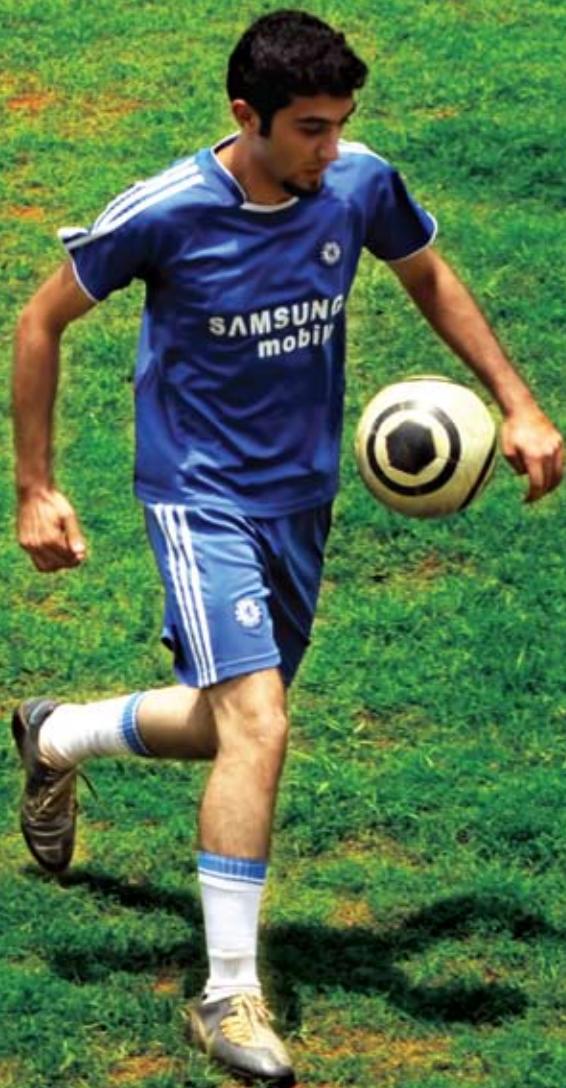
A multi-cuisine food outlet, very modern with excellent design features, caters exclusively to the requirements of the women students.





## The Amphitheatre and the New Convention Centre

The diverse student background and the large number of colleges and departments bring in a continuous demand for state-of-the-art conferencing facilities. Many of the intellectual meets in the campus are of national and international levels. The support facilities had to be the best. As response to these needs was the Dr. C.D. Sagar Auditorium - the first in a series of modern conferencing facilities. New additions include the 750 seater Dr. D. Permachandra Sagar Auditorium & Centre for Performing Arts.



## Sports

A healthy mind in a healthy body makes for overall development of students. Students are encouraged to take up sports during their free time. A soccer field, a tennis court and basketball & volleyball courts, squash courts and gym facility exist in the campus, apart from a host of other facilities for indoor and outdoor games. Qualified and trained physical education teachers are available for students who need a helping hand.



## Hospital and the Insurance Cover

For emergencies and major requirements, the 415 bed Sagar Hospital part of the DSI Campus offers all the needed support.

A full-fledged dental hospital inside the campus caters to immediate needs of students and staff. Further, all students are covered for any unforeseen events that may lead to loss of financial support from home to cover academic costs or cause the student to need hospitalisation. Such eventualities are administered to and timely assistance given (up to specified limits) through arrangement with an insurance company.

## Banking

Vijaya Bank has set up a branch within the campus, offering ready access to banking facilities.



## Transport

College buses are available to students commuting between colleges and campuses. The college provides transportation for students to visit camps organized outside the campus.

## Conveno

Located inside the campus in an easily accessible spot, is the Conveno, an aesthetically designed shop offering books, stationery, uniforms and memorabilia.

## Crèche

There is a crèche within the campus to look after babies and toddlers belonging to the Faculty.



<p><b>Masters Degree</b></p> <p>Civil Engineering (CV)</p> <ul style="list-style-type: none"> <li>• <b>Structural Engineering</b></li> <li>• <b>Highway Technology</b></li> </ul> <p>Mechanical Engineering (ME)</p> <ul style="list-style-type: none"> <li>• <b>Design Engineering</b></li> <li>• <b>Computer Integrated Manufacturing</b></li> </ul> <p>Industrial Engineering &amp; Management (IM)</p> <ul style="list-style-type: none"> <li>• <b>Master of Engineering &amp; Management</b></li> </ul> <p>Electronics &amp; Communication Engineering (EC)</p> <ul style="list-style-type: none"> <li>• <b>VLSI Design &amp; Embedded Systems</b></li> <li>• <b>Digital Electronics &amp; Communication</b></li> </ul> <p>Telecommunication Engineering (TC)</p> <ul style="list-style-type: none"> <li>• <b>Digital Communication &amp; Networking Engineering</b></li> </ul> <p>Computer Science Engineering (CS)</p> <ul style="list-style-type: none"> <li>• <b>Computer Networking</b></li> </ul> <p>Information Science Engineering (IS)</p> <ul style="list-style-type: none"> <li>• <b>Computer Science Engineering</b></li> </ul> <p>Electrical Engineering (EE)</p> <ul style="list-style-type: none"> <li>• <b>Power Electronics &amp; System</b></li> </ul> <p>Chemical Engineering (CH)</p> <ul style="list-style-type: none"> <li>• <b>Chemical Engineering</b></li> </ul> <p>M.Tech. Bio Medical Signal Processing &amp; Instrumentation</p> <p>M.Tech. Micro Electronics &amp; Control Systems</p> <p>M.Tech. Bio Informatics</p>	<p>2 years (4 semesters)</p>	<p>Pass in B.E. / B.Tech examination with a minimum of 50% marks in aggregate in relevant field of VTU or any other university / institution or any other examination recognized as equivalent. PG CET / eligible GATE score compulsory.</p>
<p><b>Doctoral / Research Programmes</b></p> <p>PhD. / M.Sc. (Engineering) by Research PhD.</p> <p>Chemical Engineering (CH)</p> <p>Civil Engineering (CV)</p> <p>Mechanical Engineering (ME)</p> <p>Computer Science Engineering (CS)</p> <p>Electronics &amp; Communication (EC)</p> <p>Telecommunication Engineering (TC)</p> <p>Information Science &amp; Engineering (IS)</p> <p>Industrial Engineering &amp; Management</p> <p>Instrumentation Technology</p> <p>Biotechnology</p>		<p>a) Master's Degree in Engineering / M.Tech of VTU or any other degree recognized as equivalent by VTU.</p> <p>b) B.E. graduates with research / industry experience leading to publications / patents.</p>

## M.Sc (Engineering) by Research

<b>M.Sc (Engineering) by Research</b>		B.E./B.Tech of VTU or any other recognized university as equivalent with a minimum of 60% marks in aggregate and for SC/ST or any other category, relaxation is as per Government of Karnataka regulations.
<b>Campus 2</b>		
<b>Bachelor's Degree</b>		
Civil Engineering (CV) Electrical & Electronics Engineering (EE) Mechanical Engineering (ME) Electronics & Communication Engineering (EC) Computer Science & Engineering (CS) Information Science & Engineering (IS)	4 years (8 semesters)	Pass in PUC / CBSE / ISCE /10+2 or equivalent examination with Physics & Mathematics as compulsory subjects and a minimum of 45% marks aggregate in Physics, Mathematics and any one of the following subjects: Chemistry / Biology / Biotechnology /Computer Science / Electronics and English as a compulsory subject.
Bachelor of Architecture (AT)	5 years (10 semesters)	Pass in PUC / CBSE / ISCE or 10+2 equivalent examination with a minimum of 50% marks in aggregate with Mathematics and English as compulsory subjects. The candidate must have obtained a minimum of 40% marks in NATA.

## HEALTH CARE STUDIES

<b>Bachelor in Hospital Administration (BHA)</b>	3 years	Pass in PUC/10+2 or its equivalent as recognized by Rajiv Gandhi University of Health Sciences with any principle subjects of study or a pre degree course from a recognized university/board (two years after ten years of schooling) with any principle subject of study.
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## DENTAL SCIENCES

<b>Bachelor's in Dental Surgery (BDS)</b>	4 years	Pass in PUC / CBSE / ISCE / 10+2 or equivalent examination in Physics, Chemistry, Biology & English individually and must have obtained a minimum of 50% marks taken together in Physics, Chemistry & Biology in the qualifying examination. KEA/ComedK or any other authorized entrance exam is compulsory with a minimum score of 50%.
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<b>Master's in Dental Surgery (MDS)</b>	3 years	Pass in BDS (Bachelor in Dental Surgery) degree from a college and university recongnised by Dental Council of India or an equivalent qualification recognized by Rajiv Gandhi University of Health Sciences (RGUHS), Karnataka and the Dental Council of India. PG CET/Comedk or any other authorized entrance examination is compulsory with a minimum score of 50%
Conservative & Endodontics Oral & Maxillofacial Surgery Oral Medicine & Radiology Orthodontics & Dentofacial Orthopedics Prosthodontics Periodontics Public Health Dentistry		

## PHARMACY

<b>Bachelor's in Pharmacy (B. Pharm)</b>	4 years	Pass in PUC/CBSE/ISCE/10+2 or equivalent examination with minimum 45% marks aggregate in PCM/PCB OR A pass in D Pharma from PCI approved institution/equivalent examination.
<b>Pharm.D.</b>		
<b>Pharm.D.</b>	6 years	a) Pass in 10+2 or equivalent exam with Physics and Chemistry as compulsory subjects along with any one of the following subjects: Mathematics or Biology.  OR b) A pass in D Pharma from PCI approved institution/ equivalent examination.
<b>Master's in Pharmacy (M. Pharm)</b>		
1. Pharmaceutics 2. Pharmaceutical Chemistry 3. Pharmacology 4. Pharmaceutical Analysis	2 years	Pass in Bachelor's in Pharmacy (B.Pharm) with a minimum of 55% in aggregate from Rajiv Gandhi University of Health Sciences (RGUHS), Karnataka or Bachelor's in Pharmacy examination of any other recognized Indian university as equivalent by (RGUHS), Karnataka/Pharmacy Council of India (PCI)/AICTE Regulations.

## NURSING

<b>Diploma in Nursing (G.N.M.)</b>	3 years + 6 months	Pass in PUC/10+2 or its equivalent exam preferably with Science (PCB) subjects with aggregate of 40% marks.
<b>P.C. B.Sc., Nursing</b>	2 years	Pass in Diploma in General Nursing and Midwifery (DGNM) and should be a registered nurse.

<b>Bachelor's in Nursing (B.Sc., N)</b>	4 years	Pass in PUC/10+2 or its equivalent exam with a minimum of 45% marks in Physics, Chemistry, Biology and English taken together.
<b>Master's in Nursing (M.Sc., N)</b>	2 years	<p>a) Pass in B.Sc Nursing (Basic), or Post Basic B.Sc Nursing degree or Post Certificate B.Sc Nursing of Rajiv Gandhi University of Health Sciences (RGUHS), Karnataka or any other university recognized as equivalent by RGUHS, Karnataka with aggregate marks not less than 50%.</p> <p>b) Minimum of one year experience after obtaining B.Sc Nursing (Basic), in a hospital or in nursing educational institution or in a community health setting.</p> <p>c) Should be a registered nurse.</p>

## PHYSIOTHERAPY

<b>Bachelor's in Physiotherapy (B.P.T)</b>	4 years + 6 Months compulsory rotating internship	Pass in PUC/CBSE/ISCE/10+2 or equivalent examination with a minimum of 40% marks aggregate in PCB with English as one of the languages.
<b>Master's in Physiotherapy (M.P.T)</b>  1. Physiotherapy in Musculoskeletal & Sports 2. Physiotherapy in Cardio-Respiratory 3. Physiotherapy in Neurological Conditions 4. Physiotherapy in Paediatrics 5. Physiotherapy in Community Based Rehabilitation	2 Years	Pass in B.Sc, (PT) degree of 3 ½ years duration or BPT degree of 4 ½ years both full time programmes from RGUHS, Karnataka or any other university in India or abroad recognized as equivalent with not less than 50% marks in aggregate and have completed 6 months of compulsory rotating internship in physiotherapy colleges recognized by RGUHS-Karnataka.

## PARAMEDICAL SCIENCES

### Diploma

Medical Lab Technology  
X-Ray Technology  
Operation Theatre Technology

3 years

Pass in SSLC/10th Std./CBSE/ICSE or equivalent examination.

2 years

Duration of the course in 2 years in case of candidates who have passed PUC/CBSE/ISCE/10+2 or equivalent examination with science subjects.

## BIOLOGICAL SCIENCES

### Bachelor's Degree

B.Sc. Microbiology  

- Chemistry, Zoology, Microbiology

3 years  
(6 Semesters)

Pass in PUC/CBSE/ISCE/10+2 or equivalent examination with PCB / CBZ (Chemistry compulsory).

B.Sc. Biotechnology  

- Biotechnology, Genetics, Biochemistry
- Biotechnology, Zoology, Chemistry

3 years  
(6 Semesters)

Pass in PUC/CBSE/ISCE/10+2 or equivalent examination with PCB / CBZ (Chemistry compulsory).

B.Sc. Genetics  

- Genetics, Zoology, Biochemistry

3 years  
(6 Semesters)

Pass in PUC/CBSE/ISCE/10+2 or equivalent examination with PCB / CBZ (Chemistry compulsory).

### Master's Degree

M.Sc. Microbiology  
M.Sc. Biotechnology

2 years  
(4 Semesters)

B.Sc., degree of Bangalore University or any other university equivalent thereto with 50% marks (45% for SC/ST) in all the three optional in aggregate. The applicant should have studied Chemistry/Bio-Chemistry compulsorily as an optional subject along with at least one of the following:  
 a) Microbiology b) biotechnology c) Botany  
 d) Applied Botany e) Zoology f) Applied Zoology  
 g) Industrial Microbiology h) Environmental Science  
 i) Genetics j) Applied Genetics k) Sericulture  
 l) Home Science m) Life Sciences  
 n) Biological Sciences o) Bio-chemistry.

M.Sc. Biochemistry	2 years (4 Semesters)	The candidate must have secured 40% marks in aggregate and studied Chemistry/Biochemistry (Cognate subject) securing 50% marks in this subject at B.Sc., level and Studied biology at 10+2 level/PUC/CBSE/ISCE.
M. Sc. Applied Genetics	2 years (4 Semesters)	Graduate in science with a minimum of 50% in aggregate of all the optional subjects, with any three of the following subjects: Chemistry, Bio-Chemistry, Botany, Applied Botany, Zoology, Applied Zoology, Environmental Science, Microbiology, Bio-Technology, Genetics, Applied Genetics and Sericulture.

## MANAGEMENT STUDIES

<b>Bachelor's Degree</b>	3 years (6 Semesters)	Pass in PUC/CBSE/ISCE/10+2 or equivalent examination.
Bachelor of Business Management (BBM)		
Bachelor of Commerce (B.Com)	3 years (6 Semesters)	Pass in PUC/CBSE/ISCE/10+2 or equivalent examination.
<b>Campus 2</b>		
Bachelor of Business Management (BBM)	3 years (6 Semesters)	Pass in PUC/CBSE/ISCE/10+2 or equivalent examination.
Bachelor of Commerce (B.Com)	3 years (6 Semesters)	Pass in PUC/CBSE/ISCE/10+2 or equivalent examination.
<b>Master's Degree</b>	2 years (4 Semesters)	Bachelor's Degree from any university in any discipline with 50% marks in aggregate (including languages). Recognised and authorized entrance exam in compulsory.
Master of Business Administration (MBA) Bangalore University (B.U.) Visveswaraya Technological University (V.T.U.)		
<b>Campus 2</b>		
Master of Business Administration (MBA) Visveswaraya Technological University (V.T.U.)	2 years (4 Semesters)	Bachelor's Degree from any university in any discipline with 50% marks in aggregate (including languages). Recognised and authorized entrance exam in compulsory.

Master in International Business (MIB) Bangalore University (B.U.)	2 years	Pass in Bachelor's/Master degree of Bangalore university or any other university recognized and have secured at least 50% marks in aggregate of all papers studied in the qualifying examination.
PGDM AICTE Post Graduate Diploma in Management	2 years (6 semesters)	Bachelor's degree from any recognized university with 50% marks in aggregate and a minimum of 60% score in CMAT/MAT/CAT examination.
Post Graduate Diploma in Management (PGDM) All India Management Association (AIMA)	2 years (4 modules)	Bachelor's Degree from any recognized university and MAT examination as per AIMA requirements.

## INFORMATION TECHNOLOGY

<b>Bachelor's Degree</b> Bachelor of Computer Applications (BCA)	3 years (6 Semesters)	Pass in PUC/10+2 or equivalent examination in Science, Arts or Commerce stream with a minimum of 35% marks or candidate who has passed JODC or Diploma in Engineering (of three years duration of Govt. of Karnataka) with a minimum of 35% marks in aggregate in all the semesters/years.
<b>Campus 2</b> Bachelor of Computer Applications (BCA)	3 years (6 Semesters)	Pass in PUC/10+2 or equivalent examination in Science, Arts or Commerce stream with a minimum of 35% marks or candidate who has passed JODC or Diploma in Engineering (of three years duration of Govt. of Karnataka) with a minimum of 35% marks in aggregate in all the semesters/years.

<b>Master's Degree</b>	3 years (6 Semesters)	Pass in Bachelor degree with not less than 50% of marks with Mathematics/Statistics/Computer Science/Computer Programming/Computer Application/Business Mathematics/Business Statistics as one of the optional or electives at degree level. Provided further that in respect of candidate who has studied and passed one of the subjects specified in the first proviso in the Pre-University course with 50% of marks in that subject shall also be considered for admission Recognised and authorized entrance exam is compulsory.
Master of Computer Applications (MCA) Bangalore University (B.U.) Visveswaraya Technological University (V.T.U.)		
<b>Campus 2</b>	3 years (6 Semesters)	Pass in Bachelor degree with not less than 50% of marks with Mathematics/Statistics/Computer Science/Computer Programming/Computer Application/Business Mathematics/Business Statistics as one of the optional or electives at degree level. Provided further that in respect of candidate who has studied and passed one of the subjects specified in the first proviso in the Pre-University course with 50% of marks in that subject shall also be considered for admission Recognised and authorized entrance exam is compulsory.
Master of Computer Applications (MCA) Visveswaraya Technological University (V.T.U.)		

## BACHELOR'S DEGREE

Bachelor of Science (B. Sc.) Physics, Mathematics, Computer Science Mathematics, Electronics, Computer Science	3 years (6 Semesters)	Pass in PUC/CBSE/ISCE/10+2 or equivalent examination with Physics & Mathematics as compulsory subjects.
Bachelor of Science (B. Sc., PCM) (Physics, Chemistry, Mathematics)	3 years (6 Semesters)	Pass in PUC/10+2 or equivalent with Physics & Mathematics as compulsory subjects.
Bachelor of Science (B. Sc.) (Economics, Statistics, Mathematics)	3 years (6 Semesters)	Pass in PUC/CBSE/10+2 or equivalent examination with Physics & Mathematics as compulsory subjects.
Bachelor of Arts (B. A.) (History, Economics, Sociology)	3 years (6 Semesters)	Pass in PUC/CBSE/ISCE/10+2 or any other examination recognized as equivalent to PUC Board of Karnatka.

B. A., Journalism (History, Economics, Journalism)	3 years (6 Semesters)	Pass in PUC/CBSE/ISCE/10+2 or any other examination recognized as equivalent to PUC Board of Karnataka.
Bachelor's in Fashion & Apparel Design (B. Sc., F.A.D.)	3 years (6 Semesters)	Pass in PUC/CBSE/ISCE/10+2 or any other examination recognized as equivalent with a minimum 35% marks in aggregate.

### INTEGRATED DEGREE COURSE IN LAW

B.A., LL.B. Integrated Degree Course in Law (Karnataka State Law University)	5 years	Pass in PUC/CBSE/ISCE/10+2 or equivalent examination with 45% and above for general category applicants & 40% and above for SC and ST applicants. Maximum age for seeking admission is limited to 20 years in case of general category of applicants and 22 years in case of applicants from SC and ST.
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### MASTER'S

M.S. Communication	2 years (4 Semesters)	Pass in Bachelor's Degree examination of Bangalore University or from any other university recognized as equivalent with 50% marks in aggregate of all the subjects including languages.
Master's in Commerce	2 years	Pass in B.Com/BBM degree examination of Bangalore University or any other university recognized there to and has not less than 50% marks in aggregate in Commerce subjects in all the examinations of B.Com/BBM course.

### PLUS TWO (DAY)

Science & Commerce	2 years	Pass in 10th Standard/10th class of a State board/equivalent examinations.
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## PLUS TWO (EVENING)

Commerce  
Arts

2 years

Pass in 10th Standard/10th class of a State board/equivalent examinations.

## DEGREE PROGRAMMES (EVENING)

Bachelor of Commerce (B. Com)

3 years  
(6 Semesters)

Pass in PUC / CBSE / ISCE / 10+2 or equivalent examination.

Bachelor of Arts (B.A.)

- History, Economics & Political Science
- History, Economics & Sociology

3 years  
(6 Semesters)

Pass in PUC / CBSE / ISCE / 10+2 or equivalent examination.

## CENTRE FOR ENGLISH & FOREIGN LANGUAGES (CEFL)

### I) ENGLISH as A FOREIGN LANGUAGE (EFL)

Students seeking admission must write a placement test to assess their band levels.

Courses for overseas students: From Pre-Beginners-Pre-University for 36 weeks at different levels.

### II) ENGLISH as A SECOND LANGUAGE (ESL)

English for Undergraduates of DSI of different streams. (Non-Professional) for 20 hours.

### III) ENGLISH FOR SPECIFIC PURPOSES (ESP) (ESP/Engg and PG)

Learning-for-life or continuing education programmes (Professional) for 20 hours

### IV) FOREIGN LANGUAGES OFFERED: GERMAN, FRENCH & SPANISH

## P.G. DIPLOMA COURSES - (BANGALORE UNIVERSITY)

PG Diploma in Japanese Studies

1 years

Bachelor's degree under any discipline from a recognized university securing atleast 40% marks in aggregate (including languages).

PG Diploma in Hospital Administration

1 years

Bachelor's / Master's Degree from a recognized university with 40% marks in aggregate.



## ENGINEERING - DIPLOMA

DSIT (Polytechnic) offers full time diploma courses in six leading branches of Engineering. These courses are recognized by the highest technical board in the State affiliated to Board of Technical Examination recognized by, The Directorate of Technical Education, Government of Karnataka and are approved by the AICTE, New Delhi. The duration of the courses is three years i.e. 6 semesters.

### Courses currently offered

1. Civil Engineering
2. Mechanical Engineering
3. Electrical & Electronics Engineering
4. Electronics & Communication Engineering
5. Computer Science Engineering
6. Information Science & Technology

### Admission procedure

Application in the prescribed form for admission should reach the admission office within the date prescribed by the Directorate of Technical Education, together with the following:

1. Original 10th standard Marks Card and two copies of the same.
2. Original Transfer Certificate and two copies of the same.
3. Certificate that the student has studied in Karnataka for 5 years and two copies of the same in case of Karnataka Students (should be attested by BEO).
4. Eligibility Certificate in case of all Non-Karnataka Students.
5. Eligibility Certificate only in case of Karnataka students who have passed CBSE or ICSE examinations.
6. Latest stamp size color photographs - 08 Nos.

### Minimum eligibility criteria for admission to the diploma course

- A pass in class X or an equivalent examination with 35% in aggregate.
- The student must have studied English, Maths and Science in class X.
- Non-Karnataka students should obtain Eligibility Certificate issued by the Department of Technical Education, Govt. of Karnataka.
- Students from Karnataka who have passed class X in ICSE or CBSE should obtain an Eligibility Certificate issued by the Department of Technical Education, Government of Karnataka.
- Documents required to obtain an Eligibility Certificate for foreign nationals wishing to obtain a Diploma in Karnataka.
  - NOC from MHRD, New Delhi.
  - NOC from GOI, Ministry of External Affairs, New Delhi.
  - EC of qualification of X standard by SSECBS, New Delhi.

### Academic term

The academic term is based on the semester system.

- The odd semesters viz. I, III & V semesters are from July to November.
- The even semester viz. II, IV, VI semesters are from December to April.

- Students are required to attend all the theory as well as practical classes regularly and maintain notes and lab records neatly.

### Improvement in academic work

Since the introduction of the semester scheme, there has been continuous evaluation of students throughout the semester by way of internal assessment at regular intervals, which builds up regular study habits in students and helps in diagnosing, the pupil's learning difficulties. It helps to find out potential among students, interests, needs and aptitudes.

### Tests and assignments

- Three internal tests covering all subjects are conducted in each semester.
- Subject notes, lab records, workshop diaries, drawing files etc. are inspected regularly by the concerned staff.
- Internal assessment marks are added to the Final Exam marks in each subject.

### Academics

- Extra care is given to students from regional and non English medium schools.
- A sense of interest in learning is instilled in the young minds of students.
- Supervised study is conducted for students by respective department staff during free hours for improving academic excellence.
- Students are exposed to the latest technology - CNC Machines, VLSI Design, PLC, Microcontroller, Multimedia designing, Mechatronics, ASP.net and VB.net.
- Students of all streams are required to study the Indian Constitution.
- Students will get sufficient exposure to various Communication Skills.

### Syllabus

The syllabus for the Diploma in Engineering Courses has been prepared and constantly updated by the World Bank Project Curriculum Development Cell and by the Department of Technical Education, Government of Karnataka.

The syllabus has been formulated and upgraded from time to time to provide the state-of-the-art technical knowledge in all aspects of Engineering catering to current industrial needs.

Theory and practical subjects aim to enable students to develop written and oral communication skills as well as technical skills in specific areas of planning, equipment-design and development, testing and inspection, maintenance, repair and servicing of machinery / systems.

This course aims at producing highly qualified, efficient technicians capable of meeting requirements at the basic level.

### Civil Engineering

During the course of study, the student is exposed to various subjects of Civil Engineering such as Planning, Drafting (both manual and computer - aided), Surveying, Estimation & Costing, Construction Technology, Basics of Highway, Railway, Bridge, Airport, Tunnel and Harbour Engineering. The course offers adequate exposure to Reinforced Concrete Structures, Quality Control, Material Testing, Construction Management & Entrepreneurship, Professional Practice and Office Procedures. Students will get a feel of Extensive Survey, Building Drawing, Irrigation & Bridge Drawing and Structural Engineering Drawing. Students are also exposed to software like AUTOCAD & STAAD.

At present good placement opportunities are available for diploma holders in the field of Civil Engineering, both in Government & Private Sectors. They can be absorbed as site engineers involved in supervision, draftsman (with computer knowledge), surveyors, and personnel in-charge of quality control, estimation work and office procedures. They can establish their own consultancy in the civil engineering and construction fields or become Licensed Class I Contractors.

### **Mechanical Engineering**

Students are exposed to Mechanical drafting, Designing, Modification of existing design, Estimating & Costing, operating of various machines and their maintenance. They also get adequate exposure to latest technology such as Mechatronics, CAD /CAM & Robotics and CNC.

The Diploma holders can be absorbed as Apprentice Trainees in reputed Public Sector / Private Sector companies. After completion of the training, they may be placed as maintenance / production engineers. They can acquire additional knowledge and thus reach higher levels in the company. They are also trained to start their own business.

### **Electrical & Electronics Engineering**

Students are exposed to various subjects of study such as Drafting, Wiring, CAD, Power saving and Power Control, High Voltage Engineering, Generation, Transmission, Distribution and Utilization, Embedded Systems, Trouble Shooting, Measurements, Mechatronics, PC Servicing, ICs, Microprocessor etc.

There are plenty of openings for Electrical Diploma Holders. The Diploma Holders find openings as

Maintenance Engineers in industrial and commercial buildings. They can be absorbed as Trainees in reputed Public Sector / Private Sector companies. They have openings in software industry as design engineers as they have adequate knowledge of CAD. They also find openings as power control engineers. They are offered specialized training in power control in companies such as BEL, BHEL, CPRI, KPTCL etc. They can become Class I Government Licensed Engineers to undertake erection of electrical layout works in industries. They also have the opportunity of working as power plant engineers in electric power generating stations.

### **Electronics & Communication Engineering**

In addition to basic subjects, students are exposed to latest technology such as PCB Simulation, Soft Skills, Industrial Automation & PLC, VLSI Design & Video Engineering, Micro-controllers etc.

“Electronics is the brain of Modern Technology”. The computer is an electronic device. It is an evergreen subject that provides opportunities for technicians in the following areas of Engineering like Maintenance & Service, Research Assistance, Production Control, Quality Control and Marketing.

The service of electronic technicians is required in companies like ISRO, DRDO, BEL, INTEL, IBM, AMD, SONY, SAMSUNG, PHILIPS, NASA, National Electronics, and National Semiconductors.

Diploma in Electronics also provides much choice of subjects for higher studies like Electronics, Instrumentation, Telecommunication, Medical Electronics, Mechatronics and Computer Science.

### Computer Science Engineering

Students are exposed to Basics of Computers, Microprocessor, and software like C, C++, Java, VB, LINUX, Database Management Systems, Web Technology, Multimedia and the latest .NET software. In addition they are also exposed to PC Hardware, Maintenance & Networking, Graphical User Interface etc.

On completion of Diploma in Computer Science, plenty of career opportunities exist in the IT industry.

The students can go in for further studies like B.E. They can find openings as software engineers, system developers and programmers. They get sufficient opportunity to learn PC hardware so that they can become Hardware Engineers or Network Engineers. They are eligible for the Apprenticeship training program in HAL, NAL, etc. Infinite opportunities in the field of Web and Multimedia designing are available for diploma holders. Most MNCs prefer diploma students for BPO and Call Centre jobs.

### Information Science & Technology

The students are exposed to Basics of Computers, Software like C, C++, Java, VB, LINUX, Database Management Systems, Web Technology, Introduction to Algorithms, System Analysis and Management and Advanced Database Systems. They are also exposed to Multimedia and the latest .NET software, Graphical User Interface etc.

On completion of Diploma in Information Sciences & Technology, the students have plenty of career opportunities.

The students can go in for further studies like the B.E. course. They can find openings as software engineers,

system developers, & programmers. They are eligible for the apprenticeship training programs in HAL, NAL, etc. Infinite opportunities in the field of Web and Multimedia designing are available for Diploma holders.

### Facilities

#### Infrastructure

DSIT has sound infrastructure, spacious classrooms and spacious drawing hall, digital classroom, fully equipped laboratories, workshops with latest instruments to suit the revised curriculum and satisfy the needs of today's industrial set-up.

### Laboratories

#### Department of Civil Engineering

The Civil Engineering Department is equipped with the Survey Stores, Material Testing Lab, Fluid Mechanics and Hydraulics Lab, Environmental Lab and CADD Lab, which are being upgraded periodically. The CAD Lab of the Civil Department is equipped with software such as the "Auto CAD Architectural Desktop" and STAAD.

#### Department of Mechanical Engineering

The Mechanical Engineering Department has well-equipped Basic Workshops, Material Testing & Quality Control Lab, Hydraulic Lab, Pneumatics Lab, Foundry Lab, Machine Shop, Computer Lab, CAD /CAM and CNC laboratory. These labs have been recently renovated and upgraded with latest technology.

#### Dept. of Electrical & Electronics Engineering

The Electrical & Electronics Engineering Department has an Electric Wiring Lab, Electrical Machines Lab, Electrical Measurements Lab, High Voltage Lab and CAD Lab, which support the requirements of the syllabus to meet the needs of the Industry and Research.

### Department of Electronics & Communication Engineering

The Electronics Engineering Department has Electronics Labs, Digital Lab, Computer Lab and Servicing Lab, which are well equipped and adequate to cater to the needs of the current semester syllabus.

Latest equipment is added every year to enable students to get acquainted with advanced technology to meet the requirements of industry. Thus our Diploma Graduates are well equipped with latest technology and can easily fit into the highly competent industrial society.

### Department of Computer Science & Engineering

The Computer Science & Engineering Department has computer labs with sufficient systems so that students can work at individual stations. The labs are well equipped with relevant software to cater to the needs of the revised curriculum, which is on par with the present day industrial society. A Computer Hardware Lab for the Computer Science students is also available.

### Information Science & Engineering

The Information Science Department has computer labs with sufficient systems so that students can work at individual stations. The labs are well equipped with relevant software to cater to the needs of the revised curriculum, which is in par with the present day industrial society. A Multimedia Lab for the Information Science students is also available.

### Department of Science

Applied Science is a subject common to all branches of Engineering. A fully equipped Science Lab with relevant instruments is available.

### Schedule and Scheme of Examination

- Odd semester examinations will be held during November - December.
- Even Semester Examinations will be held during April - May.
- The theory and practical examinations for all the semesters are conducted within the DSIT (Polytechnic) building as per the norms and procedures of the Board of Technical Examinations, Government of Karnataka. The examinations in theory and practicals are conducted at the end of each semester.

### Eligibility Percentage for passing in individual subjects:

Theory/ Drawing	Internal Assessment	External Exam
Maximum Marks	25	100
Minimum Marks		35
Total Minimum Passing Marks		45

Practical	Internal Assessment	External Exam
Maximum Marks	25	100
Minimum Marks		50
Total Minimum Passing Marks		60

After successful completion of the Diploma course, the Board of Technical Examination, Government of Karnataka, issues the Diploma Certificate.

### Carry Over System

Full carry over from odd semester to even semesters.

- 2nd to 3rd semester not more than four subjects of 1st and 2nd semesters taken together.
- 4th to 5th semester - students should have cleared all the subjects of 1st and 2nd semesters and shall not have more than four subjects of 3rd and 4th Semesters taken together.

### Student Discipline

DSIT (Polytechnic) expects a high degree of discipline and decorum among the student community. They are expected to be smartly dressed (preferably in formals) at all times of the day and follow a code of conduct and good behaviour. The overall behaviour of the students in the campus will be continuously monitored. If any sort of misbehaviour with any member of the faculty (both teaching and non-teaching) or management or office staff is noticed, serious action as per norms of the management will be taken.

Students are required to strictly follow dress code set by the institution. As per the Supreme Court Order "Ragging in any form is banned". Action as per norms will be taken against those indulging in such activities.

Students are instructed not to bring or use mobile phones in the campus. If any student is caught in possession of a mobile phone or using a mobile anywhere in the campus it will be confiscated and not returned under any circumstances whatsoever.

### Attendance

- It is mandatory for students to maintain a minimum attendance of 75% in each subject in all semesters.

- Any student failing to satisfy minimum attendance requirement will not be permitted to take up the ensuing semester examination.

### Seminars

Ample exposure is given towards career planning and importance of higher education, through seminars and technical lectures from various industrial experts and academicians conducted in the campus. Seminars are conducted throughout the year for benefit of the student community.

### Learning through conference and seminars

Seminars are conducted to instill a sense of learning in the minds of students and to enlighten students on various opportunities available for further studies and financial sources available for the same. Seminars and guest lectures on various topics related to the subjects of study, apart from classroom study are conducted to facilitate students to get an in-depth knowledge of various subjects.

### Extra-Curricular Activities

Students excelling in sports are sponsored to participate in State-Level & Inter-Polytechnic Sports meet once a year and for participation in various inter-college technical and cultural competitions and in various technical competitions conducted by the Visvesvaraya Industrial and Technological Museum.

### Placement Cell

Placement cell is linked with a wide range of well-ranked companies. Placement opportunity for students of final year, possessing good behaviour, pleasing personality and excellent academic record right from Class X up to the last exam, without any ordinance is available in the campus.





## ENGINEERING

**BE / M.Tech / Ph.D / MSc (Engg)**

### Highlights:

Process in place ISO 9001-2000 Certified by BSI - UK

### Academic credibility in place:

#### Approved by

**All India Council of Technical Education (AICTE)**

#### Affiliated to

**Visvesvaraya Technological University (VTU)**

#### Accreditation by

**National Board of Accreditation (NBA)**

### Consistent good results

- Very high percentage of 1st class and distinctions.
- A good percentage of university ranks across streams at the Undergraduate / Postgraduate levels.
- India's big employers, MNCs, SMEs visit the campus giving DSCE a preferred status.
- PG & Research Programmes in all branches.

### Why Choose the

#### Dayananda Sagar College of Engineering

The college has a great combination of some of the best teachers and practicing professionals enjoying national and international recognition among its faculty. This excellent team shapes the student community in academic skills over and above scientific and engineering temperament. Students are honed to develop the right attitudinal skills and managerial abilities with in-house training. Over the years the institution has been instrumental in moulding high calibre, highly

proficient engineering graduates who have created a niche in their individual chosen careers, with well-recognised academic qualifications acknowledged for excellence by industry and academicians both in India and abroad.

### The Courses

The Dayananda Sagar College of Engineering was established during 1979-80 with basic courses of Civil, Mechanical, Electrical and Electronics Engineering. Since then it has grown in leaps and bounds with 16 branches of engineering, catering to the demands of professional education. The college now offers undergraduate programmes leading to 4 years/5 years Bachelor Degrees, 2 years / 3 years Master Degrees and Doctoral Programs of the Visvesvaraya Technological University in the following streams:

### Undergraduate Programme – 4 / 5\* years Bachelor Degree in:

- Civil Engineering
- Mechanical Engineering
- Electrical & Electronics Engineering
- Electronics & Communication Engineering
- Chemical Engineering
- Instrumentation Technology
- Industrial Engineering and Management
- Computer Science & Engineering
- Telecommunication Engineering
- Medical Electronics
- Information Science & Engineering
- Bio-Technology
- Automobile Engineering
- Aeronautical Engineering
- Construction Technology Management
- Architecture\* (5 years)

### Second Shift Programmes

- Electronics and Communication Engineering

### Postgraduate Programmes

Engineering - leading to 2 year M.Tech Degree

- **Civil Department:**
  - Structural Engineering
  - Highway Technology
- **Mechanical Department:**
  - Design Engineering
  - Computer Integrated Manufacturing
- **Electrical Engineering:**
  - Power Electronics & System
- **Electronics & Communication Department:**
  - Digital Electronics & Communication
  - VLSI Design and Embedded Systems
- **Chemical Engineering**
  - Chemical Engineering
- **Industrial Engineering & Management**
  - Master of Engineering in Management
- **Computer Science & Engineering Department**
  - Computer Network Engineering
- **Telecommunication Engineering:**
  - Digital Communication & Networking Engineering
- **Information Science Engineering:**
  - Computer Science Engineering

- **Medical Electronics:**
  - Bio Medical Signal Processing & Instrumentation
- **Bio-Technology**
  - Bio Informatics
- **Instrumentation Technology:**
  - Micro Electronics & Control Systems
- **Master of Business Administration**
  - Two year programme leading to degree in MBA
- **Master of Computer Application**
  - Three year programme leading to degree in MCA

#### Doctoral Programmes

- Department of Civil Engineering
- Department of Mechanical Engineering
- Department of Electronics & Communication Engineering
- Department of Chemical Engineering
- Department of Computer Science and Engineering
- Department of Telecommunication Engineering
- Department of Information Science & Engineering
- Dept. of Architecture
- Management
- Computer Applications
- Department of Bio Technology
- Department of Industrial Engineering & Management
- Department of Electrical and Electronics
- Department of Physics

#### Infrastructure

The college has state of the art laboratory facilities supported by highly skilled man power. Care has been taken to invest extensively in every department

of engineering with periodic up-gradation and proper maintenance. The best of faculty with innovative teaching methods effectively combine modern theory and practical learning which has become a guiding light for fresh entrants to shape them into professionals, as they pass out of the portals of the college. The institute has an open access library with 28967 titles 98000 volumes supported journals.

#### Teaching - Learning Process

The faculty arranges for technical field visits in conformity with the curriculum. The faculty and students have access to EDUSAT, a distance-learning programme, an initiative of the VTU, Belgaum. The faculty can access and browse text books and journals through DELNET and J-GATE, an open source for information promoted by the UGC and Ministry of Education, New Delhi. The faculty and students have unlimited and free access to INTERNET through the college Internet browsing centre. Further we have subscribed for online journals with IEEE, ASCE, ASME, SPRINGER, ELSEVIER, ASTM, Digital Library, EBSCO (Architecture), EBSCO (Management) etc.

#### Computer Centres / Internet / SIS

There is a centralized computer centre with a large number of computers with Internet facilities. Students have full access to the centre for their development and information. A well developed Student Information System (SIS) is in place, where the faculty enters all the information with reference to student performance and attendance regularly enabling parents to monitor progress of their wards online.

### **Student Counselling - Proctorial System**

The college has a well designed proctorial system in tune with the institution policy. Students are grouped in batches and a proctor is assigned to look after their progress. The proctors interact continuously with the assigned students, monitor their progress and development based on feed back from the concerned faculty on aspects like: attendance, performance in tests and examinations.

### **Alumni Interaction**

Alumni meetings are organized in the college at periodic intervals. The response has been encouraging as seen from the active participation of our former students. Efforts are on to connect all engineering alumni and explore greater interaction.

### **Research Facilities and Industry Interaction**

Research and Development activities compliment the various engineering courses. Dayananda Sagar College of Engineering has a full-fledged Bio-Technology Engineering Laboratory with activities funded by All India Council of Technical Education (AICTE), Karnataka State Council for Science and Technology (KSCST) and National Aviation Fuel Board (NAFB).

The college has long-standing professional contacts with industry. The infrastructure facilities available include sophisticated instrumentation and specialised expertise in various fields. Industry as well as Research & Development establishments have offered many research and consultancy projects. Both our students and faculty have won top honours and recognition for specified projects over the years.

### **University Regulations Governing the Bachelor's Degree Course in Engineering (from the academic year 1998-99)**

#### **Title and Duration of the Course**

- 1.1 The college offers degree courses leading to Bachelor of Engineering (BE).
- 1.2 Duration: four academic years delivered in eight semesters; each semester having a duration of 16 weeks.
- 1.3 The examination in all the subjects of all the eight semesters shall be conducted at the end of each semester.

#### **Admissions and Eligibility**

Admissions for the first year of the course shall be open to students who have passed the two-year Pre-University Examination (Science) with 45% marks, conducted by the Karnataka State Pre-University Board.\*

Or

10+2 of the Central Board of Secondary Education (CBSE) with Physics and Mathematics as compulsory subjects along with Chemistry/Biotechnology/Computer Science/Information Science/Electronics/Biology as optional subjects with English as one of the languages of study and obtaining at least 45% marks in the optional subjects. Chemistry & Mathematics as optional subjects and English as language of study.

Or

Those who have passed any other examinations recognised by the University as equivalent thereon.

\*Candidates should have secured a minimum of 45% of marks in the aggregate of Physics, Chemistry, & Mathematics of second year Pre-University Examination or at the end of 12 years of education.

1. Physics, Chemistry & Mathematics or
2. Physics, Mathematics & Electronics or
3. Physics, Mathematics & Computer Science

### Lateral Entry

The three year Diploma Holders in appropriate branch of Engineering awarded by the Board of Technical Education, Government of Karnataka or any other Diploma qualification considered equivalent thereto by the University, who have secured not less than 50% of the total maximum marks in the final year are eligible for admission to the Second year of B.E. course in appropriate branch. However, there shall not be any exemption of any subject at the B.E. degree course.

### Eligibility Certificate

Candidates other than those, who have passed the examination of Pre-University Examination Board, Engineering Diploma Examinations of the Board of Technical Education, Karnataka, have to obtain eligibility certificate for seeking admission to B.E. degree course from Visvesvaraya Technological University (VTU) of Karnataka State. The University will notify dates for the issue of eligibility certificates from time to time.

### Attendance Requirement

A candidate should undergo the prescribed course of study in a college affiliated to Visvesvaraya Technological University for the purpose. Each semester is considered as a unit, and a student shall put in a minimum of 85% of attendance in each of the subjects of theory, practical, and/or drawing.

### Internal Assessment Marks/Sessional Marks

The internal assessment marks in a theory subject shall be based on average of the two tests conducted during each semester on the dates prescribed by the college.

### Eligibility for Passing

For a pass in a subject, a candidate should secure a minimum of 35% of the marks prescribed for a subject in the university examination (theory, drawing) and 40%

of the marks prescribed for a practical, project work, and viva voce. However, the average including internal marks shall be 50%.

Candidates who do not satisfy the above conditions shall be deemed to have failed and have to re-appear for the subsequent university examination. However, there shall be no change in the internal assessment marks once awarded to the candidates.

### Award of Degree

The Bachelor Degree in Engineering shall be awarded to the candidates who have passed all the examinations from 1st to 8th semesters. However the class of the degree shall be awarded based on performance of the candidates in V, VI, VII & VIII semester examinations taken together.

A candidate who secures 70% and above marks in aggregate in the first attempt and passes in all the subjects of V, VI, VII & VIII semesters only, shall be declared to be eligible for B.E. degree in first class with distinction. A candidate who secures 60% of marks and above in the first attempt and less than 70% of marks in aggregate and passes in all the subjects of V, VI, VII & VIII semesters shall be declared to be eligible for B.E. degree in first class. A candidate who secures less than 60% of marks and more than 40% of the marks in aggregate and passes in all the subjects of all semesters shall be declared to be eligible for B.E. degree in II class.

### Award of Prizes, Gold Medals and Ranks

For declaration of ranks at degree level, the performance from I to VIII semesters shall be considered. A candidate shall be declared to be eligible for rank at his/her BE degree, provided he/she has passed all the subjects of each semester, from I to VIII in the first attempt only.

### Recognition and Awards instituted by DSI:

- Incentives/Awards
- Additional library card for borrowing books
- Prominent display of names of students who excel in different activities
- Fee concession
- Concession in registration fee towards soft skills/ augmentation programs
- Cash award of Rs 3,000/- to semester toppers
- Cash award of Rs 5,000/- to University rank holders. In addition, parents can avail medical facility at Sagar Hospital at concessional charges.

### Awards in recognition of:

- Academic Performance.
- Excellence in sports / cultural activities representing the college at inter collegiate / University / State / National levels.
- Representing the college in co-curricular activities like paper presentation and project exhibition.









## CIVIL ENGINEERING - BE / M.Tech / Ph.D / MSc (Engg)

The department of Civil Engineering has been accredited by the National Board of Accreditation (NBA) and is recognized as a research centre by Visvesvaraya Technological University (VTU)

### Civil Engineering

Civil Engineering is the mother of all engineering disciplines. In its formative times, the engineering discipline was classified as Military Engineering and Civil Engineering. The offshoot of civil engineering is Chemical Engineering, Mechanical Engineering and Electrical & Electronics Engineering.

Civil Engineering deals with the design, construction and maintenance of the natural built environment including works such as, bridges, roads, canals, dams, airports, highways, buildings, flyovers, tunnels, chimneys and offshore structures. The Branch plays a very critical role in water resource/environment management. Sustainable source Identification & Design of schemes for a good quantity/Quality water to the community for both Domestic and Industrial Sector.

Civil Engineering plays a role in all levels of public sector from municipal through the state and central government levels, in private sectors from house owners to multinationals. The civil engineers responsibility is of safety, aesthetics and sustainability. Civil Engineering enhances the quality of life and is therefore of critical importance to an individual as much as to the society.

In most countries, a bachelor's degree in engineering represents the first step towards professional certifications.

### **Careers in Civil Engineering**

There is no one typical path for civil engineers but within each subfield the details of a career path can vary. Most engineering graduates start with the basics and as they prove their competence they are given more and more responsible tasks. Senior engineers involve in more complex design works or management of junior engineers or into specialized consulting.

### **Civil Engineering at DSCE**

The department of Civil Engineering of Dayananda Sagar College of Engineering has been in existence from 1979, since the inception of the institution and has grown into a full fledged department. It is currently offering the Bachelor's of Engineering program, and two post graduate programs namely Structural Engineering and Highway Technology.

The post graduate programs in Construction Technology, Environment Engineering and Water Resources Engineering are on the anvil.

The other academic programs that are being offered Include M.Sc (Engineering) by research and Ph.D. It is heartening to note that the department has been recognized as a centre for research by VTU. 12

Research students are working in the department for their Ph.D / M.Sc (Engg) Degree.

### **Academics**

- Good team of faculty combined with strong teaching, learning process for innovative ideas.
- Faculty Development Program.
- Well stocked department library of Books.
- Track record in Result Analysis.
- Field visits, and invited talks.
- Student Counseling.
- Tutorials.
- 100% Results have achieved in the final year of examination with several Ranks & distinctions.

### **Infrastructure Facilities**

The department of Civil Engineering has eight well equipped laboratories:

- Engineering Geology Laboratory
- Computer Aided Design Laboratory
- Concrete Technology Laboratory
- Environmental Engineering Laboratory
- Geotechnical Engineering Laboratory
- Hydraulics and Hydraulic Machines Laboratory
- Highway Technology Laboratory
- Building Material Testing Laboratory
- Surveying laboratory

These laboratories are effectively utilized for teaching, conducting research and for consulting activities. Some of the equipments available in the laboratories are 40 tonne & 100 tonne UTM, Digital Compression testing machine, Strain and Demac gauges, SSC testing equipments, Spectrophotometer, Muffle furnace, BOD / COD incubator, Autoclaves Total station, Ultrasonic pulse velocity tester, Bump indicator, Bitumen core cutting machine, HADE-E Brookfield Viscometer etc.

Hydraulic and Water Resource Engineering laboratory is being equipped with modular experimental units. A new laboratory in Remote Sensing and GIS is being developed.

Software in use include GT STRUDL, STRUDS, STAADPRO, NISA Software and AutoCAD. The infrastructure available in the department facilitates the students to develop their skills and knowledge within the framework of curriculum prescribed by VTU. Students are exposed to design and perform analysis of pipelines, hydraulic structures, drainage and sewage system, water and waste water treatment systems remediation of contaminants in subsurface systems etc. The department emphasises deep understanding of fundamental principles and creative ability to handle the modern challenges in Civil Engineering.

### Achievements

- Obtained university Ranks.
- Consistent good academic performance.
- Guest Lecturers.
- Industry visit.
- Seminar Conference.
- Research publications in Journals.
- Student Chapter of Professional bodies like ASCE
- MOU'S with Various organizations

### Awards Ranks & Gold Medals

The Department of civil engineering at DSCE obtained 2nd Rank in M.Tech (Highway Technology), 3rd Rank

in M.Tech (Structural Engineering) 10th Rank in B.E. during 2011-12.

### Sponsored research project

Civil Engineering Department was funded by various organization for the R & D Activities.

1. Up Gradation of Civil Engineering - CAD Laboratory by Dr. H.K. Rama Raju (PI), Srinivas Varadan in 2003-2005, Cost Rs. 6.5 lakhs Under AICTE MODROB Scheme.
2. Effect of Gradation, Viscosity and Compaction on Bituminous Mixes by B.V. Kiran Kumar (PI) in 2007- 2009, cost Rs. 6.26 lakhs. Under AICTE RPS Scheme.
3. Accerleration Biodegradation process of municipal solid waste by co-culture Fungi and Methanogens for Bioenergy by Dr. H.K. Ram Raju (PI) in 2012-14, cost Rs. 12 lakhs, Under VTU RPS Scheme.
4. "Study of Pollution Mechanism in Urban Aquifers of BBMP by Integrated geophysical, R.I. and G.I.S. Techniques" by Ramaraju (PI) in 2013 costing 23.79 lakhs has been funded by ISRO, GOI.
5. Projects of final year BE students have been recognised and financially supported by KSCST from last 10 years.
6. M.Tech students are being recognised and provided opportunity to carry out their final year project work at SERC Chennai and CPRI, Bangalore.

### Consultancy

The department of Civil Engineering is actively involved in consultancy activity with a great consistency.

### Training

The undergraduate students have been imparted training in handling Total Station by M/s AIMIL Ltd. The students are given special training for two weeks on the usage of Auto CAD by M/s CADD Center, structural designing by Cype Softwares, Bangalore.

### Academic Performance

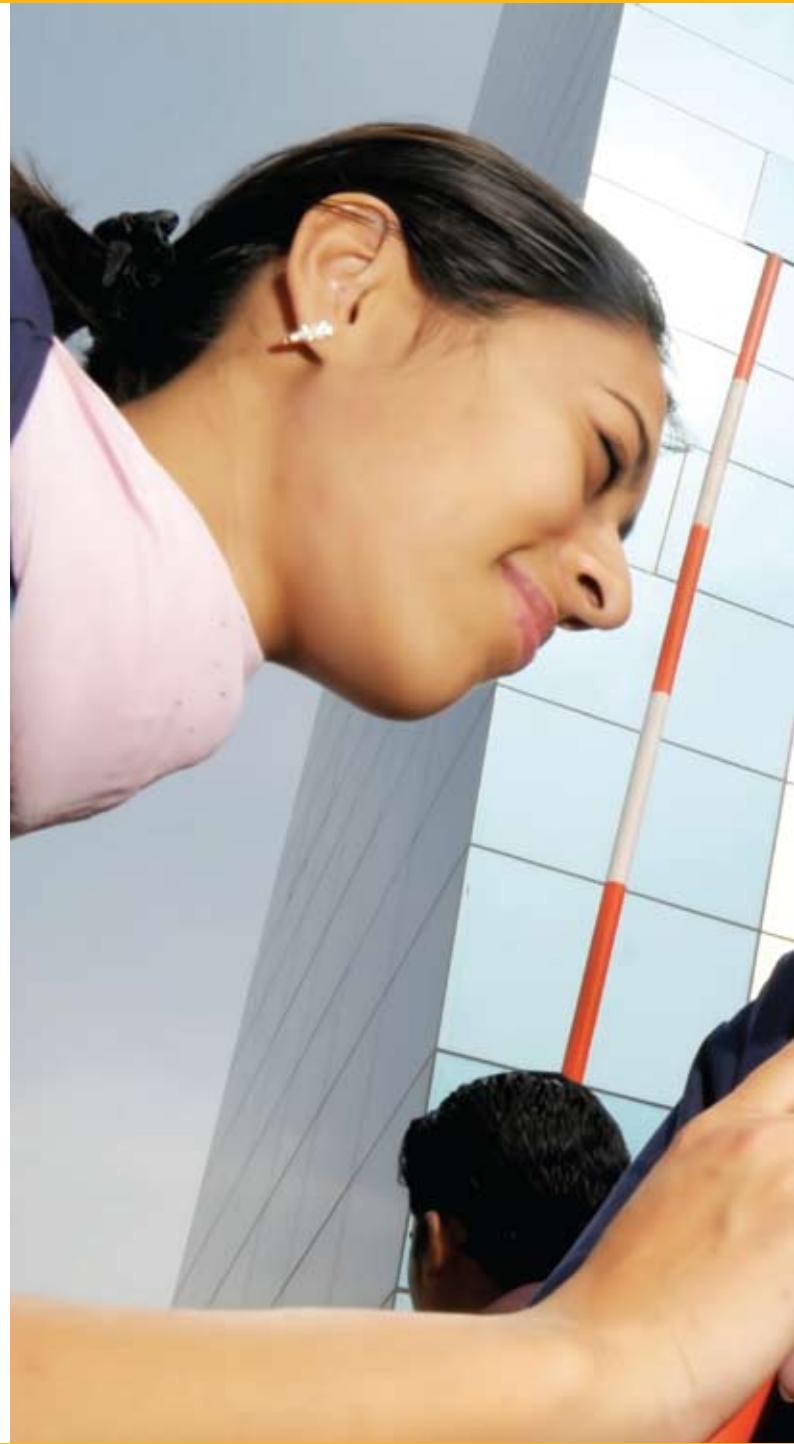
The performance of the students is improving year after year due to the extra care taken by the faculty members in the knowledge delivery process over the period. The proctor system helps in interacting with students and counseling them.

### Placements

Students have been placed in various reputed companies such as Infosys Technologies, Geodesic Technical, MAVERIC Systems, SECON, Sudarshan Structural, Reliance Industries, L&T. Many of our alumni hold prestigious positions in leading construction companies, state and central government services. A large number of under graduates are pursuing the post graduate programs in India and abroad.

### Future Plans

- To enhance R & D activities.
- Improving industrial-institute interaction.
- Face new challenges by introducing augmentation programs to train current trends in technology to the student & staff for industry.
- To establish vocational training program for industrial personnel and other aspirants.
- To provide coaching to Gate-aspirants and giving industry required skills through in house faculty like finishing school format.
- Establishment of center for Research & Training in safe and sustainable on site sanitation systems.







## MECHANICAL ENGINEERING

### BE / M.Tech / Ph.D / MSc (Engg)

#### Highlights

Accredited by National Board of Accreditation (NBA)

Recognised as Centre of Excellence by Visvesvaraya Technological University (VTU)

Manufacturing is on the upswing in India due to competitive labour and material costs, availability of technically qualified manpower and familiarity with English language. For example presently India manufactures almost 1 lakh cars per month, 5 lakh two wheelers per month, which is 10 times more than what was manufactured 15 years ago. Leading automobile manufacturers like Toyota, Daimler Chrysler, General Motors started operations in India focusing on making India a nodal export point. Software development activity, used very commonly in automobiles for design and analysis purposes, is being shifted to India taking advantage of our strengths in software development. Delphi Automotives, General Motors, Delmiya to name a few, large MNCs, are presently operating from Bangalore. Civil Aviation in India is poised for rapid expansion in the next few years, with several new private operators entering the field. Maintenance of civil aircraft would open up considerable challenges and opportunities to Mechanical Engineers. There is a huge demand for Mechanical Engineers in the field of Heating, Refrigeration & Air Conditioning as per ISHRAE Report. Machine Tool Industry is poised to grow rapidly due to the demand for Automation and CNC Technology.

### About the department

The Department of Mechanical Engineering was started in the year 1979. Over the years it has grown into a full-fledged department offering undergraduate/Post Graduate courses in Mechanical Engineering. It has so far graduated more than 4000 Mechanical Engineers who are contributing significantly to the development and running of various public and private organizations in India and abroad in the fields of academics, research, and social sector.

### Department advisory council

The Department of Mechanical Engineering has an advisory council, having members from teaching and industry / research organizations. The council meets at least once in a semester to review and evaluate performance of the department and offer advice in needed areas.

### 100% Results

Faculty take extra care of the students and in the knowledge delivery process throughout the course period. These dedicated and concentrated efforts have culminated in obtaining 100 percent results in the final year. During the last three years, the department has successfully achieved 100% results. In the postgraduate program, the department is consistently getting University ranks. The goal is now to be in tune with this trend and achieve top honours at the university level both in undergraduate & Post Graduate programs.

### Research activity

The department has got the facilities to conduct basic and applied research. NX NASTRAN for FEMAP, ANSYS, SOLID-Edge, AUTOCAD and LS-Dyna, to carry out analytical studies. Eight doctoral degree holders and eighteen members of the faculty working for their doctoral degree are engaged in research,

indicating the scientific temper that exists in the department. Advanced tribological characterization and surface quality evaluation by Image processing facilities established on sponsorship basis contribute to the consultancy activities to leading industrial establishments. Department of Mechanical Engineering is a recognized R&D Centre from Visvesvaraya Technological University. AICTE funded projects are in progress with the latest state-of-the-art equipments / instruments. The R&D Centre caters to the needs of students of the Master's Program in the department.

The department has MOU's with FKCCI, RAPSRI Industries, VOLMO India Ltd, FE-n-FE Metallurgicals to undertake Postgraduate and undergraduate project works, Internship for Students. It is planned to establish research facilities to validate theoretical results with experimentation in the fields of Metal Matrix Composites, Metal Cutting, Flow over blades, etc.

### Research accomplishments

The department has undertaken 5 funded projects in the last 2 years, costing up to Rs 50 Lakhs, funded by various agencies such as AICTE, New Delhi, Naval Research Board, Aeronautical Research & Development Board, VTU, Institution of Engineers, etc.





## **ELECTRICAL & ELECTRONICS ENGINEERING**

**BE / M.Tech / Ph.D / MSc (Engg)**

### **Highlights**

Accredited by National Board of Accreditation (NBA)  
Department has obtained permanent affiliation from  
Visvesvaraya Technological University (VTU)

### **An Overview**

Established in the year 1979 with an intake of 50 seats per year, the department has taken up the challenge of developing competent Electrical Engineers capable of facing emerging challenges. The department has produced several hundred Electrical Engineers some of whom are occupying very senior positions in their respective organizations both in India and abroad.

Further the intake of the department has been enhanced from 50 to 120 from 2006-07 academic year onwards.

### **Focus area of study**

Electrical & Electronics Engineering offers in-depth theoretical and practical knowledge to undergraduate students in the field of Electrical & Electronics Engineering.

A P.G. Program in Power Electronics has been started from 2006-07 batch and an R & D centre to study various aspects of Power Systems and application of Information Science in respect of planning, operation and maintenance of Power Systems.

### Why choose Electrical & Electronics Engineering

Electrical Engineering is one of the oldest branches yet evergreen due to its day to day importance and its study has undergone numerous changes thus enabling the incumbents to be good Core Power Engineers, Software Engineers and also Hardware Engineers. Apart from this Electrical Engineers have blossomed as successful entrepreneurs. There is ample scope of higher studies apart from appointments in its allied fields like Medical Electronics & Instrumentation.

### Research Projects

Faculty members of the department have undertaken the following research projects:

- (i) Algorithms to solve Load Forecasting Problems by using ANN & AI Techniques
- (ii) Choice of location and appropriate use of FACTS Devices to enhance power capability
- (iii) Optimal Reactive Power allocation using Genetic Algorithm
- (iv) Artificial Intelligence Applications to Voltage Stability Studies in Power Systems
- (v) Expert Control of Superconducting Magnetic Energy Storage Systems for Real & Reactive Power Modulation in HVDC Systems
- (vi) Algorithms to solve Power System Problems related to Energy Control Centres

### Academics

100 percent results have been achieved in the final year of examination with several distinctions.

### Placement

Campus placement process is a regular feature which happens in 2 to 3 rounds before students pass out of the final year of examination with companies picking up all candidates willing to take up employment.

### Companies generally visiting the department include:

- (i) Digital Global Soft
- (ii) Infosys Technologies
- (iii) Satyam Computers
- (iv) HPCCC
- (v) Phoenix Global
- (vi) Schneider Electric
- (vi) Wipro
- (vii) ABB
- (viii) HP
- (ix) Tech Mahindra

### The Companies which have made offers in the first round placement are:

- (i) Infosys Technologies
- (ii) Satyam Computers
- (iii) Mahindra British Telecom
- (iv) TCS BTS
- (v) HP
- (vi) HCL
- (vii) Mphasis
- (viii) ABB





VI sem:  
Subject: Microwave Engg Lab



## ELECTRONICS & COMMUNICATION ENGINEERING

### BE / M.Tech / Ph.D / MSc (Engg)

#### Highlights

Accredited by National Board of Accreditation (NBA)

#### An Overview

The Electronics & Communication Engineering Department is imparting quality education to students to obtain a B.E degree in Electronics & Communication Engineering from the Visvesvaraya Technological University (VTU).

#### E&C Graduates

Fresh graduates find openings in the telecommunication and the computer industry. A large majority of our graduates receive offers for employment at their pre final year of study. Students with a focus to enter higher studies enrol into the PG courses in the same department at DSCE or join one of the IITs/IISc. Quite a few go overseas for higher studies and pursue research.

#### New Opportunities

With DIGITAL REVOLUTION that has taken the world by storm, M.Tech graduates in the Digital Electronics & Communication stream have ample and challenging job opportunities in the country and outside. Bangalore city has been rediscovered for its technical prowess and has been chosen to be the hub for the silicon based Ultra Large-Scale Integrated Circuit Chip Manufacture. The M.Tech course at VLSI Technology & Embedded system is offered to produce specialists in

the hardware (chip) domain, which is most timely. Job opportunities for Postgraduates have proved to be very exciting and rewarding.

#### Facilities in ECE Department

ECE department has laboratories in VLSI, Digital Signal Processing, Computer Communication networks and other basic laboratories required for conducting experiments pertaining to VTU syllabus. Students are doing their final year projects at reputed industries such as IBM, ISRO, INTEL, Honeywell etc.

#### Postgraduate Courses

Considering the excellent Teaching Learning process adopted in the Department of Electronics & Communication Engineering, the All India Council of Technical Education has approved the following Postgraduate courses to be offered to eligible B.E/B.Tech students:

1. Degree : M.Tech  
Specialisation : Digital Electronics & Communication  
Duration : 2 Years (4 semesters)
2. Degree : M.Tech  
Specialisation : VLSI & Embedded Systems  
Duration : 2 Years (4 semesters)

Qualified and experienced professors serving as specialists in the Defence Research & Development Organisation (DRDO) and Indian Space Research Organisation (ISRO) have come into the Dayananda Sagar College of Engineering as full time faculty. Expert faculty also come from industry and VTU affiliated colleges to teach the postgraduate students. With such strong academic backing, the outcome is top-notch ever sought after by industry.

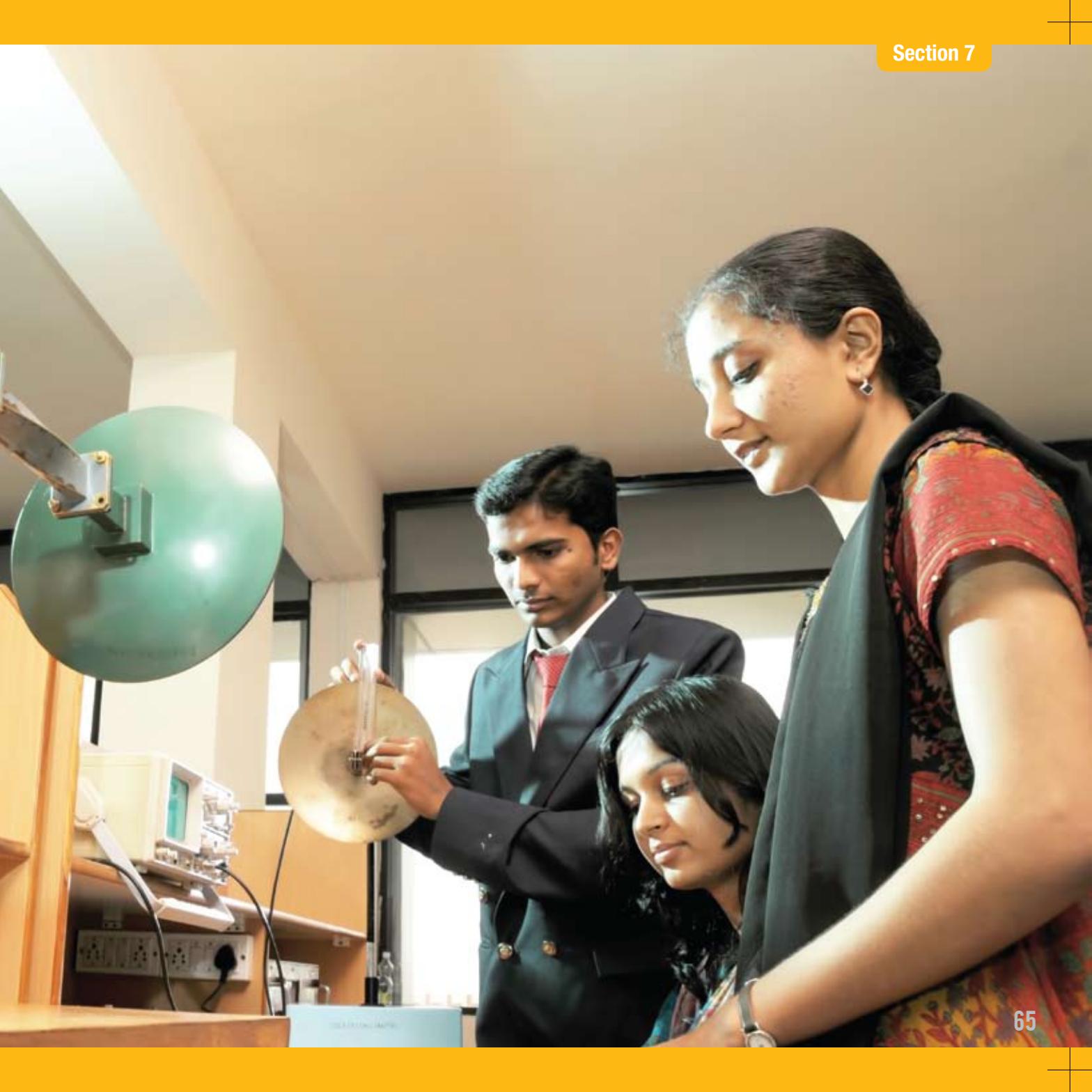
### **RESEARCH & DEVELOPMENT**

The ECE Department has undertaken several research projects of industries, particularly of ISRO under RESPOND program. Several conferences useful for staff members were conducted in the field of VLSI & Embedded systems.

With the ECE Department having several doctorates as professors, VTU has approved the department as one of the research centres. Faculty from various engineering colleges & professionals from industries are pursuing their doctorate degree in this research centre. Several staff members have presented their research work both at national & international conferences.

ECE department of DSCE initiated R&D works in relevant areas of electronics, communication and nanotechnology in 2005. The department has identified emerging research areas focusing on nano materials, alternative energy sources, signal processing and neural network technologies. The department has already proposed projects in thrust areas to make fundamental contributions in the field of science and technology. A separate lab for R&D has been set up by installing advanced instruments.







## CHEMICAL ENGINEERING

### BE / M.Tech / Ph.D / MSc (Engg)

#### Highlights

- Accredited by National Board of Accreditation (NBA) 5 years (2009-13)
- MOU Signed between Prentac and Department of Chemical Engineering
- Recognized as Centre of Excellence by Visvesvaraya Technological University (VTU)
- UK-India Educational Research initiative project awarded by Govt of India in collaboration with Dundee College Scotland to create awareness on "Health and Safety" in Petrochemical Industries with the help of Shell Technologies. The project is administered by British Council.

#### About Department

The Department of Chemical Engineering is established in the year 1982 is the best in the state of Karnataka. Currently both undergraduate & post graduate programs are being conducted. The faculties are actively engaged in research and have published numerous papers in National & International Journals. The alumni of the department have secured their places in the higher echelons of the society & technical world. The department has good interaction with industries.

### Why Chemical Engineering

Chemical Engineering is a fascinating field to apply the basic principles of chemistry and physics to convert materials to value added products with engineering methods to deal on a large scale. The study develops the skills and expertise of chemical engineering in every student. It also instills the basic human characteristics of interpersonal relationships, leadership qualities that are essential for efficient running of industry and positive concern for this wonderful natural environment.

### Courses offered

- **B.E.**
- **M.Tech**
- **Ph.D**
- **MSc (Engg)**

### Career Opportunities

Research and development, process development, plant operation, plant maintenance, design and engineering, pollution control and environmental engineering, plant utilities, Energy auditing , Process control, managerial positions in sales, marketing, academics and project engineering.

### Placements

Companies that visited the department for campus recruitment

- Mangalore Chemical Fertilizers (MCF)
- NTT Data
- Berger Paints
- Tech Mahindra
- TERI Bangalore
- K-Pack Systems
- Mu-Sigma
- Desmet Bellestra
- TRIANZ
- Infosys
- IBM

### Achievements

- Our department added more feathers to its cap as 6 ranks (1 Gold medal) were achieved from VTU
- 100% Passes and Placements
- Guest Lectures
- Industry Visits
- Augmentation Programs

### Sponsored R&D Projects

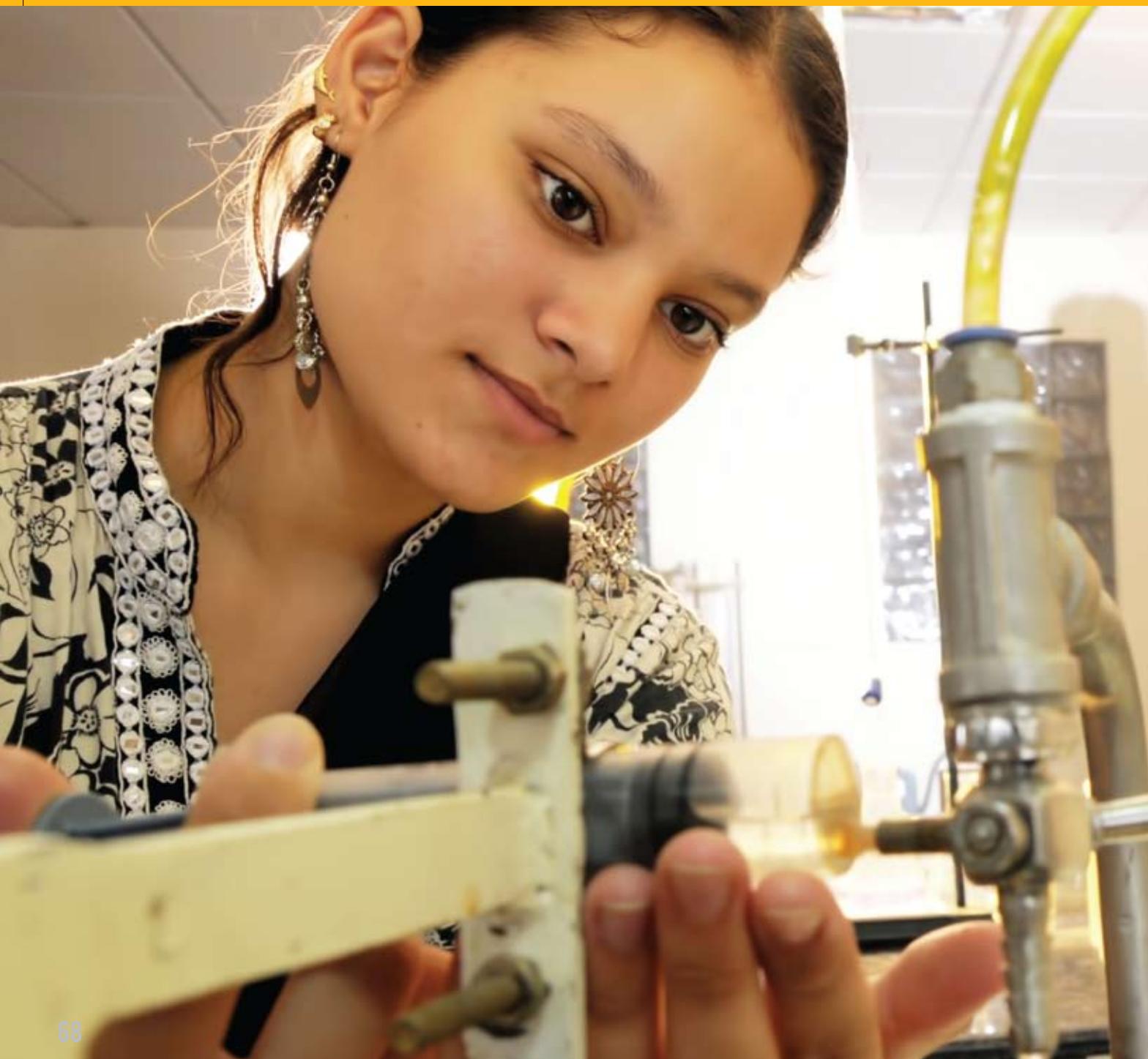
- MODROBS grant received Rs. 5,00,000.00 from AICTE.
- Reduction of Municipal Plastic waste grant received Rs. 5,000.00 from KSCST.
- Removal of Heavy metals using combination of Rice Husk grant received Rs. 5000.00 from KSCST
- Manufacture of C-11 compound from Castor Oil grant received Rs. 8,000.00 from KSCST.

### New subjects

Process Dynamics, Bio-Chemical Engineering, Catalyst Technology, Nano Technology, Bulk Drugs, Bio-Pesticides, Advanced Reaction Engineering, Air Pollution Control Engineering, Advanced Chemical Engineering Thermodynamics, Petroleum Engineering, Multi-Component Distillation, Process Integration, Energy Auditing, Risk And Safety Management, Biosensors, Material Science And Engineering, Solid Edge Design Software For Equipment Design.

### Project plans

1. Water Treatment
2. Pinch Analysis
3. Effluent treatment of industrial waste







## INSTRUMENTATION TECHNOLOGY BE / M.Tech

### **An Overview**

Instrumentation technology is a multidisciplinary branch of engineering that deals with measurement of various physical variables and control of process variables within a production, or manufacturing area.

An instrument is a device that measures and/or regulates physical quantity/process variables such as flow, temperature, level, or pressure. Instruments include many varied contrivances that can be as simple as valves and transmitters, and as complex as analyzers. Instruments often comprise control systems

of varied processes such as refineries, factories, and vehicles. The control of processes is one of the main branches of applied instrumentation. Instrumentation also refers to handheld devices that measure some desired variable. Diverse handheld instrumentation is common in laboratories.

### Department of Instrumentation Technology

- Department of instrumentation technology started functioning from the academic year 1992-1993. The present intake is 60.
- Department offers B.E. in Instrumentation Technology.
- Department also offers Post graduate course in Micro Electronics & Control Systems.

### Opportunities for Graduates in Instrumentation Technology

One can have a placement in any of the following Process Industries and other relevant Organizations.

- Petrochemical Industries
- Chemical and Paint Industries
- Iron and Steel Industries
- Cement Industries
- Food Processing Industries
- Pharmaceutical Industries
- Paper Industries
- IT Companies
- Distilleries
- Power Plants
- Hospital

### Sponsored R&D Projects and it's Successful Completion

- THERMAL IMAGING, grant received Rs. 10 Lakhs.
- DISTRIBUTED CONTROL SYSTEM, grant received Rs. 10 Lakhs.
- Sponsoring Agency – AICTE.
- KSCT Projects-8.

### Achivements

- Consistent good academic performance.
- 100% Passes and Placements.
- Guest Lectures.
- Industry Visits.
- Augmentation Programs.
- Seminal Conference.

### Placement

Companies that visited the department for campus recruitment

- WIPRO
- INFOSYS
- HP
- DIGITAL GLOBAL SOFT
- TCS
- MBT
- INDIAN OIL TANKING
- Tech Mahindra
- Indian Navy
- HCL

### R&D Programs

Various faculty members are involved in research in different fields, such as Digital Signal Processing, Process Control etc.

### Industry Interaction

- Lectures from experts in industry are arranged.
- Industrial visits to Process Industries are arranged.
- Projects of UG & PG student can be done in industries.



## INDUSTRIAL ENGINEERING AND MANAGEMENT

### BE / M.Tech / Ph.D / MSc (Engg)

#### Highlights

Accredited by National Board of Accreditation (NBA)

Main focus area of study

- Industrial Engineering
- Production Engineering
- Management
- Manufacturing Process & Production Engineering
- Information Technology Application

#### Why a student has to choose this field

Candidates of IE&M can fit into all functional areas of business in all sectors of the economy: This course is very appropriate to enable students to take up entrepreneurship as a career.

Current demand and the projected demand for graduates in this field

- BE, M.Tech, & PhD
- Information Technology - software

- Garments and Apparel
- Logistics and Transport
- Banking & Service
- Manufacturing & Engineering
- Self employment

#### New subjects / areas of study

##### Elective subjects

1. Marketing Management
2. Value Engineering
3. Supply Chain and Logistics Management
4. Simulation Modelling & Analysis
5. Automation in Manufacturing
6. Project Management
7. Total Quality Management
8. Organisational Behaviour
9. International Marketing
10. Technology Management
11. Six Sigma

### Core subjects

1. Production & Manufacturing Sciences
2. Theory of Machines & M/c Design
3. Industrial Metrology
4. Industrial Engineering
5. Engineering Economics
6. Materials & Inventory management
7. Computer Integrated Manufacturing
8. Operations Research
9. Quality Assurance
10. Production & Operations Management
11. Management Information Systems
12. Industrial Management
13. Human Resource Management
14. Financial Accounting & Management
15. Product Development and Design
16. Database Management Systems

### Practical training

1. Enterprise Solutions Lab - Sixth sense
2. Simulation Lab - ARENA.
3. Industrial and Quality Engineering Lab
4. Measurement & Gauging Lab
5. Material Testing Lab
6. Foundry and Forging Lab
7. CAD Lab
8. Machine Tool Operations Lab
9. Machine Shop
10. Project Works
11. Seminars
12. Industrial Visits

### PG - Course

4 - Semester M.Tech (Masters of Engineering & Management) programme has been introduced. This course imparts advanced training to meet challenges in the industry.

### Future plans

- To start advanced learning courses in Logistics and ERP
- To establish vocational training program for industrial personnel and other aspirants
- MOU with credible Universities and industry
- To enhance R&D cell activities
- Improving industry-institute interaction
- Face new challenges by introducing augmentation programs to train state of the art / current trends in technology to students and staff for industry needs, to keep them abreast, and ensure that the knowledge learnt at the college is complete

### Department strengths - Academics

Good team of faculty, combined with strong teaching learning process. Department has been recognized as Research Center for Visvesvaraya Technological University (VTU). Three Research Scholars are doing research in the Department.

### Placement

Majority of the students have the opportunity for placement in companies visiting the campus for the placements. A good number of students have been placed in the following companies:

Gati Logistics • Dakshini Apparels • Infosys Tech  
Mahindra Telecom • Tyco Industries  
Keane • WIPRO

### Research Work

The department has undertaken a research project costing Rs. 6.9 Lac funded by AICTE- RPS.

The department is recognised as a Research Centre under VTU. Dr. H. Ramakrishna and Dr. S.A. Vasanthakumar are the recognised guides. Three research candidates are doing research.



## COMPUTER SCIENCE AND ENGINEERING

### BE / M.Tech / Ph.D / MSc (Engg)

#### Highlights

Accredited by National Board of Accreditation (NBA)  
Recognised as Centre of Excellence by Visvesvaraya Technological University (VTU)

#### An Overview

The Department of Computer Science Engineering (CSE) was established in 1986 and has grown exponentially over the last few years, evolving to meet demands of the 21st century.

#### Why is Computer Science Engineering so popular

This is an emerging and powerful branch of Engineering, which has the tremendous advantage of abstraction and flexibility. These two combined with the power of processors has made this discipline an indispensable ingredient, the state-of-the-art equipment across all fields.

Professionals from other engineering and technology domains harness the power and flexibility provided by computers. As a result, this branch encompasses all the domains and is much sought after.

#### The Courses

The department offers BE in CSE as an undergraduate program, which is an eight-semester course.

#### M.Tech

Networking can be taken as a specialisation in the postgraduate course. The PG course is spread over four semesters, as per the Visvesvaraya Technology University (VTU) syllabus, which is revised from time to time to align itself to the changing needs of the industry.

#### Ph.D Doctoral Program

The department of Computer Science Engineering has been made as a research centre under VTU offering both part-time and full-time Ph.D Programmes.

#### In keeping with the current trends

Some of the additions made in the courses by VTU includes subjects like Engineering Management, Software Practices and Testing, C# and . Net, Web Commerce, Internet Programming to name a few are offered to the Computer Science students. Augmentation courses are designed and delivered to students, which enable them to be in tune with new trends in the department, a common practice adopted across all streams of Engineering.

#### Alliances

The department has academic alliances with Infosys-Campus Connect, Wipro, HCL, Oracle, EMC2 that enables courses in the emerging trends in the field of Computer Science to be offered to the students.

Experts from industry and esteemed organisations like IISc, IIT's, Oxford-Brooks, Alabama University, University of Malaya, are invited for seminars/interactive sessions with students, which provide the much needed exposure to new development in the industry. Seminars and workshops on Image Processing and Computer Vision, Cloud Computing, Advanced Programming Languages and similar other advanced topics are delivered by industry experts for the benefit of the students. Career courses by Infosys, Wipro and Oracle have been well received by the students.

#### **Areas of study in computer science**

- Programming Languages
- Operating System
- Computer Graphics
- Computer Networks
- Database Management
- Security and Cryptography
- Data Communication
- Software Engineering & Software Testing
- System Programming
- Microprocessors
- Embedded Systems

Plus the entire core courses in other branches of Engineering

#### **Application areas**

##### **Office and Accounting**

- Health Care
- Insurance
- Architecture
- Monitoring
- e-Commerce
- Multimedia
- Games
- Aerospace
- Robotics

#### **Career Opportunities**

- Quality Consultancy
- Project Management
- Customer support system administrator
- Software development
- Software testing
- Profiling / Mentoring
- Buddy System

#### **Academics**

- Teaching learning process & Internal testing process are in place
- Central evaluation
- Student counselling
- Tutorials
- Edusat program
- Result analysis
- Faculty development
- Training programs for faculty
- Well-stocked department library of books and CDs
- Project guidance
- Pre-placement activities
- Industry interaction

#### **Placement**

An excellent record of academic results ensure that reputed companies like Microsoft, Infosys, Tech Mahindra and other bigger companies visit the campus on a regular basis with full placement happening during the pre-final stages. 99% of students get offers in the first round in the campus placement, a few go for higher studies and some of them look at innovative concepts to become entrepreneurs. Placement-related training is also conducted for the students.

#### **List of companies that visited the campus include:**

- HCL
- Microsoft

- Wipro
- Infosys
- Dell
- HP
- Carritor / Keane
- IBM
- Accenture
- Phillips
- Google
- Siemens
- Oracle
- Tech Mahindra
- Honeywell

### Research Work

The department has various ongoing research interactions with Wipro, DRDO, HCL, LG Soft, EMC2. Research activities include Medical Image Processing, Aerial Image Processing, Software Testing, Bio Metrics, Document Image Analysis – Kannada, Video Analytics.

### The department has received

- Two grant-in-aid projects in the area of aerial image processing by DRDO costing around 35 lakhs.
- Funded project under “VTU research grant scheme” costing around 7.3 Lakhs.

The department has undertaken various research projects during the last 2 years costing 3 million euro funded by the European commission.

### Patent

Comprehensive Software Industry Analysis Model (CSIAM)

Inventors: Dr. T.R. Gopalakrishnan Nair

### Interface with outside world

Apart from having excellent placement results, the students are given ample opportunities to participate in TechQuiz, web creation and newsletters, Technical Paper Presentations in referred conferences and journal held in the college as well as in other prestigious institutions, and Internships from HCL, IIT etc. Infosys-campus connect in DSCE-campus is an industry-academic partnership initiative launched by Infosys which aims to enhance the education level of engineering students and thus increase their employability. As part of this initiative Infosys shares with Partner college its proven course ware, methodology, education and experience. Visits to organizations like ISRO, Infosys, expertise talk on various emerging technologies has facilitated better institute- industry interactions.

As part of this programme two students from the 7th semester have participated in Global Colloquium on Engineering education at Cape Town, South Africa sponsored by Infosys.

## TELECOMMUNICATION ENGINEERING BE / M.Tech / Ph.D / MSc (Engg)



### Highlights

Accredited by National Board of Accreditation (NBA)  
Recognized as a research center by Visveswaraya Technological University (VTU)  
Good Infrastructure, Qualified faculty, and excellent learning academic atmosphere.

### An overview

The department of Telecommunication Engineering (TE) was established in the year 1991 and has grown leaps and bounds. Through well-designed curricular, co-curricular, and extra-curricular initiative, the department is aiming to become a local and global leader in the education of future Telecommunication professionals and scholars. It strives to stimulate intellectual curiosity, imagination, rational thinking, thoughtful expression and independent learning skills necessary for excelling in all fields. The department is able to attract meritorious students to enroll for UG/PG/Research Program of the Department.

### Course description and scope

It is an excellent course with tremendous scope. If a student acquires additional skills in domains like VLSI, Embedded Systems, ICT, opportunities are greater. This course is designed for students who aim at careers as Telecom Managers, IT Professionals, Design and Development Engineers or Analyst of Telecom Service Industry. There are plenty of jobs coming to India in the Telecommunication sector resulting in lucrative job openings in Indian as well as multi-national companies like BSNL, Reliance, Nokia, Apple, Vodafone, Quilcom, Cisco.

The Telecommunication course educates students in various Telecommunication Devices and Systems, and also deal with Computer Networking, Microwave & Radar, Fiber Optics, Satellite. It lays special emphasis on both hardware and software. At the end of this course, the students should be able to understand key technologies (design, install and trouble shoot) and

commercial trade off between alternative technologies and services in the telecom service industry.

#### Postgraduate Program:

Degree	: M. Tech
Specialization	: Digital Communication & Networking
Duration	: 2 years
Intake	: 18

#### Research Program

The department is permitted under section (41) of the VTU act 1996, to offer Ph.D/M.Sc (Engineering) by research programs. The students/faculty are motivated to pursue their Ph.D & avail the facility. The research groups are identified in the broad areas like Signal Processing, Wireless Communication, Optical Communication, VLSI and Embedded Systems. The Department is likely to get more sponsored research projects. The Department aims to be a center of excellence.

The Department has undertaken two projects, costing upto Rs 14.22 Lakhs funded by various agencies such as AICTE, New Delhi and MODROBS.

#### Faculty Achievements / Honors / Awards

- Associated with many international projects.
- Invited as Visiting Professor in prestigious universities/research centers abroad.
- Published papers in International Journals/ Conferences.
- Guiding research students (Ph.D).
- Consultant for crucial projects.
- IEEE reviewer.
- Fellowship / membership of professional societies (like IETE, IE, IEEE).
- Best paper award.

- Distinction / honors such as American Medal of Honor, Man of the year, Distinguished Research Board of Advisors, Rashtriya Shiksha Ratna.
- Session chair / invited speakers in National/ International Conference.
- Members / Chairman of university committees such as BOS, BOE, LIC.

#### Placement

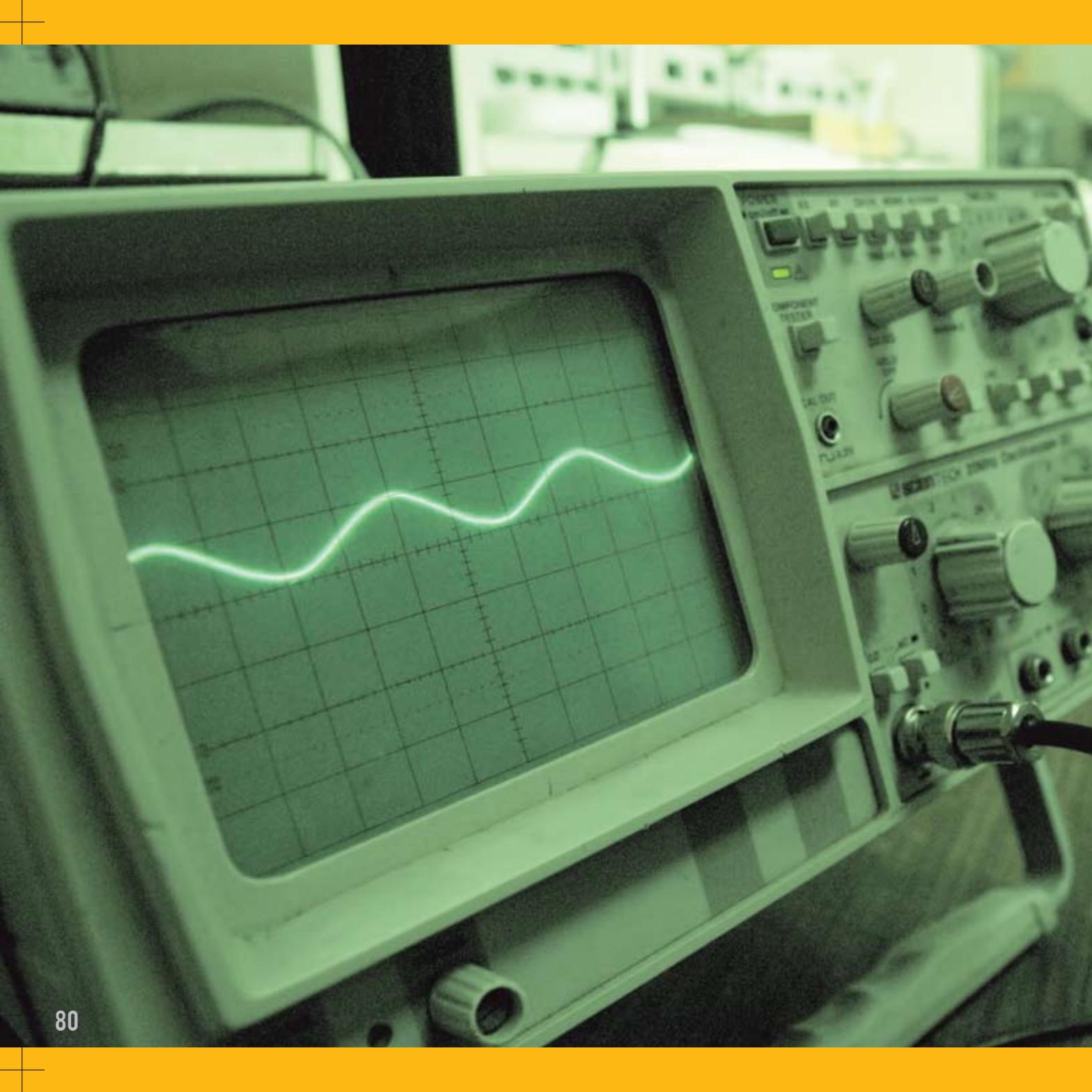
The Placement cell facilitates students to get employed in reputed companies. Most of our students will be recruited during campus placement. The companies like Infosys, Wipro, TCS, Microsoft, Accenture, Mindtree, visit the campus and recruit students after conducting written tests, interviews, and group discussions. The department faculty conduct mock written tests and group discussions for students of 6th semester to increase their placement opportunities.

#### Collaboration with Industry

1. The Department has entered into an MOU with the following companies
  - Aikya, IT Solutions
  - ADRYS Technologies
2. Participate in Infosys's "Campus Connect Program"
3. Partners in Wipro's "Mission 10X Program"

#### Seminars conducted

The Department conducts many workshops and seminars to provide an appropriate platform for the students, faculty and engineers to enhance their domain knowledge by exchanging ideas. The department also encourages students and faculty to participate in similar activities. The Department will be conducting a National Seminar on Wireless and Optical Communication every year.





## MEDICAL ELECTRONICS

### BE / M.Tech

#### **An Overview**

Department of Medical Electronics established in the year 1996. The department offers programmes leading to BE& M.Tech. M.Tech with specialization in Biomedical Signal Processing and Instrumentation.

The uniqueness of Medical Electronics branch at DSI is its existence in an integrated campus consisting of strong interdisciplinary programs like Biotechnology, Pharmacy, Dental Sciences, Nursing, and Physiotherapy apart from sixteen other engineering branches and group's health care facility Sagar Hospital.

This century belongs to Medical Electronics. The society is in the midst of a major revolution in biomedicine with stunning discoveries being made in biological sciences and path-making inventions in the areas of physical sciences and technology. It is expected that the practice of Medicine will undergo a sea change.

The human genome project has opened up new vistas in prevention, detection and cure of human diseases with molecular precision.

If India is to play a meaningful role nationally and internationally, it must be second to none in the application of advanced technologies to the real problems of man and society. For the benefits of modern medicine and healthcare to reach the deprived community, who have been denied the critical healthcare services due to various socio-economic and geographical reasons, connectivity through telemedicine is an efficient and effective method.

### **Introduction**

Medical Electronics engineers develop devices and procedures that solve medical and health-related problems by combining their knowledge of biology and medicine with engineering principles and practices. Many do research, along with life scientists, chemists, and medical scientists, to develop and evaluate systems and products such as artificial organs, prostheses (artificial devices that replace missing body parts), instrumentation, medical information systems, health management and care delivery systems. Medical Electronics Engineers also design devices used in various medical procedures, imaging systems such as Magnetic Resonance Imaging (MRI), and devices for automating insulin injections or controlling body functions.

Medical Electronics is a specialised discipline that advances knowledge in Engineering and Medicine, through cross-disciplinary activities that integrate engineering sciences with the Biomedical Sciences and Clinical Practice.

Most engineers in this specialty need a sound background in another engineering specialty, such as mechanical or electronics engineering. In addition to specialized biomedical training, some specialties within medical electronics engineering include biomaterials, biomechanics, medical imaging, rehabilitation

engineering and Artificial Intelligence Patient Monitoring Systems.

### **Synergy between medicine and technology**

The core health care science and research in medical sciences will have ever increasing interface with technology areas. The future will not only be dominated by advances in life sciences but will witness the merging of entire technologies and medicine. This synergy is already happening. A new breed of engineering professionals is required be conversant with the needs of medical profession fusing medical sciences with higher end engineering technologies. On a number of occasions, this need to bring closer the scientists/ engineers and medical professionals has arisen for specific problems and for further advances in medical research and more effective healthcare.

### **Achievements**

1. Obtaining university ranks regularly
2. Consistent good academic performance
3. 100% of graduated students are placed in reputed organizations through campus interviews.
4. All the final year projects by the students were undertaken in reputed organizations (like Siemens Medicals, L&T Medicals, National Instruments, GE - Medical systems IISc. etc.).
5. Accredited by NBA
6. ISO Certification
7. Well established laboratories
8. Qualified and experienced faculty

### R&D across the globe in medical electronics

- Instrumentation & Medical devices
- Biomaterials
- Biomechanics
- Medical Imaging
- Nanotechnology
- Genetic Engineering
- Cryogenics
- Bio Signal Processing
- Biosensors

### The future

The United States Department of Labour reports that the number of biomedical engineering jobs will increase by 31.4 percent through 2010, double the rate for all other jobs combined. Overall job growth in this field will average 15.2% through the end of the decade. The U.S. Department of Labour report attributed the rapid rise in biomedical engineering jobs in part to an aging U.S. population and the increasing demand for improved medical devices and systems. Specific growth areas cited in the report included computer-assisted surgery, cellular and tissue engineering, rehabilitation, and orthopaedic engineering.

The Health Care industry has been growing at a rapid pace in the past few years. With an annual growth rate of 30%, India is already inching closer to Singapore, an established Medicare hub in Asian region. The emerging emphasis on India as a Healthcare destination has further fuelled the rapid growth of the Healthcare Industry.

The Indian Healthcare Industry is estimated at US \$ 22 billion and the Medical device market is estimated at US \$ 1.85 billion and growing at 15% per annum.

Thus with the rapid pace of growth comes the ever-increasing demand for highly-skilled and well-trained Medical Electronics Engineering work force.

### Opportunities for graduates in Medical Electronics

Field of work	Type of Organisation
Research	Industrial Research labs with promise of great demand abroad
Maintenance & Service	Medical Equipment dealing firms
Biomedical Engineer	Hospitals for Medical Equipment Maintenance
Application Specialist	Medical Equipment dealing Industries
Sales & Marketing	Medical Equipment dealing Industries
Production Engineering	Medical Equipment Industries
Medical Software Engineer	Organizations developing Medical Software
Teaching	Colleges with Medical Electronics & Biomedical Engineering branches





## INFORMATION SCIENCE AND ENGINEERING

### BE / M.Tech / Ph.D / MSc (Engg)

#### **An Overview**

Information Science/Technology is the buzzword today in all walks of life be it space or agriculture. With revolution in technology, Information Science Engineering (ISE) is making an impact on all businesses and services. The Internet & Communication Technologies (ICT) is shrinking the globe. We can see an information explosion. The world economy has moved up and globalisation is the key word today. Prior to revolution in Information Sciences, Multi National Corporations (MNCs) were dominating industry and business spreading their wings across the globe. This monopoly is no longer in existence.

The world is thrown open for liberalization. Flexibility in international trade and business is all due to the evolution of Internet & Communication Technologies and its advancements. The e-paradigms like electronic business (e-bus), electronic commerce (e-com), electronic learning (e-learning), electronic medicine (e-medicine), electronic governance (e-governance) demonstrate advancements in information explosion and technology scenario.-Information Technology (IT) and Information Technology Enabled Services (ITES) are a booming area, wherein we see how the world has opened up for BPO, IPO, KPO (Business Process Outsourcing, Intellectual Process Outsourcing, Knowledge Process Outsourcing) services. Advanced countries are outsourcing these areas due to competitive pricing, easy delivery and availability of key human resources. The emerging areas of bio-informatics, genetic engineering and bioscience have made enormous progress in this sector.

### **Gains to India**

India with its massive resource availability and a very strong base of intellectual and knowledge concentration is rightly positioned to reach the status of a developed country. The technical/logical strengths combined with its mastery in English by a large technically qualified young population gives this claim a strong basis. As per the vision statement of the former President of India Dr. A.P.J. Abdul Kalam, Year 2020, India will be a knowledge warehouse for the entire world. Information Science will play a crucial role in making that vision into a reality.

The course started in 1992 under Computer Science & Engineering Department and became an independent in 2006.

### **Information Science Application**

Professionals from other domains who require large data intensive applications harness the power and flexibility provided by Information Science Engineering. As a result this branch integrates all the domains and is much sought after.

These days we need connectivity of data across the globe and we need it at the click of the mouse. That is the challenge Information Technology has to meet. We need more and more sophistication in the way we can handle data and obtain information.

Some critical application include: Office automation and accounting, expert systems for diagnostics, monitoring live projects, online exams, results and decision - support systems.

### **Courses**

The department offers an undergraduate course of eight semesters, as per the VTU syllabus leading to a bachelor's degree in Information Science. The syllabus is revised from time to time to align itself to the changing needs of the industry. Further the department is also offering M.Tech degree course in computer science and Engineering under VTU and Ph.D / M.Sc (Engineering) by Research in Information Science Engineering (IS).

### **Research Initiatives**

Since DSI is privileged to have multidisciplinary higher education units like Dentistry, Pharmacy, Polytechnic, Nursing and Engineering under the same umbrella, the department is entering into interdisciplinary research. Sophisticated facilities are near completion and there is going to be a very powerful initiative towards research in the campus through the use of technology. Thus it establishes the fact that the power of software will always have a major role to play in faster communication and speedy delivery of answers to human needs.

The department has been recognized as a research center by Visvesvaraya Technological University, Belgaum. The department is also accredited by National Board of Accreditation (NBA). The department has the ISO 9001-2000 certificate.

The department has an alliance with NIIT and IBM for augmentation courses. A Memorandum of Understanding has been signed with IBM. Collaboration plans include Software Development and Testing Training. The Department has set-up IBM Centre of excellence which provides world - class skills to the students.

#### Areas of study in Information Science

- Programming Languages
  - Operating System
  - Computer Graphics
  - Computer Networks
  - Database Management
  - Security and Cryptography
  - Data Communication
  - Software Engineering
  - System Programming
  - Web Programming
- in addition to the core courses in other branches of Engineering

#### Application areas

- Office and accounting
- Healthcare
- Insurance
- Architecture
- Monitoring
- e-Commerce
- Multimedia
- Games

#### Work opportunities

- Information Solution Provider
  - Information Database Provider
  - Information Network Manager
  - Information System Developer
  - Information Content Designer
  - Information & Multimedia Designer
  - Information Technology Web Designer
- in any of the application areas mentioned above.

#### Academics

- Teaching-learning process is in place
- Internal testing process is in place
- Central evaluation
- Student counselling
- Tutorials
- EduSat programs
- Result analysis
- Faculty development
- Training programs for faculty
- Well-stocked department library of books and CDs
- Project guidance

#### Placement

90% of the students get placed and 10% go for higher studies. As a regular feature placement related training for the students are conducted.





## BIO-TECHNOLOGY

### BE / M.Tech / Ph.D / MSc (Engg)

#### About the department

Department of Biotechnology at DSCE is engaged in offering Bachelor of Engineering (BE) course in Biotechnology which is affiliated to Visvesvaraya Technological University (VTU). The department is committed to excellence in teaching and research. The Department is taking proactive measures to establish a Centre for Excellence in Biotechnology.

#### About the course

BE - Biotechnology is a new course started in August 2006. Unlike the traditional B.Sc. and M.Sc. courses which emphasize more on theoretical aspects of life-sciences, an engineering degree in Biotechnology exposes the student to a perfect blend of life sciences, chemical engineering and other relevant interdisciplinary subjects.

<b>Broad area</b>	<b>: Subjects covered</b>
Life Sciences	: Genetic Engineering
Microbial BT	: Molecular Biology
Agricultural BT	: Immunology, Tissue Culture
Health & Pharmaceutical BT	: Culture, Enzyme Technology
Bio Chemical Engineering	: Bioprocess Automation and Control, Bioprocess
Fermentation Technology	: Equipment Design Downstream Processing
Interdisciplinary Fields	: Bioinformatics Bioinstrumentation
Bioinformatics & IT	: Biomodelling Adv. Programming Windows, Linux and Perl

### Infrastructure

The Department has excellent infrastructure. Some of the equipment available in the department include the following:

- Ultra Cooling Centrifuge
- Deep Freezer
- UV-VIS Spectrophotometer
- HPLC
- RT-PCR
- Walk in cold chamber
- Nano drop
- Hot air oven
- Fermentor
- BOD Incubator
- Gel Electrophoretic Units
- Incubator
- Laminar Air Flow
- High End Microscopes

### Research programmes

The Research Programmes in the Department is broad based and interdisciplinary and aims at fundamental discoveries and technology process development and applications. The following programmes are being pursued.

- Genetic improvement of crops with resistance to biotic and abiotic stress
- Bio-diesel plants as an alternate source for energy
- Conservation and genetic diversity analysis of important medicinal plants
- Crystallization of clinically important enzymes
- Nanoparticles for diagnostics and therapeutic applications
- HDL as drug deliver vehicles
- Bioremediation of Heavy Metals and Hydrocarbons
- Bioabsorption of Heavy Metals
- Enzymatic conversion of cellulose to alcohol (one step)

### Grants for Research

The Department also received a grant of Rs. 18.00 Lakhs from DST-FASTTRACK for carrying out a project entitled "An observational longitudinal prospective study to evaluate genes expressed in Notch Pathway, prognosis and treatment response in gliomas" for a period of 3 years.

Department of Bio-technology, DSCE has been identified by the Department of Information Technology, Bio-technology and Science & Technology, Govt. of Karnataka to start a Bio-technology Finishing School (BTFS) with a funding of Rs. one crore to procure state-of-the-art instruments. The objective of the Finishing School is to provide hands on experience to students such that they are absorbed by the Bio-tech Industry. BTFS has been launched from September 2011.

The Faculties have submitted Research Proposals in some of the above areas to National Funding agencies such as BT, DST, DRDO and NMBA.

In a nutshell, the students of Biotechnology at DSCE are well trained and equipped with values, principles, and qualities to become competent Biotech Engineers.

#### Publications

**Papers:** Three original research articles communicated to National Journals in Biotechnology

**Consulting:** Dr. P.S. Rao Director, Life Sciences and Engineering, Consultant to Indo American Hybrid Seeds, Bangalore, with regard to development and trials of Genetically Modified Crops.

#### Conferences

International Conference on “Convergence of Science & Engineering in Education and Research - A Global Perspective in the New Millennium” on 21-23 April, 2010.





## AUTOMOBILE ENGINEERING B.E.

### **An Overview**

Automobile engineering is one of the options available for graduate level study in engineering and specialization in the field of vehicle engineering. The subject is approached under three major fields of study: Production, Development, and Manufacturing. The automobile industry has been posing consistent growth within the country. Companies engaged in the design and manufacture of automobiles are witnessing good sales. New models are finding ready acceptance. The trends are very exciting indicating excellent

potential for employment. For others the scope for setting up of ancillary units or start new projects that could support broadly the automobile sector and generally other industrial requirements hold immense promise. For instance one can actively engage in the airline sector - which is critical in defense and transport fields globally.

Automobile engineering involves understanding the mechanics of vehicle chassis, internal combustion engine, electrical and electronic systems, and motor

transport, workshop technology, research and design. It also deals with computer-aided design, development, manufacturing and maintenance of automobile components. Precision, efficiency, durability, adaptability in materials that go into production and manufacture of automobiles as also design and innovation in development of new cars and automobiles are challenges that qualified engineers with a specialized background can respond with great ease.

#### **Potential employers include:**

- Maruti Suzuki
- Ashok Leyland Ltd
- Bajaj Auto Ltd
- Daewoo Motors India Limited
- Mahindra and Mahindra Ltd
- Maruti Udyog Limited
- Tata Motors
- Hindustan Motors Ltd

#### **The DSI network - an advantage**

DSI is closely associated with Sagar Automobiles which distributes Maruti Suzuki cars. Sagar Automobiles is having sophisticated and state-of-the-art online diagnostic testing facilities for vehicles. The testing equipment use computer software to repair / diagnose a fault allows hands-on experience on different vehicles with electronic systems. These facilities are being used effectively for training the students and holding of classes in a live situation.

The Automobile engineering course is a four year (Eight Semester) professional programme.

#### **Scheme of Teaching and Examination**

DSCE being affiliated to Visvesvaraya Technological University, the course work and examination system is as per university norms.

#### **Subjects and Scheme of examination for different semesters**

Curriculum for the first and second semester and scheme of examination is common to all branches of engineering. For automobile engineering branch the subject and scheme of examination from third semester onwards is as indicated.

#### **Career Prospects**

Apart from good employment opportunities, with valid GATE or GRE score graduates can seek admission to Master Degree's and Ph.D programmes in automobile engineering and allied branches in India and abroad.

#### **Areas for Research activities**

Areas are automotive engines and alternative fuels, composite materials for the construction of vehicle body, vehicle and tyre dynamics (Aerodynamics and CFD) hybrid vehicles, design of chassis and suspension, emission control devices, utilization of solar energy as clean resource for vehicles.

#### **Impact of Automobile Industry on Indian Economy**

The Indian automobile industry has grown leaps and bounds since 1898, a time when a car had touched the Indian streets for the first time. At present it holds a promising tenth position in the entire world with being #2 in two wheelers and # 4 in commercial vehicles. Withstanding a growth rate of 18% per annum and an annual production of more than 2 million units, it may not be an exaggeration to say that this industry in the coming years will soon touch a figure of 10 million units per year. These facts clearly indicate a stupendous growth of the Indian Automobile industry and the Indian economy as well.



## CONSTRUCTION TECHNOGY & MANAGEMENT B.E.

The Bachelor Program (4 Years, 8 Semesters) in Construction Technology Management is designed to provide the necessary education for entry into the construction industry (residential, commercial,

industrial sectors, infrastructure, and heavy horizontal construction) and related careers such as real estate and land development, infrastructure development, transportation, building science among others.

### Program Structure

The Construction Management program shares a common curriculum for the first two years with the Bachelors in Civil Engineering Program, providing students with a two-year window to explore the field of Civil Engineering. The third and fourth years provide students greater depth of study of civil infrastructure to include foundations and earthwork, elementary structures, building systems, and highway design and construction. In addition, project management areas of study include project scheduling and control, construction contract, construction practices, and construction project administration. The technical core utilizes software applications such as AutoCAD, MS Project, NISA and others.

### Career Options

Graduates with a degree in Construction Technology Management have many career options

- Architectural
- Engineering and related service firms
- Building code compliance
- Construction estimating
- Construction project management
- Construction safety
- Government

### Achievements

- Conducts Annual National Seminar – Advances in Construction Technology – ACT since 2010
- Top 10 Students of the department are Rank Holders in VTU

### Infrastructure Facilities

- Survey Lab
- AutoCAD and MS Project Lab

- Building Services Lab
- Material Testing and Concrete Lab

### Academics

- Knowledgeable faculties
- Good and consistent results in all semesters
- Field visits, guest talks arranged in the department

### Consultancy

The department is actively involved in consultancy like structural design, building services, surveying among others.

### Future Plans

The department proposes to setup a R&D facility and add a master program to the department in Construction Technology.

### Placements

The department has identified a faculty as the coordinator who has vast experience in the field. They will coordinate with the students for getting placements at various construction companies.



## AERONAUTICAL ENGINEERING - B.E.

Aeronautical / Aerospace Engineering deals with the development of new technology in the field of aviation space exploration and defense systems. It specializes in the designing, construction, development, testing, operation and maintenance of both commercial and military aircrafts, spacecrafts and their components as well as satellite and missiles.

As Aerospace Engineering involves design and manufacture of very high technology systems, the job requires technical as well as mechanical aptitude. Aeronautical Engineers usually work in teams under their skills and technical expertise. Though highly paid, the work is very demanding. An Aeronautical Engineer needs to be fully dedicated to his work. One needs to be alert, have an eye for detail and should have a high level of mathematical precision to be successful.

The specializations includes in areas like structural design, navigational guidance and control systems, instrumentation and communication or production methods or it can be in a particular product such as military aircrafts, passenger planes, helicopters, satellites, rockets etc. Engineers may work in areas like research, design development and maintenance as well as in the managerial and teaching posts in institutes. They find very good demand in airlines, aircraft manufacturing unites, air turbine production plants or design development programmers for the aviation industry. Aerospace environment is sophisticated with rewarding career opportunities involving leading-edge technology.

The major subject includes areas like Aerodynamics, Aircraft Structures, Aerospace Propulsion, Airplane

Performance Stability and Control, Rockets & Missiles, Computational Fluid Dynamics, Helicopter Dynamics & Space Mechanics & Launch Vehicles.

### Eligibility & Course Area

Students with Science and Mathematics background are admitted into this course follow the VTU curriculum and scheme of examination. This is a four year program spread over eight semesters. The first two semesters is common to all branches of engineering. The third semester onwards specific curriculum designed for the course is delivered by qualified faculty.

### Job Prospects & Career Options

Aeronautical Engineers work with one of the most technologically advanced branches of engineering. The main thrust in this area is on Design and Development of aircrafts, Missiles, Rockets & Launch Vehicles.

### Remuneration

Engineers in government organizations are paid official scales while those in the private sector are paid according to the scales decided by the management of the organization. India will be a nodal centre for maintenance and manufacture of components for all modern passenger and military aircrafts in the coming years. By which there will be a lot of employment for qualified Aeronautical Engineers.

### Affiliation & Approval

- **Affiliated to VTU, Belgaum, Karnataka**
- **Approved by All India Council of Technical Education (AICTE), New Delhi.**
- **Approved by Government of Karnataka**

## ARCHITECTURE

### B.Arch

#### **An Overview**

Architecture is the utilization of space both functionally and aesthetically. It is art and technology fused perfectly. Students are trained to have artistic and creative skills and at the same time are taught about the constructional science, methodology, and technology. Constructing functionally, aesthetically and economically viable structures are the prime aim of the study, which will be the foundation creative step for the students to achieve their future step successfully.

#### **Why a student has to choose this field**

Architecture is the future of global infrastructure in these days of expanding cities, creation of habitable space, which is elegant and comfortable. Architecture is the medium through which effective use of space is possible.

Infrastructure is developing at an extremely fast pace and architects are very much in demand. Be it in the designing of a high rise, or a house, or a city architects are becoming more of a necessity bringing





in style, value and innovation to new building designs. They are the future of one of the critical sectors of the economy. With construction seeing a massive boom, professionally qualified architects are being engaged to match the increasing requirements and worldwide demand.

### Career options for Architects

A growing and demanding population

- Individual families converting their dreams into reality encouraged with attractive funding options from financial services companies, banks, employers and own funds. EMIs match rent out go. The logic is to build your own home.
- Government - KPWD, P&T
- Public sectors - ITI, BEML, HAL, Kudremukh etc.
- Private consulting firm - Sundaram Associates, Zacharia, Jaisim's Fountainhead and other major Architectural firms.
- Teaching - all engineering colleges under VTU offering B. Arch. Programs.
- Builders - Raheja, Shobha, Purvankara, Brigade and Prestige.

New subjects / areas of study

1. Passive Solar Architecture - To apply the principles of solar passive architecture in design.
2. Earthquake Resistant structures - To provide awareness and introduction to earthquake prevention measures in buildings.
3. Constitutional law - To provide basic knowledge of Indian constitution.
4. Art Appreciation - To provide appreciation & understanding of various types of arts.

### Current Research Efforts

- We are developing a lab with the assistance of Civil Lab to manufacture prefabricated structural modules for shelters. Eminent professionals will

guide the methodology, approach, execution and research. The modules can be manufactured with proper materials, usable design starting from foundation blocks, column beams or portal beams, slabs and other super structures.

- We are developing a creative research cell to deal with soil cement blocks and economically viable structure to serve the majority of the society. This research will have a useful impact on India, as one of the developing and densely populated countries.

### Overcoming Challenges

The challenge was to produce architects of national excellence, which was met with great success.

A plan was developed to incorporate new methods into the teaching - learning process, coming from a series of strong measures which was planned and executed with precision:

1. Classroom lectures adopted technology for regular teaching, thanks to the DSI campus, which is Wi-Fi enabled and equipped with several smart classrooms.
2. With technology coming in, closer interaction with faculty inside and experts from across the world is now possible.
3. Architects regarded as highly creative and very successful are now on the panel of consulting/visiting/adjunct faculties.
4. Closer interaction with professional bodies nationally and internationally.
5. Ongoing interactions with large construction companies.
6. New knowledge is gained through participation in conferences/seminars/workshops.
7. Live projects from construction companies, architecture firms through outsourcing process.
8. Supervision/quality check/audit works for small individual, medium and large construction projects

give real experience, add to confidence build-up in students, and enhance professional strengths and reputation of the profession itself.

9. The last two years of field work and network build-up gave a good starting point for a would be architect, planning, an independent consulting career, three-four years post qualification.
10. Housing financing activities of banks and companies will see new use of an architect trained with the above parameters. Employability through very new sources helping new options open up dramatically.

### Department Strengths

#### Academic

- The Department hosted the National NASA (National Association of Students of Architecture) convention in the year 1999 in which over 3500 delegates participated.
- The department has a unit of the NIDC (NASA information and documentation centre) where documented NASA works of several colleges have been preserved.
- Our students have participated in several inter-collegiate competitions in Bangalore and won many prizes.
- The students participated in the prestigious Louis Kahn trophy for the NASA held at Bombay.
- The results of all semesters are above 80% and we also have a few university ranks every year.
- The department has several well-experienced staff with many drawn from the industry.
- The department has infrastructure needed to make it one of the best departments in Karnataka.

#### Placement

Construction activity is booming and big firms easily absorb the students passing out. A majority of the students are employed with well-known architectural

firms based in India and around. Some are placed with multinational companies like Atkins, Jones Lang, Jurong consultants, HOK, Cliffrichards. A few of our graduates have started off on their own after a few years of professional experience.

#### Industry Interaction

- Talks/ seminars are arranged by eminent architects
- Workshops conducted by veterans from industry
- Students sent for Professional Training with different architectural consultants, building industry, public sectors and factories and Government Organizations.

#### Consultancy

A consultancy cell for the following areas

- Project viability (for Govt. and Public sector companies)
- Architectural Consultancy (for Private companies)
- Interior space designing (for interior decorators)
- Landscape designing
- Town Planning and Urban Design (to develop Townships and layout plans for industrial, residential projects)

#### Top Ranks to Architecture

The department is counted among the top schools of Architecture in the country. Reiterating that position is the top honours enjoyed by the college with the department securing university ranks for over a decade.

An international workshop was held on “The role of Project Management in Sustainable Infrastructure & Building Projects” in collaboration with the department of Architecture University of Stuttgart Germany.

Academic exchange programs for students with German universities is being worked out.



## DENTISTRY BDS / MDS / Ph.D and Certificate courses

### An Overview Scope of Dentistry

The mouth is considered to be the mirror of the human body and dental health being intimately related is part and parcel of the general health and well being of an individual. Dentistry today involves the treatment and prevention of a wide range of diseases of the mouth, ranging from tooth decay to mouth cancer. With increasing awareness in oral health and the surge in the demand for cosmetic dental care together with the technological advances in the delivery of dental care, the need for trained professionals in this field is ever increasing. As dentistry offers a satisfying, rewarding and lucrative career it has become the subject of choice for the aspiring professionals of tomorrow.

### Why Study Dentistry at Dayananda Sagar College of Dental Sciences

Dayananda Sagar College of Dental Sciences provides quality education in courses of Bachelor of Dental Surgery Degree and Master of Dental Surgery Degree. It was founded in the year 1991 and has been a pioneer in providing dental education and dental health care. The college is professionally managed and has been nurtured and developed with best of technical and professional infrastructure to suit the ever-increasing needs of modern day dental health care. At present the college imparts undergraduate teaching to 60 students & postgraduate teaching to 18 students in 6 specialities annually. The facilities at Dayananda Sagar College of Dental Sciences are of very high standard with faculty of extraordinary experience, expertise and with deep sense of commitment to offer their best to the students on a one-to-one basis. Throughout the course, dental students will have close contact with the teaching staff, and senior students, which allows learning by example and peer review. In line with the technical advances, the hospital is well- equipped with modern gadgets to impart specialized dental treatment, training and the requisite skills to the students.

Apart from imparting dental education, the college stresses upon the overall development of its students by encouraging sports and other extra curricular activities. It also periodically hosts lectures and workshops from professionals of national and international repute as part of continuing dental education programs. The institution is also actively involved in community dental health and treatment programmes catering to the needs of rural population with the intention of providing an awareness and knowledge on oral diseases and importance of good oral hygiene practice among school children and rural folk.

The Dental College is located in its own building which is in the campus of Dayananda Sagar Institutions. The Dental College building has an area of over 96,621 sq.ft. located in Block A and Block B with five and seven storied buildings, built specially for its use with an investment of over Rs.15 cores. The building is unique among the existing dental colleges in Bangalore. The state of the art hospital has over 150 dental chairs, and an excellent library, modern infrastructure facilities. The Bachelor and the Master Degree courses in Dental Surgery at Dayananda Sagar College of Dental Sciences is designed to provide both scientific background and practical skills that are needed throughout one's career as a dentist.

### **Courses Offered**

Dayananda Sagar College of Dental Sciences is recognized by the Dental Council of India and is affiliated to Rajiv Gandhi University of Health Sciences, Bangalore. It offers courses in Bachelor of Dental Surgery and Master of Dental Surgery, PHD and Certificate courses and is affiliated to RGUHS.

### **The Bachelor of Dental Surgery (B.D.S) Compulsory Rotatory Internship**

The Bachelor of Dental Surgery (B.D.S) is a four year Course with 1 year compulsory rotatory internship, with 240 teaching days in each academic year which prepares students for patient-oriented dental practice and emphasizes prevention and early detection of dental diseases. The first two years are the “pre-clinical years” which comprise the study of basic medical sciences and development of basic clinical skills on patient simulated models. The next three years are the “clinical years” wherein the students are exposed to clinical environment and the treatment of patients. The curriculum is designed to develop a spirit of inquiry amongst students that lead them to seek better ways to promote and preserve oral and general health. The primary goal of our institution is

to educate dentists who are well grounded in the basic medical sciences, skilled in the exercise of clinical care and above all, sensitive to the needs of their patients. To this end, the curriculum combines course work, and a series of planned, practical learning experiences in dental clinics of our college and medical hospitals outside the dental institution.

The aims of the Dental course are to educate individuals to safely practice dentistry in a training environment appropriate to their professional aspirations. They should be able to combine and use knowledge, skills judgement and have appropriate attitudes to deliver a high standard of professional care.

### **The Course Delivery**

#### **First Year**

The first year begins with a preparatory program introducing basic science courses. This foundation year includes introduction to dental materials and preclinical dental sciences.

#### **Human Anatomy including Embryology & Histology**

Gross anatomy, histology and embryology are treated in their broadest aspects with emphasis on points of clinical importance. Morphology is learned by lectures, dissections and clinical discussions.

#### **Human Physiology including Biochemistry**

Integrates body functions and the physiological basis for the understanding of clinical conditions. Laboratory exercises are supplemented with experimentation and demonstration. Biochemistry deals with the nature of chemical processes occurring in the living cells of our body with their applied aspects.

### **Human Oral Anatomy includes Embryology and Histology**

Lecture and laboratory course introducing normal tooth morphology, tooth- carving exercises and anatomy of occlusion of the healthy dentition. This course also includes a comprehensive understanding of the embryology, microscopic and macroscopic structure, and functions of the orofacial complex.

### **Second Year**

The second year is shared by the basic pre-clinical and clinical sciences.

### **General and Dental Pharmacology and Therapeutics**

General principles of drug action in the body and drugs of importance to clinical dentistry.

### **General Pathology and General Microbiology**

Curriculum covers fundamental mechanisms and general principles of the diseases of our body. Didactic sessions largely comprising lectures are supplemented with gross microscopic laboratories and seminars. Microbiology comprises bacteriology, virology, mycology and immunology to prepare students for a detailed study of infectious diseases, general characteristics of pathogenic microorganisms along with laboratory instructions.

### **Dental Materials**

An in-depth consideration of the physical and chemical properties of materials related to the practice of dentistry.

### **Pre-clinical Operative Dentistry**

A laboratory course that introduces the student to fundamental operative procedures related to teeth on patient simulated models.

### **Pre-clinical Prosthodontics**

A laboratory course, which introduces the student to basic prosthodontic procedures, like dentures on simulated models.

### **Third Year**

The student enters dental clinics and employs the dexterity, which has been obtained in the previous years for treatment of the patients. At the same time the student continues didactic courses in basic medical and dental clinical subjects.

### **Oral Pathology and Microbiology**

The student is taught to recognize, analyze and appreciate primary and secondary disease conditions of the oral and peri-oral regions present in patients. The course also includes microscopic and macroscopic evaluation and diagnosis of common oral diseases.

### **General Medicine**

Fundamental procedures in systematic examination of patients with diseases, including lectures and clinics.

### **General Surgery**

Introduction to general principles of surgery, clinical examination and evaluation of patients with surgical conditions.

### **Fourth Year**

#### **Oral Medicine and Radiology**

Instruction in the systemic background of diseases and the effect of oral diseases on total patient health. Focus on history-taking techniques, comprehensive patient examination, use of diagnostic aids and tests, and formulation of treatment plans. Radiology includes a detailed didactic and practical presentation of radiological techniques essential for various specialties of dentistry.

### **Paedodontics and Preventive Dentistry**

Oral health problems during development and growth of oro-facial complex of the child and adolescent. The course includes training in-patient management, preventive and restorative dentistry treatment of traumatic dental injuries and minor tooth movements.

### **Orthodontics & Dentofacial Orthopedics**

Orthodontics deals with corrections of malaligned teeth. Focus on orofacial growth and development, an introduction to the concepts and practical aspects of orthodontic diagnosis and treatment. Advanced diagnostic facilities such as computerized cephalometrics, computerized growth prediction and other ultra modern equipment help render the state-of-the-art orthodontic care.

### **Periodontics**

The student is introduced to normal gums & other supporting structures of tooth, diagnosis and treatment of common periodontal diseases with both non-surgical and surgical methods.

### **Conservative Dentistry and Endodontics**

The saying 'Art & Science of Dentistry' perhaps finds its complete meaning in the practice of Conservative dentistry and Endodontics.

Conservative dentistry deals with "virtual preservation of what is present" rather than removal and replacement of decayed teeth. The students are taught about various restorative techniques and materials from traditional to the most modern concepts, thus opening up a wide area of treatment options. The students are also trained in the basic concepts and techniques of cosmetic dentistry which includes smile design that is altering shape, size, colour, etc of teeth.

Endodontic teaching program starts from identifying pulpal pathology, evolving correct treatment plan which includes most popular root canal therapy. The students are also trained in advanced microsurgical Endodontics and surgical procedures.

The scientifically evolved teaching program of the department blends theoretical concepts and practice of these on patients efficiently thus delivering quality and confident practitioners to the society.

### **Oral and Maxillofacial Surgery**

Introduction to the basic concepts and techniques of tooth removal, as well as minor and major surgical problems. Also includes methods of pain control, local anaesthesia, and emergency dental care. Clinical programme also includes major surgeries, involving the treatment of oral cancers, facial trauma, temporomandibular joint disorders, cleft lip and palate and jaw deformities.

### **Prosthodontics including Crown and Bridge**

A detailed analysis of edentulous and partially edentulous patient, with emphasis on diagnosis design and fabrication of removable and fixed dentures. The department is equipped with casting and ceramic laboratory. Preventive and Community Dentistry: Designed to help the students to explore professional ethics as they relate to dentists' relationship to peers, patients and the community. Students attend dental camps and perform initial screening examination and are sensitized to specific needs of a variety of patient populations.

### **Public Health Dentistry**

The department which caters to both under graduate and post graduate courses deals with Dental Public Health that is involved in the assessment of dental health needs

and in improving the dental health of populations. We are concerned primarily with prevention of oral diseases. The goals of this speciality is to identify and measure the oral health problems and needs of the community, to identify means by which these needs can be best met within the constraints of resources. We participate in epidemiological surveillance and conduct research contributing to the production and dissemination of scientific knowledge. We also initiate advocacy issues for health policy and use media effectively for oral health promotion. Community service with a focus on children and disadvantaged population by establishing satellite centres in rural areas, conducting free camps and rallies is at the very core of the department's mission. Orienting the students about the profession of dentistry, its development, philosophies and activities related to the community oral health promotion is in our best interest.

### Teaching and Assessment

The college has faculties with expertise, many of whom are recognized authorities in their respective fields. The staff is especially committed to clinical training, working intensively with students on a one-to-one basis towards total patient care. English is the medium of instruction for all the subjects of study. Teaching methods used involve a mixture of techniques including lectures, tutorials, seminars, practical laboratory and clinical teaching. Periodic Internal assessment will be held in each academic year both in theory and practical in each subject.

### Scheme of Examination

The examination to enter the next academic year is conducted by the Rajiv Gandhi University of Health Sciences. A university examination is conducted at the end of every Academic year in the month of June/July. A candidate who satisfies the requirement of attending progress and conduct as stipulated by university shall

be eligible to appear in the university examination. The unsuccessful students will be appearing for a supplementary exam conducted by the university in the month of December/January. Examination comprises of written theory exams and viva voce (orals) along with performance of corresponding practical tasks.

### Eligibility

Candidate shall complete age 17 years on or before 31st December of the year of admission to the BDS course. Student should have passed the qualifying examination Higher Secondary examination or Indian School Certificate examination or any other equivalent examination along with a minimum of 50% in the entrance exam conducted by Govt. of Karnataka and / or COMED-K. The study comprising of Physics, Chemistry and Biology with an aggregate of 50% marks.

### Career Prospects

After the completion of BDS course (which includes one year of compulsory rotatory internship), the student is eligible to apply for Master of Dental Surgery (MDS) course. A dentist may alternatively set up general practice or work in a hospital. Teaching and research is another attractive avenue for the outstanding graduate. Dental surgeons can also join the armed forces as commissioned officers. Several large companies employ their own dentists to provide dental treatment for their staff. Since the college is recognized by the Dental Council of India and affiliated to the Rajiv Gandhi University of Health Sciences, the graduate is also eligible to apply to various institutions abroad for further studies. A dentist, therefore, in addition to enjoying high community standing and an above average income, has an excellent choice of work environments.



## MASTER OF DENTAL SURGERY (MDS)

Master of Dental Surgery (MDS) is a 3 year post graduation course in a given specialty of dentistry. At present the college offers Master's Degree in the specialty departments of Oral Medicine & Radiology (4 seats), Oral & Maxillofacial Surgery (2 seats), Conservative Dentistry & Endodontics (6 seats), Orthodontics & Dentofacial Orthopedics (2 seats). Prosthodontics including crown and bridge (2 seats) and Periodontics

(2 seats), Orthodontics & Dentofacial Orthopedics (5 seats), Public Health Dentistry (2 seats).

During the course period the candidate will undergo extensive training in the specialty which includes seminars, journal review meetings, symposia, conferences, case presentation, pre-clinical exercises, exhaustive clinical training using State-of-the-art

equipment and didactic lectures during each year as designed by the department and university. The training programme also includes research activity.

Each student will be assessed periodically by the concerned department and progress is evaluated. The university examination will be conducted at the end of three years after the candidate fulfils the criteria laid down by the university, which includes the required attendance, progress of the candidate during the three years and submission of dissertation. Examination will be conducted by the Rajiv Gandhi University of Health Sciences, which comprises written theory exams, practicals and viva voce.

### **Eligibility and Admission**

Candidate for admission to MDS course shall have a recognized degree of BDS awarded by an Indian University from a recognized Dental College or an equivalent qualification recognized by Dental Council of India and should have obtained permanent registration with the State Dental Council.

Admission shall be done through a competitive test conducted by the state Government or by Comed-K. If a student desires to gain admission for a Management seat, he/she may contact the admission office at DSI campus.

### **PhD and Certification Courses**

Our college is offering PhD courses in the Department of Oral & Maxillofacial Surgery, Department of Othodontics & Dentofacial Orthopaedics, Department of Conservative Dentistry and Endodontics and Oral Medicine and Radiology.

One year Certification courses in Esthetic Dentistry and Implantology are also available.

The PHD and Certification courses are recognized by the Rajiv Gandhi University of Health Sciences, Karnataka.

### **Working Hours**

College and Hospital work between 9.00 am to 4.00 pm. Theory classes will be conducted between 9.00 am and 10.00 am and from 2.00 pm to 4.00 pm. Clinicals for the students will be between 9.00 am and 1.15 pm and from 2.00 pm to 4.00 pm for BDS students. For MDS students working hours will be from 9.00 am to 4 pm in the clinics.

### **Dress Code**

Formals only and Aprons.

### **Library**

A well equipped library with internet facilities and many International and National Journals is situated in the 2nd floor of new block.

### **Hostel**

Separate girls and boys hostel is situated within the campus.

### **List of Events**

Sports day is regularly held in the month of May and College/Graduation Day in the month of October/November. Students are encouraged to participate in all the events.

Dayananda Sagar College of Dental Sciences strictly prohibits ragging. To this effect an anti-ragging committee headed by the principal, comprising of PG Director and all the Heads of the department has been constituted to oversee this. Stringent action will be taken as per management rules against those indulging in ragging.



## PHARMACY

### B.Pharm / M.Pharm / PharmD

#### An Overview

With rising awareness amongst the general public, the health care industry is in for a great boom in the near future. The Pharmaceutical industry is recession free and there is always a great demand for competent pharmacy professionals. Pharmacists play a major role in Health Care, Clinical Research and Diagnostics. Implementation of GATT in January 2005 has widened the scope for pharmacists. On the way to becoming self-reliant and a technologically advanced industry, pharmaceutical research has secured a tremendous impetus in recent years. At the same time, India is fast emerging as a preferred hub for Clinical Trials and Research. This in turn has opened a virtual floodgate of opportunities for young budding pharmacists.

Started in 1991-92, the college is recognised by the Pharmacy Council of India (PCI), New Delhi & the All India Council for Technical Education (AICTE), New Delhi & Government of Karnataka. It is affiliated to Rajiv Gandhi University of Health Sciences (RGUHS), Karnataka.

On successful completion of the four-year course by a student, the University awards a Bachelor's Degree in Pharmacy.

The School of Pharmacy provides excellent educational facilities for the young aspiring students. The infrastructural facilities help to carry out research

on par with international standards. The School undertakes collaborative research projects with various organisations and hospitals. Campus Interviews are conducted regularly for providing better placement for the students. A combination of B.Pharmacy and M.B.A from a reputed institute is the most sought after in the industry. Presently in India contract Research organisations are on rise which contributes to research for Multinational Pharmaceutical Organisations. The concept of a Pharmacy professional as an active participant in the health care delivery system is very exciting and should appeal to anyone with an interest in a career that is both challenging and rewarding.

Dayananda Sagar College of Pharmacy is striving hard to become a centre for excellence in Pharmaceutical Education and Research. It aims to become a world leader in the field of pharmaceutical sciences with the mission of strengthening the healthcare systems. The prestigious Sagar Hospital, a multi-speciality hospital is part of the Sagar Group and students of DSCP are provided training here.

#### Avenues

Pharmacy, the health profession concerned with the knowledge of drugs and their effects, stems from the chemical, physical, biological and behavioral sciences. It offers diverse opportunities in India and abroad. Various avenues for a Pharmacist include community or hospital pharmacy; a nursing home or extended

care facility; pharmaceutical industry, biotech industry, private or public companies, government agencies, academics and R&D.

Pharmacy graduates also find place in the US Food and Drug Administration and the Drug Enforcement Administration, the Public Health Service, the Armed Forces, the National Institutes of Health and many other government agencies. They also find ample opportunities in managed care organizations, home health care agencies, general and specialized clinics, or as drug information specialists in hospitals or other health care organizations. Many Pharmacy graduates take up teaching and administrative careers at reputed Colleges and universities around the world. Others choose career paths in writing and editing for trade and scientific journals or publishing houses, marketing communications, or working in pharmacy associations.

## **B.Pharma**

With a Pharmacy Degree, one could also find career paths in preparing medical advertisements patent establishments. With global revenues in healthcare touching trillions, the pharmaceutical industry is already one of the largest industries and the current economic and lifestyle boom has led to an unprecedented demand for quality health services. DSCP sees great opportunity for skilled pharmacists in India as well as in multinational companies that are investing in research, manufacturing, marketing and clinical studies of medication to meet global needs.

### **Minimum qualification for admission to the course**

1. Candidates who have passed the two year Pre-University examination of the Karnataka Pre-University Board or an equivalent examination of any other approved Board/University with not less than 40% marks in any combination comprising Physics/Chemistry/Mathematics (P.C.M) or Physics/Chemistry/Biology (P.C.B) (minimum eligibility should be based on the aggregate of P.C.M or P.C.B) or P.C.M.B, P.C and Computer Sciences, P.C and Electronics.
- Note: With respect to candidates who have taken P.C.M.B combination the aggregate of P.C.M or P.C.B whichever is higher shall be considered for the purpose of admission.*
1. In case of students belonging to SC/ST/or Category-I, the minimum percentage of marks for admission to B.Pharm Course shall be not less than 35% in P.U.C or its equivalent examination (P.C.B or P.C.M or P.C.M.B), P.C and Computer Science, P.C. and Electronics.
  2. Candidates who have scored less than 40% marks in (10+2) but who have completed B.Sc. Degree with Chemistry as one of the compulsory subjects in combination with any two of the following subjects, namely, Physics or Mathematics or Microbiology, or Botany or Zoology or Bio-technology or computer Sciences or Electronics securing not less than 40% marks in aggregate are eligible for admission to first year B.Pharm course.
  3. Candidates who have scored less than 40% marks in 10+2 but who have completed D.Pharm course securing more than 40% marks in aggregate in D.Pharm are eligible to be admitted to First Year B.Pharm course.
  4. Candidates who have passed D.Pharm course with not less than 40% aggregate approved by PCI shall also be eligible to this course and shall be admitted directly to II B.Pharm course 10% over

and above the sanctioned intake and shall have to study Mathematics, Computer Science & Statistics of I B.Pharm in addition to the II B.Pharm subjects.

#### Procedure for admission

Admissions are open to all Indian nationals, NRI's and foreign students having the requisite eligibility

requirements. Admissions to the course are mainly decided by the marks obtained in the qualifying examination.

Duly completed application forms should reach the college office within the specified date.

**The course of study for B.Pharm I, II, III & IV year shall include the respective theory and practical subjects as per the following table:**

### I B.Pharm

Sl. No.	Subject	Theory Hrs per week	Practicals Hrs per week (per batch of 20 students)	Tutorials Hrs per week (per batch of 20 students)
1	1.1 Anatomy & Physiology	03	03	01
2	1.2 Pharmaceutics (Dispensing & Gen. pharmacy)	02	03	01
3	1.3 Pharmacognosy - I	02	03	01
4	1.4 Pharma Organic Chemistry - I	03	03	01
5	1.5 Pharma Inorganic Chemistry	03	03	01
6	1.6 *Mathematics Biology	03/02	00/02	NIL
7	1.7 *Computer Science & Statistics	03	02	NIL
	Total no. of working hrs.	19/18	17/19 38 hrs	05

\*College exams only.

## II B.Pharm

Sl. No.	Subject	Theory Hrs per week	Practicals Hrs per week (per batch of 20 students)	Tutorials Hrs per week (per batch of 20 students)
1	2.1 Physical Pharmaceutics	03	03	01
2	2.2 Pharmaceutical Microbiology & Biotechnology	03	03	02
3	2.3 Pathophysiology	03	00	02
4	2.4 Applied Biochemistry	03	03	01
5	2.5 Pharmaceutical Organic Chemistry-II	03	03	02
	Total no. of working hrs.	15	12 35 hrs	08

## III B.Pharm

1	3.1 Medicinal Chemistry - I	03	03	02
2	3.2 Pharmaceutical - Jurisprudence	02	00	02
3	3.3 Pharmacognosy & Phytochemistry	03	03	02
4	3.4 Pharmaceutical Engineering	03	04	02
5	3.5 Pharmacology	03	00	02
	Total no. of working hrs.	14	10 34 hrs	10

## IV B.Pharm

Sl. No.	Subject	Theory Hrs per week	Practicals Hrs per week (per batch of 20 students)	Tutorials Hrs per week (per batch of 20 students)
1	4.1 Pharmaceutical Technology & Biopharmaceutics	03	03	01
2	4.2 Instrumental & Biomed Analysis	03	03	01
3	4.3 Pharmacology & Toxicology	02	04	01
4	4.4 Med. Chemistry - II	03	03	01
5	4.5 Industrial Pharmacognosy	02	03	01
6	4.6 ELECTIVE* I) Industrial Pharmacy a. Advanced Industrial Pharmacy b. Pharmaceutical Marketing & Management  OR II) Pharmacy Practice a. Pharmacokinetics and Therapeutic drug monitoring b. Clinical & Hospital Pharmacy	02 02	02 00	01 00
	Total No. of working hrs.	16	16 38 Hrs.	06

\* Students are given the option to select the elective subjects of their choice namely Industrial Pharmacy or Pharmacy Practice.

**Duration of the course:**

The course of study for B.Pharm shall extend for a period of 4 academic years.

**Medium of Instruction:**

Medium of instruction shall be English.

**Attendance:**

A candidate is required to put in atleast 80% attendance in theory and practical subjects separately in a recognised institution approved by and affiliated to RGUHS. The candidate shall complete the prescribed course satisfactorily to be eligible for examination.

**Internal Assessment:**

Three sessional examinations (evenly spaced) shall be conducted during the academic year. The average marks of the best two examinations shall be computed out of a maximum of 30 marks and shall constitute the sessional award in theory. Students are expected to perform the number of experiments listed in the respective syllabi. Marks shall be awarded out of a maximum of 10 to each of the practical exercise. Three practical sessional examinations shall be conducted during the academic year. The average marks of the best of two examinations shall be computed out of a maximum of 20 marks. A total of 30 marks shall constitute the sessional award for practicals.

**Practical Training:**

Every candidate shall undergo practical training in a Pharmaceutical Manufacturing House / Approved Hospital / CSIR Research Labs for a period of not less than 150 hrs to be covered in not less than 45 days after completing III B.Pharm or IV B.Pharm course and submit 2 copies of the duly certified training report to the satisfaction of the Head of the Institution.

**Industrial Tour:**

Candidates studying in the final year of the course shall visit several Pharmaceutical Manufacturing Houses as a supplement to their academic training and submit a report to the satisfaction of the Head of the Institution.

**Academic Record**

Dayananda Sagar College of Pharmacy has a good academic record regarding results. In the present year our students have excelled both in University and Diploma examinations. Our students have won us honours by getting 100 percent results in the final D.Pharm examination.

**Industry interaction**

Frequent guest lectures by professionals working in reputed institutions, Pharmaceutical Industry and Research Establishments are arranged to enlighten our students regarding recent advances in the field of Pharmacy. Last year, reputed Scientists from Biocon, Hikal & British Biological had delivered lectures.

**Placement**

Regular Campus Interview by reputed Pharmaceutical Industries is conducted in our Campus to facilitate placement for our students. A few of the companies who recruited our students during the Campus Interview are Dr. Reddy's Laboratories, German Remedies, Himalaya Drug Company, Quintiles and ING Vysya.

A number of our students have gone abroad and secured admissions in prestigious universities in America and the United Kingdom.

**Award of Degree**

The Rajiv Gandhi University of Health Sciences will award the Degree in Pharmacy during the ensuing convocation to successful candidates.





## M.Pharma

This institution has also started the Postgraduate Degree in Pharmacy, (M.Pharm) in the year 2007-08 in two branches viz Pharmaceutics & Pharmaceutical Chemistry. Subsequently the Department of Pharmacology was added in the academic year 2008-09.

1. Eligibility
2. Duration
3. Course of study.
4. Subjects /Specialization
  - i) Pharmaceutics - 10 no. of seats
  - ii) Pharmaceutical Chemistry - 10 no. of seats
  - iii) Pharmacology - 10 no. of seats
  - iv) Pharmaceutical Analysis - 18 no. of seats

### ELIGIBILITY

A candidate who has passed B.Pharm degree examination of Rajiv Gandhi University of Health Sciences or B.Pharm examination of any other recognized Indian University established by law in India or any other degree

courses in Pharmacy recognized as equivalent by RGUHS or Pharmacy council of India (PCI) and or All India Council of Technical Education (A.I.C.T.E) for this purpose and who has secured not less than 55% of the maximum marks (aggregate of four years) prescribed for the qualifying examination shall be eligible for the admission to the M.Pharm course.

Further, Pharmacy teachers having a recognized B.Pharm qualification and with minimum of five years of teaching experience in an institution approved by A.I.C.T.E and PCI will be eligible, provided they have scored not less the 50% of the maximum marks (aggregate of four years in B.Pharm).

For SC/ST/ (Karnataka) Category-I candidates the prescribed percentage of marks will be 45% of the maximum marks in the qualifying examinations.

### DURATION

The course of study including submission of

dissertation on the topic registered shall be of 24 months (two years) duration from the commencement of the academic term.

The study of M.Pharm course shall be annual system that includes M.Pharm part-I, extending for one year from the commencement of academic term and M.Pharm Part-II of twelve months duration. At the end of M.Pharm Part-I, there shall be a university examination of M.Pharm Part-I. At the end of M.Pharm Part-II, the candidate shall submit a dissertation on the topic approved by the university.

### COURSE OF STUDY

There are 3 branches of specialization in M.Pharm. During the course of study, candidates of M.Pharm Part-I, shall undergo a compulsory course in Modern Pharmaceutical Analysis common to all branches of specialization except in Pharmaceutical Marketing and Management and Pharmacy Practice. There shall be three specialized subjects in each branch of M.Pharm course in addition to the common subject mentioned earlier. The subject for study under each branch of specialization are listed below.

#### Subjects to be studied in different branches of M.Pharm Course:

Sl. No.	Branch of Specialization	Paper	Name of the subject
1.	Pharmaceutics	I II III IV	Modern Pharmaceutical Analysis Preformulation and Production Management Biopharmaceutics and Pharmacokinetics Advance in Drug Delivery Systems
2.	Pharmaceutical Chemistry	I II III IV	Modern Pharmaceutical Analysis Advanced Pharmaceutical Chemistry (Organic) Medicinal Chemistry-I (Drug design) Medicinal Chemistry-II (Natural products)
3.	Pharmacology	I II III IV	Modern Pharmaceutical Analysis Advanced Pharmacology & Toxicology Pharmacological Screening Methods & Clinical Evaluation Molecular Biology
4.	Pharmaceutical Analysis	I II III IV	Modern Pharmaceutical Analysis Pharmaceutical and Cosmetics Analysis Instrumental Methods of Analysis Chemical and Biological Evaluation



## Pharm.D

### **A pass in any of the following examinations**

A pass in 10+2 examination with Physics and Chemistry as compulsory subjects along with one of the following subjects: Mathematics or Biology.

A pass in D.Pharm (Diploma in Pharmacy) course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act.

Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations. Provided that a student should complete the age of 17 years on or before 31<sup>st</sup> December of the year of admission to the course. Provided that there

shall be reservation of seats for the students belonging to the Scheduled Castes, Scheduled Tribes and other Backward Classes in accordance with the instructions issued by the Central Government/State Government/ Union Territory Administration as the case may be from time to time.

### **Course of study**

The course of study for Pharm.D. shall include the subjects as given in the Tables below. The number of hours in a week, devoted to each subject for its teaching in theory, practical and tutorial shall not be less than that noted against it in columns (3), (4) and (5) below.

**First Year**

Sl.No.	Name of Subject	Theory No. of hours	Practical No. of hours	Tutorial No. of hours
1.1	Human Anatomy and Physiology	3	3	1
1.2	Pharmaceutics	2	3	1
1.3	Medicinal Biochemistry	3	3	1
1.4	Pharmaceutical Organic Chemistry	3	3	1
1.5	Pharmaceutical Inorganic Chemistry	2	3	1
1.6	Remedial Mathematics/ Biology	3	3*	1
	Total hours	16	18	6 = (40)

\* For Biology 5 hrs

**Second Year**

2.1	Pathophysiology	3	-	1
2.2	Pharmaceutical Microbiology	3	3	1
2.3	Pharmacognosy & Phytopharmaceuticals	3	3	1
2.4	Pharmacology - I	3	-	1
2.5	Community Pharmacy	2	-	1
2.6	Pharmacotherapeutics - I	3	3	1
	Total Hours	17	9	6 = 32

**Third Year**

3.1	Pharmacology-II	3	3	1
3.2	Pharmaceutical Analysis	3	3	1
3.3	Pharmacotherapeutics-II	3	3	1
3.4	Pharmaceutical Jurisprudence	2	-	-
3.5	Medicinal Chemistry	3	3	1
3.6	Pharmaceutical Formulations	2	3	1
	Total hours	16	15	5 = 36

**Fourth Year**

4.1	Pharmacotherapeutics-III	3	3	1
4.2	Hospital Pharmacy	2	3	1
4.3	Clinical Pharmacy	3	3	1
4.4	Biostatistics & Research Methodology	2	-	1
4.5	Biopharmaceutics & Pharmacokinetics	3	3	1
4.6	Clinical Toxicology	2	-	1
	Total hours	15	12	6 = 33

Sl.No.	Name of Subject	Theory No. of hours	Practical No. of hours	Tutorial No. of hours
<b>Fifth Year</b>				
5.1	Clinical Research	3	-	1
5.2	Pharmacoepidemiology and Pharmacoeconomics	3	-	1
5.3	Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	2	-	1
5.4	Clerkship*	-	-	1
5.5	Project work (Six Months)	-	20	-
	Total hours	8	20	4 = 32

### Sixth Year

Internship or residency program including postings in specialty units. Student should independently provide the clinical pharmacy services to the allotted wards. (i) Six months in General Medicine Department, and (ii) Two months each in three other specialty departments.





## NURSING

### Diploma / Bachelor's / Master's

#### **An Overview**

A desired goal of nursing is professionalism, which necessitates specialized education; a unique body of knowledge, including specific skills and abilities; autonomous regulation and a code of ethics. The future of Nursing promises dynamic changes and

continual challenges with exciting health care reform. In this context, Dayananda Sagar College of Nursing offers a broad based education specifically directed to the development of critical thinking skills and standards required for practice of competent nursing.

### **Why choose Dayananda Sagar College of Nursing (DSCN)**

This Nursing Institute has a well-equipped laboratory with modern infrastructure and instruments. In order to provide quality education, the institution has not hesitated to provide liberal funding for state-of-the-art laboratories, with experienced and professionally qualified faculty to ensure effective teaching and guiding the students to achieve their best. A Scholarship of Rs.20,000 is granted for those students who secure 60% and above in their overall academic performance. Students are encouraged to take experimental project work to enhance hands-on experience. The college is associated with the Sagar Hospital to impart quality practical training to the students.

The scope for nursing services are immense especially with the increasing demand all over the world. DSCN is a flagship in giving value-added education in equipping students to compete at global level. The college is a first of its kind to collaborate with overseas Research and Development Projects.

### **Teaching Methodology**

Professors with vast teaching and hospital experience handle the classes. The teaching methodology is interactive with students' participation. The sessions include group discussion, seminars, visits to hospitals. Audio-visual aids classroom sessions are facilitate. Workshops and guest lectures are also arranged along with academics.

### **Medium of Instruction**

English is the medium of instruction for the course as well as for the examination.

### **Placements**

Promising students are ensured of placements on successful completion of the course at Sagar Hospitals.

Students are also provided with placement assistance to work in major hi-tech hospitals. A separate placement cell in the college helps them in seeking placement.

### **Dress Code**

The student should wear uniform prescribed during the clinicals, labs and hospital visits and also during the college hours.

### **Hostel**

There is an exclusive hostel within the campus for the nursing students. Both Vegetarian and Non-vegetarian food are provided in the mess.

### **Course Details**

The course is affiliated to the Rajiv Gandhi University of Health Sciences and accredited by the Government of Karnataka, Karnataka Nursing Council & Indian Nursing Council. DSCN offers a wide range of programmes in Nursing Education at different levels. This institution offers like Diploma in General Nursing and Midwifery, B.Sc., (N) Basic, P.B.B.Sc., (N), M.Sc., (N).

## DIPLOMA IN GENERAL NURSING AND MIDWIFERY (DGNM)

### **Admission Criteria**

Minimum age for admission will be 17 years (as on 31st December of that year). The upper age limit is 35 years.

### **Minimum education**

10+2 passed or its equivalent preferably with Science subjects (Physics, Chemistry and Biology) with an aggregate of 35% marks.

Admission of students shall be once a year. Student should be medically fit.

### **Duration of the Programme**

The Diploma course in General Nursing and Midwifery

is three years with 6 months of internship period (3 ½ Years Course).

### **Preliminary Training Period**

Commonly called PTS period, that is of 12 weeks duration. During this time the students attend the intensive theory classes and wards for observation and supervised practice, not exceeding 16 hours per week.

Since Nursing Course demands a different attitude among the student community, an examination to assess the ability and attitude of the students will be held during the 11th or 12th week. Successful candidates will be allowed to continue the course.



### Curricular pattern

The Students have theoretical instructions in the class room and simulation practice in the Laboratory followed by clinical experience in the hospital wards and community field practice area which is distributed throughout the duration of study and internship.

#### I. FIRST YEAR

Subject	Hours
1. Biological Science	120
(i) Anatomy & Physiology	90
(ii) Microbiology	30
2. Behavioral Science	60
(i) Psychology	40
(ii) Sociology	20
3. Fundamentals of Nursing	215
(i) Fundamentals of Nursing	175
(ii) First Aid	20
(iii) Personal Hygiene	20
4. Community Health Nursing	150
(i) Community Health Nursing	180
(ii) Environmental Hygiene	20
(iii) Health Education & Communication Skills	20
(iv) Nutrition	30
5. English	30
Total Hours of First Year	575

#### II. SECOND YEAR

Subject	Hours
1. Medical Surgical Nursing I (Including Pharmacology)	140
2. Medical Surgical Nursing II (Specialties)	120
3. Mental Health & Psychiatric Nursing	70
4. Computer Education	30
Total Hours of Second Year	360

#### III. THIRD YEAR

Subjects	Hours
1. Midwifery and Gynecology	120
2. Community Health Nursing II	100
3. Pediatric Nursing	70
Total Hours of Third Year	290

#### IV. INTERNSHIP PERIOD

Subjects	Hours
1. Educational methods & Media for Teaching in practice of Nursing	45
2. Introduction to Research	40
3. Professional Trends & Adjustment	40
4. Administration and Ward Management	45
5. Health Economics	20
Total Hours of Internship	190

#### Examination /Scheme:

Each year there will be an examination conducted by the Govt. of Karnataka State Examination Board in General Nursing and Midwifery.

A student should complete not less than 11 months of training and satisfactory performance in class and clinicals.

A student should have minimum of 75% class attendance in each subject and 75% clinical attendance in each area.

Up to date record of practical experience and completion of assignments and cumulative records.

#### Internal Assessment

A regular and periodic assessment for each subject and clinical / field experience will be carried out.

For the purpose of internal assessment there shall be written test and two assignments in each subject taken by the respective teacher as per the board guidelines.

There shall be 25% internal assessment for all theory papers and 50% internal assessment for all the practicals.

Students are assessed for regularity on competence in the clinicals and in Community field practice area.

### Carry over

If a student fails in one theory paper she/ he may be promoted to the next year, but she/he should appear for supplementary examination and clear the failed subjects.

If the student fails for the second time in the same paper, the student may continue in the school at the discretion of the authorities and may appear for the next exam.

If a student fails in two or more subjects she/he shall repeat the whole year.

Passing the practical examination is compulsory for promotion to the next year.

### Internship Period

Total Duration	<b>26 weeks / 6 months</b>
Vacation	<b>1 Week</b>
Examination	<b>1 Week</b>

For the remaining 24 weeks students will be posted in different clinical areas and also undergo formal class instruction.

Total working hours of each day	<b>8 hrs.</b>
Hours per week	<b>8 x 6 = 48 hrs.</b>
Total hours of Internship period	<b>48 x 24 = 1152 hrs.</b>
Total hours of theory instruction	<b>190 hrs</b>
Total hours of clinical posting	<b>962 hrs</b>



## BACHELOR OF NURSING [BASIC]

### BSc (N)

#### Admission Criteria

Candidate should have passed two years Pre-University examination of Karnataka or an equivalent examination as prescribed by the Rajiv Gandhi University of Health Sciences, with Science subjects- Physics, Chemistry and Biology and English, scored at least 45% (40 % for Candidates belonging to SC/ST). They should have completed 17 years on or before 31st day of December of the year of admission.

#### Duration of the Programme

Duration of the course shall be of four complete years including clinical training of 24 weeks.

#### Curricular Pattern

Candidates shall undergo course of instruction in the following subjects.

#### First year Basic B.Sc., Nursing

Subjects	Theory Hours	Practical / Clinical Hours	Others (hours)
1. English	60	—	—
2. Anatomy	60	—	—
3. Physiology	60	—	—
4. Nutrition	60	—	—
5. Biochemistry	30	—	—
6. Nursing Foundations	265 + 200	450	—
7. Psychology	60	—	—
8. Microbiology	60	—	—
9. Introduction to Computers	45	—	—
10. Kannada	30	—	—
11. Library work / Self Study	—	—	50
12. Co-curricular activities	—	—	50
TOTAL	930	450	100
TOTAL HOURS = 1480 HRS			

**Second Year Basic B.Sc., Nursing**

1. Sociology	60	—	—
2. Pharmacology	45	—	—
3. Pathology	30	—	—
4. Genetics	15	—	—
5. Medical Surgical Nursing (Adult including geriatrics) - I	210	720	—
6. Community Health Nursing - I	90	135	—
7. Communication and Educational Technology	60 + 30	—	—
8. Library work / Self Study	—	—	50
9. Co-curricular activities	—	—	35
TOTAL	540	855	85
TOTAL HOURS = 1480 HRS			

**Third Year Basic B.Sc., Nursing**

1. Medical-Surgical Nursing (Adult including geriatrics) - II	120	270	—
2. Child Health Nursing	90	270	—
3. Mental Health Nursing	90	270	—
4. Midwifery and Obstetrical Nursing - I	90	180	—
5. Library work / Self Study	—	—	50
6. Co-curricular activities	—	—	50
TOTAL	390	990	100
TOTAL HOURS = 1480 HRS			

**Fourth Year Basic B.Sc., Nursing**

1. Midwifery and Obstetrical Nursing - II	Nil	180	
2. Community Health Nursing - II	90	135	
3. Nursing Research & Statistics	45	*Project	
4. Management of Nursing Services and Education	60 + 30		
TOTAL	225	315	
TOTAL HOURS = 540 HRS			

\*Project work to be carried out during clinical training.

### **Attendance, Progress and Conduct**

Each student must have a minimum of not less than 80 % attendance in theory and practicals / clinicals separately in each subject in each academic year for appearing in the examination. A candidate pursuing the course shall study in the college for the entire period as a full time student. No candidate is permitted to work in a Hospital / Nursing Home / Laboratory / College while studying this course. Each academic year shall be taken as a unit for calculating the attendance.

### **Internal Assessment**

There shall be an internal assessment which broadly follows the principles enunciated by the university in each subject for which 40 marks out of 140 marks (28%) is set apart and shall be added to the final marks in the university examinations. A candidate shall secure not less than 50% of marks prescribed for internal assessment in theory and not less than 50% marks prescribed in practical, separately, in each subject/paper to be eligible to appear in the university examination.

Regular periodic assessment shall be conducted throughout the course. Every year three tests in theory and practicals will be held. If a candidate fails in an examination, the students internal assessment shall be assessed again if the student is a regular student for a second attempt only.

### **Criteria for Passing**

For declaration of pass in any subject in the university examination, a candidate shall pass both in theory and practicals/clinical examinations components separately as stipulated below:

The theory component consists of marks obtained in university written paper(s) and Internal Assessment (Theory). For a pass in theory, a candidate shall secure not less than 50% marks in aggregate i.e.,

marks obtained in written examination and Internal Assessment (theory) added together. For a pass in practicals/clinical examination, a candidate shall secure not less than 50% marks in aggregate, i.e., marks obtained in university practical /clinical examination and internal assessment (practical) added together.

A candidate not securing 50% marks in aggregate in Theory or Practical/Clinical examination in a subject shall be declared to have failed in that subject and is required to appear for both Theory and Practical/Clinical again in the subsequent examination of that subject.

### **Carry Over:**

A student failing in more than two subjects will not be promoted to the next year.

Student shall not be admitted to the subsequent higher examination unless the candidate has passed in all the papers in the previous examination.

If a student fails in theory or practical exam in a paper, in that paper he/she has to re-appear for both theory and practicals.

Maximum number of attempts and maximum period for completion of the course.

Maximum number of attempts permitted for each paper is three including the first attempt.

The maximum period to complete the course successfully should not exceed eight years.





## POST BASIC BSc NURSING [PB BSc (N)]

### Admission Criteria

- A candidate seeking admission;
- Must hold a Diploma in General Nursing and Midwifery (DGNM) with no work experience
- Be a registered Nurse
- Have good personal and professional record
- Be medically fit
- Candidate who is less than 48 years of age on 31st December of the year is eligible for admission

### Duration of the programme

The course of study shall be for 2 academic years from the date of commencement of the term notified by the university.

### Curricular Pattern

A candidate shall undergo the course of instruction in the following subjects.

**I. First year**

Sl. No.	Subject	Theory Hours	Practical Hours
01	Nursing Foundation	45	-
02	Nutrition & Dietetics	30	15
03	Biochemistry & Biophysics	60	-
04	Psychology	60	15
05	Microbiology	60	30
06	Maternal Nursing	60	240
07	Child Health Nursing	60	240
08	Medical & Surgical Nursing	90	270
09	English (Qualifying)	60	—
	Total	525	810

**II. Second year**

10	Sociology	60	—
11	Community Health Nursing	30	240
12	Mental Health Nursing	60	240
13	Introduction to Nursing Education	60	75
14	Introduction to Nursing Admission	60	180
15	Introduction to Nursing Research and Statistics	45	120
	Total	345	855

Note:

*Teaching of Anatomy, Physiology, Pharmacology and Pathology will be integrated with clinical subjects. English is a qualifying subject.*

Introduction to Nursing Research and Statistics is a subsidiary subject.

**Attendance, Progress and Conduct**

A minimum of not less than 80% attendance in theory and practicals/ clinicals separately in each subject in

each academic year is essential for appearing in the examination. A Candidate pursuing the course shall study in the college for the entire period as a full time student. No candidate is permitted to work in a Hospital / Nursing Home/ Laboratory/ College while studying this course. No candidate should join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of registration. Each academic year shall be taken as a unit for calculating the attendance.

**Internal Assessment**

Regular periodic assessment shall be conducted throughout the course. Although the question of number of tests is left to the institution, at least three tests in theory and practical each year will be held. The test preceding in the college may be similar to the pattern of university examination. Average marks of the three tests for theory and practical separately, shall be sent to the university. Two assignments will be given in first year. Marks obtained in the assignments shall be added to theory marks for internal assessment. A candidate shall secure at least 35% of marks in internal assessment to be eligible to appear in the university examination.

**Criteria for Pass**

A candidate shall secure in each subjects not less than 50% marks prescribed for the university examination (40/80) in theory paper, exclusive of internal assessment marks.

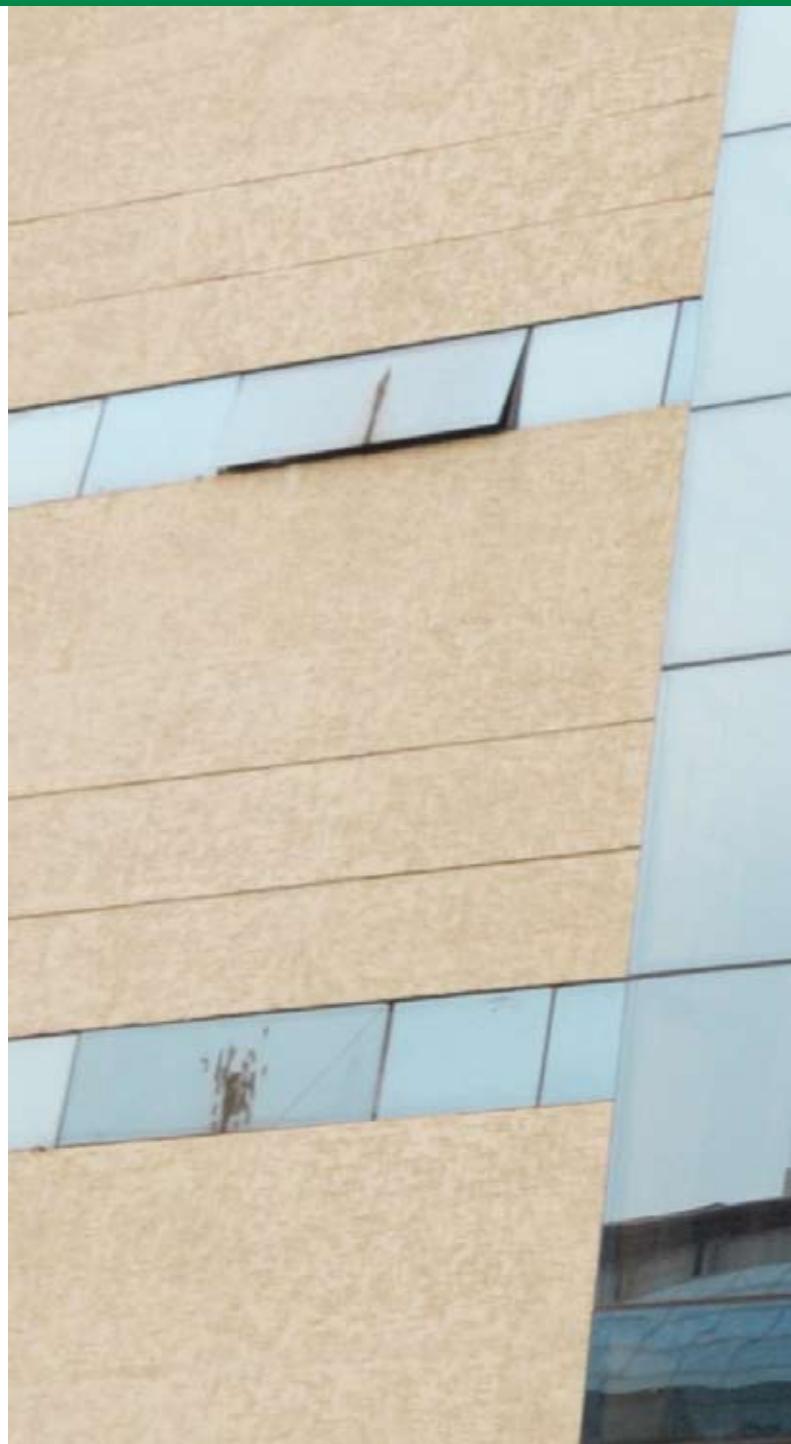
**Carry Over**

A candidate is permitted to carry over a maximum of five subject to be passed in the first year. The candidate has to pass the carried over subjects before appearing in II year University examination.

## MASTER OF SCIENCE IN NURSING MSc Nursing

The programme prepares nurses for leadership positions in nursing and health fields who can function as a specialist nurse practitioners, consultants, educationists, administrators and investigators for a wide variety of professional settings in meeting the National priorities and the changing needs of the society.

The programme prepares PG nurses to be professionally equipped, creative, self-directed and socially motivated to deal effectively with day-to-day problems within the existing constraints and act as an agent of social change. Further the programme encourages accountability and commitment to life long learning which fosters improvement of quality care.





## Admission Criteria

- A Candidate seeking admission shall have:
- The candidate should be a Registered Nurse and Registered midwife or equivalent with any State Nursing Registration Council.
- The minimum education requirements shall be the passing of : B.Sc Nursing / B.Sc Hons. Nursing / Post Basic B.Sc Nursing with minimum of 55% aggregate marks.
- The candidate should have undergone in B.Sc Nursing/B.Sc Hons. Nursing / Post Basic B.Sc. Nursing in an institution which is recognized by Indian Nursing Council.
- Minimum one year of work experience after Basic B.Sc Nursing.
- Candidate shall be medically fit.
- 5 % relaxation of marks for SC / ST candidates may be given.

## Branches / Specialty

Candidates may choose any one of the branches of study at the time of admission:

- Branch I - Medical Surgical Nursing
- Branch II - Community Health Nursing
- Branch III - Pediatric Nursing
- Branch IV - Obstetrics and Gynecological Nursing
- Branch V - Psychiatric Nursing

No change of branch of study shall be permitted after a candidate joins the course.

## Duration

The course of study shall be for two academic years.

## Course of Study

In the M.Sc first year, the following three subjects shall be common to all candidates irrespective of the subject specialty chosen:

- Nursing Education.
- Advanced Nursing Practice.
- Nursing Research & Statistics.

## Nursing Specialty - I

Shall be the subject specialty chosen by the candidate from amongst the five branches mentioned above in sl. number 3 (branches /specialty).

In the second year M.Sc., the subject “Nursing Management & Nursing Research (Dissertation)” shall be common to all candidates irrespective of the subject specialty chosen.

## Nursing Specialty - II

Shall be the branch of specialty chosen by the candidate.

Particulars of Subjects and Distribution of Theory and Practical teaching hours.

### Particulars of Subjects and Distribution of Theory and Practical teaching hours.

#### I. FIRST YEAR

Subject	Theory Hrs.	Practical Hrs.
Nursing Education	150	150
Advanced Nursing Practice	150	200
Nursing Research & Statistics	150	100
Clinical Speciality - I	150	650
Total	600	1100

#### II. SECOND YEAR

Nursing Management	150	150
Dissertation & Viva	-	300
Clinical Speciality - II	150	950
Total	300	1400

### Attendance, Progress and Conduct

A candidate pursuing M.Sc., Nursing course shall study in the concerned department of the institution for the entire period as a full time student. No candidate is permitted to work in any laboratory/college/industry/pharmacy, etc., while completing the postgraduate course. No candidate should join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of registration.

Each year shall be taken as a unit for the purpose of calculating attendance. Every student shall attend symposia, seminars, conference, journal review meetings and lectures during each year as prescribed by the department/college/university.

A candidate who has put in a minimum of 80% of attendance in the theory and practical assignments separately shall be permitted to appear for the M.Sc.,

Nursing examination, provided she/he has completed the course and has shown satisfactory progress mentioned in the logbook.

Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the university examinations.

### Internal Assessment

There shall be continuous internal assessment. The marks for internal assessment set apart for theory and practical in each subject. There shall be a minimum of two tests and two assignments in each subject, the average of which shall form the marks for internal assessment. A student must secure at least 50% of total marks fixed for internal assessment in a particular subject in order to be eligible to appear in the university examination.

## Scheme of Examination

### I year

Subjects	Hours	Theory		Practical	
		Internal	External	Internal	External
Nursing Education	3	20	80	50	50
Advanced Nursing Practice	3	20	80	--	--
Nursing Research & Statistics	3	20	80	--	--
Clinical Speciality - I	3	20	80	100	100

### II year

Nursing Management	3	20	80	--	--
Dissertation & Viva	--	--	--	--	50
Clinical Speciality - II	3	20	80	100	100

## Monitoring Progress of Studies

Every candidate shall maintain a logbook and record of her/his participation in the training programme conducted by the department such as journal reviews, seminars, etc. The faculty members and peers will assess the presentations using relevant checklists. The format given in the log book shall be followed by all the PG students. The logbook shall be scrutinized and certified by the Head of the Department and Head of the Institution, and presented in the university practical examination.

## Dissertation

Each candidate pursuing M.Sc. Nursing Course is required to carry out work on selected research project under the guidance of a recognized post graduate teacher. The results of such a work shall be submitted in the form of dissertation.

Every candidate shall submit their dissertation to the Registrar (Academic) of the university in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of

commencement of the course on or before the date notified by the university. Synopsis should be written as per the proforma and sent through proper channel.

Such synopsis will be reviewed and the university will register the dissertation topic. No change in the dissertation topic or guide shall be made without prior approval of the university.

## Examination

The M.Sc., Nursing course shall have two examinations, one at the end of each academic year.

## Criteria for pass

To be declared as having passed in the M.Sc., first year and second year, a candidate has to pass in the prescribed subjects for the I and II year, fulfilling the criteria laid in (1) and (2) below, and secure not less than 50% aggregate marks in the university examination.

## Common subjects

A candidate shall secure in each of the common subjects not less than 50% marks prescribed for

university examination in theory papers (exclusive of internal assessment marks).

### **Nursing specialty subject**

A candidate shall secure not less than 50% of marks prescribed for university examination separately in theory and practical examination, exclusive of internal assessment marks.

### **Carryover**

A candidate who has passed in any of the two subjects, is permitted to proceed to the II year. However, such a candidate shall have to pass all the failed subjects before becoming eligible to appear for II year M. Sc., Nursing university examination.

### **M.Sc., Nursing second year examination**

The university examination consists of the dissertation, the written papers (theory) practical examination and the viva-voce examination.

### **Dissertation**

Only candidates whose dissertation has been accepted shall be eligible to appear the dissertation viva voce examination.

### **Criteria for pass**

To be declared as having passed in the M.Sc, second year a candidate has to pass in all the prescribed subjects for the II year fulfilling the criteria laid in (1) and (2) below, and secure total aggregate of marks of 150/300 in the university examination.

### **Declaration of Class**

A) A candidate having appeared in all the subjects in the same examination and having passed that examination in the first attempt and having secured 75% or more of grand total marks prescribed will

be declared to have passed the examination with distinction.

B) A candidate having appeared in all the subjects in the same examination and having passed that examination in the first attempt and having secured 65% or more but less than 75% of grand total marks prescribed will be declared to have passed the examination with a First Class.

### **Eligibility for degree**

A candidate shall have passed in all the subject of M.Sc., I Year and M.Sc., II year to be eligible for the award of the degree.

DAYANANDA SAGAR COLLEGE OF NURSING imparts Nursing Education to prepare its graduates to become exemplary citizens by adhering to a strict code of ethics and professional conduct. It believes that it has a responsibility in helping the students to develop pride in their profession besides keeping them abreast with current knowledge and professional trends for a successful career ahead.





## BACHELOR OF PHYSIOTHERAPY

### What is Physiotherapy

Physiotherapy is one of the fastest developing health sciences. Physiotherapy is the science of healing and the art of curing. It promotes optimal health and functions of the human body. It involves the assessment, maintenance, restoration of the physical function and performance of the body and is strongly recommended for people with degenerative disorders, the physically challenged, sports people and those suffering from neurological disorders. The core skills used by a physiotherapist include manual therapy, mobilization, exercise science and the application of electro physical modalities. It maximizes movement potential through health promotion, preventive health care, treatment and rehabilitation.

### Why choose DSI Physiotherapy

Dayananda Sagar College of Physiotherapy is one of the prestigious institutes in the country, offering a Physiotherapy degree (Bachelor of Physiotherapy) program. We are committed to internationalization of our education programs which is expressed, in our collaborative research and exchange programs involving institutes from across the globe.

### Entry requirements

- Candidates who have passed Pre-University Examination or 10 + 2 equivalent.
- Should have studied English, Physics, Chemistry and Biology as optional subjects with an aggregate of 45% marks.
- Candidate should have completed 17 years of age as on 31st December of the year of admission.

### Teaching Methodology

Professors with vast teaching and hospital experience handle the classes. The teaching methodology is interactive with student's participation. The sessions include group discussions, seminars, visits to hospitals etc. Audio - Visual aids are used along with guest lectures and workshops.

### Curriculum

Bachelor of Physiotherapy (BPT - 4 years plus 6 months compulsory internship) curriculum is grouped into 5 terms as given below:

### Term I (One year)

#### Main Subjects - University Examination

1. Anatomy
2. Physiology
3. Bio-chemistry
4. Psychology & Sociology
5. Biomechanics of Human Motion

#### Subsidiary Subjects - Not for University Examination

7. Nursing & First Aid
8. English
9. Orientation to Physiotherapy
10. Kannada
11. Integrated Seminars

### Term II (One year)

#### Main Subjects - University Examination

1. Pharmacology
2. Pathology
3. Microbiology
4. Therapeutics
5. Electrotherapy
6. Research Methodology & Biostatistics

#### Subsidiary Subjects - Not for University Examination

7. First aid & CPR
8. Constitution of India
9. Introduction to treatment
10. Clinical observation posting

### Term III (One Year)

#### Main Subjects - University Examination

1. General Medicine
2. General Surgery
3. Orthopaedics & Traumatology
4. Orthopaedics & Sports Physiotherapy

5. Cardio respiratory & General Physiotherapy
  6. Supervised Rotatory Clinical Training
- Subsidiary Subjects -  
Not for University Examination**
7. Allied Therapies

#### **Term IV (One year)**

##### **Main Subjects - University Examination**

1. Neurology & Neurosurgery
2. Community Medicine
3. Neuro Physiotherapy
4. Community Based Rehabilitation
5. Supervised Rotatory Clinical Training

##### **Subsidiary Subjects - Not for University Examination**

6. Ethics, Administration & Supervision
7. Evidence based Physiotherapy Practice
8. Project

#### **Term V (Six Months)**

Compulsory Internship Training

#### **Attendance, Progress & Conduct**

Each student must have a certificate of satisfactory attendance, progress and conduct from the Principal of the College of Physiotherapy to be eligible for appearing in the university examination. A minimum of 80% attendance is required in theory and practical separately in each subject.

#### **Internal Assessment**

There shall be internal assessment which broadly follows the principles enunciated by the university in each subject for which 20% of the marks is set apart and these shall be added to the final marks in the university examinations. There shall be a minimum of two assignments and three practical tests in every subject in each year to assess the progress of the

candidates. If a candidate fails in an examination his / her internal assessment shall be assessed again if he / she is a regular student for the second attempt only.

#### **Specializations in the field of Physiotherapy**

Physiotherapy deals with a wide range of ailments, so specialization is possible in areas such as orthopedics, neurology, pediatrics, geriatrics, Sports , Cardio-Pulmonary Physical Therapy and Community Based Rehabilitation.

Physiotherapy has wide prospects in India and abroad. Graduates can opt for placements to work in a hospital or set up their own independent practice. They can pursue higher education in either clinical- based or research-oriented programs.

#### **Sports**

Students are encouraged to take sports during their free time. A cricket field, tennis court, basket-ball and volley-ball court exist in the campus, apart from a host of other facilities for indoor and out door games. A physical education teacher is available for students who need special coaching.

#### **Library**

A well-equipped library with books of recent publications and journals, both Indian and International authors is located within the physiotherapy college building.

#### **Transport**

The college bus is available to all students commuting between the hospital and the college during their postings to hospitals. The college provides transport for the students to visit the physiotherapy camps organized outside the campus.

## MASTER OF PHYSIOTHERAPY (MPT)

The Masters Degree in Physiotherapy is a two year program consisting of classroom teaching, self academic activities and clinical posting. In the first year theoretical basis of physiotherapy is refreshed along with research methodology and biostatistics. The students are rotated in all areas of clinical expertise during this period.

### Goals of Course

1. Preparation of a postgraduate student towards his/her professional autonomy with self regulating discipline at par with global standards.
2. Formation of base of the professional practice by referral as well as first contact mode using evidence based practice.
3. Impartation of research basis in order to validate techniques & technology in practice to Physiotherapy.
4. Providing the honest, competent and accountable physiotherapy services to the community.

### Specialities Offered

1. Master of Physiotherapy in Musculoskeletal Disorders and Sports (MPT-MSS)
2. Master of Physiotherapy in Neurological and Psychosomatic Disorders (MPT-NPD)
3. Master of Physiotherapy in Cardio-Respiratory Disorders (MPT-CRD)
4. Master of Physiotherapy in Community Rehabilitation (MPT-Com.)
5. Master of Physiotherapy in Pediatrics (MPT-Ped.)

### Eligibility for Admission

Candidates who have passed B.Sc. (PT) or BPT degree from institutions where the mode of study is a full time program, with minimum 3½ years / 4 ½ years duration from this university or any other university in India or abroad as equivalent with not less than 50% of marks in aggregate and have completed 6 months of compulsory rotating internship in Physiotherapy Colleges recognized by RGUHS - Karnataka are eligible.

### Dissertation

Every candidate pursuing MPT degree course is required to carry out work on a selected research project under the guidance of a recognized postgraduate teacher. The results of such a work shall be submitted in the form of dissertation.

Every candidate shall submit to the Registrar of university in the prescribed proforma a synopsis containing particulars of proposed dissertation work within 6 months from the date of commencement of the course on or before the dates notified by the university.

### Examination

The University shall conduct examination for MPT course at the end of each year. The examinations shall be known as MPT Part-I Examination and MPT Part-II Examination.

**Criteria for Pass**

A candidate shall be declared pass if he / she secures minimum 40% of maximum marks in each paper and 50% of maximum marks in theory aggregate and secures a minimum 40% of maximum marks in each practical and 50% of maximum marks in Practical / Clinical and Viva- Voce aggregate.

**Carryover**

A candidate who has passed in any of the two subjects but has failed in any one subject, is permitted to proceed to IIInd year however such a candidate has to pass all the failed subjects before becoming eligible to appear for IIInd year MPT university examinations.

**Course Content & Structure**

Subjects	Teaching & Learning Methods	Weekly Class hours	Total Hours	
<b>Core Subjects</b> 1. Principles of Physiotherapy Practice 2. Research Methodology and Biostatistics 3. Biomechanics 4. Exercise Physiology 5. Electrophysiology 6. Physical and Functional Diagnosis 7. Physiotherapeutics	Lectures	2	180	
	Seminars	2	180	
	Practicals and Demonstrations	4	360	
	Clinical Discussions	2	180	
	Clinical Case presentations	2	180	
	<b>Elective</b> a. Musculoskeletal Disorders and Sports b. Neurological and Psychosomatic Disorders c. Cardio-Respiratory disorders d. Community Rehabilitation e. Pediatrics	Journal Club	2	180
		Classroom Teaching	1	180
		Library	3	270
		Clinical Training	15	1350
		Synopsis & Dissertation work		210
Community Camps, Field Visits, Participation in Workshops & Conferences	3	60		
<b>Total Hours</b>	<b>36</b>	<b>3240</b>		





## ALLIED HEALTH

### Courses Offered

#### Diploma in:

- Medical Lab Technology
- X- Ray technology
- Operation Theatre Technology
- Medical Record Technology

#### Duration of course:

- Three (3) Years for candidates who have passed S.S.L.C / 10th Std. / CBSE / ICSE or any equivalent examination.
- Two (2) Years for candidates who have passed PUC / +2 / ISCE



## BIOLOGICAL SCIENCES

### BSc / MSc

#### AN OVERVIEW

Dayananda Sagar College of Biological Sciences as an integral part of Dayananda Sagar Institutions provides the student a thorough exposure to quality education facilitating them to achieve peak levels of excellence. The college has Biotechnology, Microbiology, Biochemistry, Genetics and Zoology as core subjects. The staff in these departments ensures that innovative skills are imbibed in the students with relentless sharpening of the skill set by adopting latest, innovative teaching methodologies.

The Biological Sciences discipline is manned by high calibre well-qualified and experienced faculty. Both UG and PG courses in various branches of life sciences are offered in this college. The Departments have the state-of-the-art laboratories, which are spacious and laced with modern equipments and instruments.

The departments are supported by excellent library with well stocked books across a broad spectrum of subjects and with modern computer centre catering to the needs of students helping them to meet the current & future tasks in the field of Biosciences.

#### Highlights

The College offers postgraduate and undergraduate courses

- Faculty development programs
- Seminars / workshops / talks / interactive sessions with experts drawn from industry and research
- A science festival: Biomic is held as an annual event with large participation
- National and International Conferences, like STEM 2005, are organized in association with other research and academic bodies
- Training programs to improve soft skills of students

To stay in tune with global competition, students are encouraged to take up project works at various reputed research institutes and industry such as:

- BIOCON India
- Indian Institute of Science (IISc)
- University of Agricultural Sciences (UAS)
- Indian Institute of Horticultural Research (IIHR)
- Central Food and Technology Research Institute (CFTRI)
- DFRL
- Astrazeneca
- Accenture
- Bangalore Genei

- Avestagen
- ITPL Park
- National Centre for Biological Sciences (NCBS)
- Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
- Molecular Connections
- G.K.V.K Biosciences
- Indian Veterinary Research Institute (IVRI)
- Raghavendra Biotechnologies

### Why Biological Sciences at DSCBS

Biosciences College is attached to Sagar Hospitals  
Provided with insurance cover

- Dedicated faculty
- Wi-Fi Campus
- Digital Library with access to e-journals
- Active interaction between Academia & Industry
- On-job Training
- Campus Placement
- Collaboration with Foreign Universities -  
University of Abertay - Dundee and  
University of Wales.

Affiliation Affiliated to Bangalore University  
Professional Accreditation NAAC, A

Name of the Programmes	BSc & MSc
Undergraduate courses	BSc - Biotechnology BSc - Biochemistry BSc - Microbiology BSc - Genetics BSc - Zoology BSc - Chemistry

Existing combinations in biological sciences are as follows:

Undergraduate	Biotechnology Biochemistry Genetics
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Postgraduate courses	MSc - Biotechnology MSc - Microbiology MSc - Biochemistry
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Duration	BSc (6 semesters) MSc (4 semesters)
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### Focus of study

To study the latest technological developments in Microbiology, Biotechnology, Biochemistry and emerging trends in the Life Sciences field.

### Career Opportunities

1. Teaching
2. Higher Studies (Research leading to Ph.D)
3. As Scientists, Quality Assurance Managers, Technical Assistants at various R & D Organisations / Companies such as:
  - a. C.S.I.R. Institutes / Prestigious Autonomous Institutes
  - b. Pharmaceuticals
  - c. Bioinformatics
  - d. Biomedical companies
  - e. Diagnostic Labs
  - f. Biotechnology companies

### Entry Requirements

#### Master's program

Bachelor's Degree in Science from a recognized University

#### Graduate Program

Pass in Plus Two or its equivalent examination

### Highlights of the College

The College is a preferred institution for study of Biological Sciences. Ample scope is given for extra curricular activities and research with excellent placement record.

### Laboratories

Spacious and well-designed state-of-the-art laboratories with modern equipment enable faculty and students to participate in world-class training and research.

### Library

The College has excellent Library facility with

- Books & Journals
- Reference Rooms
- Round the clock Internet access
- Digital Library in collaboration with British Library, U.K.

### Academic Record

\*100%

\*Several University distinctions

### Placement

High placement records of candidates looking for employment after undergraduate and postgraduate studies. Students of previous years were placed in the following Companies:

- IISc
- NCBS
- Manipal Acunova
- Macloid Pharma
- Raghavendra Biotechnologies
- Natural Remedies
- Bangalore Pharmaceuticals
- Glaxo Smithkline
- Jubilant Biosys
- Biocon

### Future plans include

- Expanding R & D
- Offering Postgraduate Diplomas in new fields of study and short-term introductory programs in Biotechnology

- Elevating CLONE as a bimonthly bulletin
- Dissemination of information on Biological Sciences through specially produced handouts/dispensers.

### Research Projects

Professors of the Department have made several research project proposals on the current advances on topics like Stem Cell Research, Environmental Studies, Plant Biotechnology and Human Genetics.

### Placement Cell

Placement Cell caters to the need of the PG and UG students in recruiting students in industry, R & D, Laboratories and educational institutions.

### Alumni

Starting of an Alumni Association during the current year is being planned.

### Publications

Proceedings of the II International Conference on Regenerative Medicine, Tissue Engineering and Nano Technology.

CLONE, an annual BIOMIC Bulletin

### Activities

Dayananda Sagar College of Biological Sciences in association with the Society for Regenerative Medicine and Tissue Engineering conducted 'STEM - 2005', an international symposium on Regenerative Medicine, Tissue Engineering and Nanotechnology during 1st and 2nd of April 2005.

The College organizes a three-day 'BIOMIC FETE' - as an annual feature, which comprises a day long scientific symposium and 2 days of intercollegiate scientific and cultural competitions.





## **BSc IN BIOTECHNOLOGY (Biotechnology, Chemistry & Zoology)**

Duration of Course: 3 years

Biotechnology is an emerging sector seeking development in the diverse areas of Tissue Engineering, Microfluidics, Biomedicine, BioMEMS, Biosensors, Pharmaceutical, Bioprocess Technologies and Nanotechnology.

Biotech is the latest sunrise sector. Analysts feel that biotech industry may surpass IT and ITES in overall growth and employment generation, Forex earnings, patent registration, etc. India is considered as one of the hottest biotech destinations. Several people across the world believe that India will be able to produce companies of highest calibre in the future.

India's skill and capabilities in biotech are well recognized. But rapid growth of the industry will ultimately depend on availability of quality manpower and good educational institutions in the country.



## BIOLOGICAL TREATMENT

Earthworms are used to abate water pollution due to distillery units and convert it along with solid wastes from other industries to produce usable bio-fertilizers. Ideally 100 tonnes of vermi-compost could be produced by 6,000 earthworms into an acre of land where the effluents could be let out with 20% other vegetative wastes. This is an eco friendly, energy saving method that carries the additional promise of yielding manure that is 30% more efficacious than the vegetative vermi-compost. The earthworms fed on distillery wastes on being isolated from soil, also constitute ideal fishmeal or feed for poultry or piggery and contribute to development of proteins for human consumption.

### ADMISSIONS

#### Eligibility

A candidate who has passed PUC / 10+2 or equivalent with Physics, Chemistry and Biology in Pre-University.

#### COURSE CONTENTS

##### I Semester

Cell Biology & Genetics  
Paper - I  
Cell Biology &  
Genetics Practical

##### II Semester

Microbiology & Biostatistics  
Paper - II  
Microbiology Practical

##### III Semester

Biochemistry & Biophysics  
Paper - III  
Biochemistry Practical

##### IV Semester

Molecular Biology  
Paper - IV  
Molecular Biology Practical

##### V Semester

Genetic Engineering &  
Environmental Biotechnology  
Paper - V  
Genetic Engineering &  
Environmental  
Biotechnology Practical

##### VI Semester

Immunology &  
Animal Biotechnology  
Paper - VI  
Immunology &  
Animal Biotechnology  
Practical

##### VII Semester

Plant Biotechnology  
Paper - VII  
Plant Biotechnology  
Practical

##### VIII Semester

Industrial Technology  
Paper - VIII  
Industrial &  
Bio Technology Practical

## BSc IN MICROBIOLOGY (Microbiology, Chemistry & Zoology)

### Duration of Course: 3 years

As a basic biological science, Microbiology provides some of the most accessible research tools for probing the nature of life processes. Our most sophisticated understanding of the chemical and physical principles behind living processes has arisen from studies using microorganisms. This is in large part because microbial cells share many biochemical properties with cells of multi-cellular organisms. And this, coupled with the fact that microbial cells can reach extremely high cell densities in culture and are readily amenable to genetic study, makes them excellent models for understanding cell function in plants and animals.

As an applied biological science, Microbiology deals with many important practical problems in medicine, agriculture and industry. Some of the most important diseases of humans, animals and plants are caused by micro-organisms. Microorganisms play major roles in soil fertility and animal production. Many large-scale industrial processes are microbial based, which has led to the development of a whole new discipline, Biotechnology.

### MICROBIAL CLEANUP

A few species of bacteria, such as some members of the genus *Pseudomonas*, can use crude oil for energy. They can grow in water with only oil, potassium phosphate and urea (a nitrogen source) as nutrients. These organisms can clean up oil spills in the ocean acting as 'Bioremediators'. They have also proven useful in degrading oil that remains in the water carried by tankers.

A detergent like substance has been secreted from these organisms. When these detergents are added to a quantity of oil sludge, it converts 90% of the sludge into usable petroleum in about 4 days, thereby reducing waste and providing a convenient means for cleaning oil fouled tanks.

### Eligibility

- A candidate who has passed PUC / 10+2 or equivalent with Physics, Chemistry and Biology in Pre-University.
- All the other regulations relating to admission, conduct of examination etc., applicable to other BSc courses of the Bangalore University can also apply to this course.

**I Semester**

Basic Microbiology  
Paper - I  
Basic Microbiology -  
Practical

**II Semester**

Microbial diversity &  
cultural Techniques  
Paper - II  
Microbial diversity &  
cultural techniques -  
Practical

**III Semester**

Microbial Physiology &  
Genetics  
Paper - III  
Microbial Physiology &  
Genetics - Practical

**IV Semester**

Molecular Biology & Molecular  
Biology & Genetic Engineering  
Paper - IV  
Molecular Biology &  
Molecular  
Biology & Genetic  
Engineering - Practical

**V Semester**

Agricultural & Environmental  
Microbiology  
Paper - V  
Agricultural & Environmental  
Microbiology - Practical

**VI Semester**

Food & Dairy Microbiology  
Paper - VI  
Food & Dairy  
Microbiology - Practical

**VII Semester**

Immunology & Medical  
Microbiology  
Paper - VII  
Immunology & Medical  
Microbiology Practical

**VII Semester**

Fermentation Microbiology &  
Industrial Technology  
Paper - VIII  
Fermentation Microbiology  
& Industrial Technology -  
Practical



# BSc IN GENETICS

## (Genetics, Biochemistry & Zoology)

**Duration of Course: 3 years**

### Eligibility

A candidate who has passed Pre-University Examination (10+2) conducted by Karnataka Pre-University Board or any other examination recognized as equivalent thereto in Physics, Chemistry and Biology is eligible for admission to the course.

Genetics has now assumed a central role in biology, as an understanding of gene structure and expression is important in the study of cell biology, biochemistry, microbiology and biotechnology. The transmission

of character from parents to off springs is known as Heredity. Hereditary characters are transmitted from parents to off springs through the basic units of heredity called genes. Hence the science of heredity is called Genetics. The world is a colossal genetics laboratory. The truly important genetic experiment is continuing outside the research laboratory in the world surrounding us. This colossal genetics experiment is responsible for the continuity of life on planet earth.

Scientists throughout the world are busy identifying and studying genes that control the entire spectrum of phenotypic traits in living organisms, especially humans.

### I Semester

Microscopy, Cell Biology & Model Organisms

#### Paper-I

**Microscopy, Cell Biology & Model Organisms - I Practical**

II Semester

Mendelian Genetics & Biology

#### Paper-II

**Mendelian Genetics & Biology - II Practical**

### III Semester

Cytogenetics

#### Paper-III

**Cytogenetics - III Practical**

### IV Semester

Molecular Genetics

#### Paper-IV

**Molecular Genetics - IV Practical**

### V Semester

Genetic Engineering & Cloning

#### Paper-V

**Genetic Engineering & Cloning - V Practical**

### V Semester

Human Genetics

#### Paper-V

**Human Genetics - V Practical**

### VI Semester

Advanced Genetics

#### Paper-VI

**Advanced Genetics - VI Practical**

### VII Semester

Applied Genetics

#### Paper-VII

**Applied Genetics - VII Practical**

Two recent events in the genetics arena are attracting critical attention: The launching of the "Human Genome" project and The imminent green light for the first human somatic cell "Gene Therapy" experiment.

## BSc IN BIOCHEMISTRY (Biotechnology, Biochemistry and Genetics)

### Duration of Course: 3 Years

Biochemistry is an exciting area of study as it encompasses both biology and chemistry. The undergraduate course in Biochemistry commences with the study of basic - physical, organic, and inorganic chemistry and biochemical techniques, laying a sound foundation. Further it proceeds towards the study of Biomolecules, Physiology and Nutrition. Finally, it culminates by dealing in advanced areas like enzymology, molecular biology, metabolism, immunology and even microbiology. The course offers hands – on experience in the areas of basic chemistry,

enzymology and analytical methods in the laboratory, where the student is trained to perform the experiments independently.

### Eligibility

A candidate who has passed PUC / 10+2 or equivalent with Physics, Chemistry and Biology in Pre - University.

All the other regulations relating to admission, conduct of examination etc., applicable to other B. Sc courses of the Bangalore University can also apply to this course.

### I Semester

Biochemistry - 1.1  
Paper - I  
Practical - 1.1

### II Semester

Biochemistry - 2.1  
Paper - II  
Practical - 2.1

### III Semester

Biochemistry - 3.1  
Paper - III  
Practical - 3.1

### IV Semester

Biochemistry - 4.1  
Paper - IV  
Practical - 4.1

### V Semester

Biochemistry - 5.1  
Paper - V  
Practical - 5.1

### VI Semester

Biochemistry - 5.2  
Paper - VI  
Practical - 5.2

### VII Semester

Biochemistry - 6.1  
Paper - VII  
Practical - 6.1

### VIII Semester

Biochemistry - 6.2  
Paper - VIII  
Practical - 6.2

## MSc IN BIOTECHNOLOGY

Biotechnology discoveries are improving human, animal and plant health; increasing the availability of nutritious food products; reducing our reliance on chemical pesticides; expanding the variety of products produced by living organisms and impacting our economy, legal system, and ethical standards.

**Duration of the Course: 2 years**

### Eligibility

B.Sc Degree of Bangalore University or any other equivalent University with 50% marks (45% in case of SC/ST candidate) with Chemistry / Biochemistry as a compulsory subject and any two of the other optional subjects from the following: (a) Microbiology (b) Biotechnology (c) Zoology (d) Botany / Applied Botany (e) Environmental Science (f) Sericulture / Genetics.

### Title of Papers and Practicals

#### I SEMESTER

BTP 101	Cell Biology
BTP 102	Molecular Genetics
BTP 103	General Microbiology
BTP 104	Biochemistry
BTP 105	Cell Biology & Genetics Practicals
BTP 106	Biochemistry Practicals

#### II SEMESTER

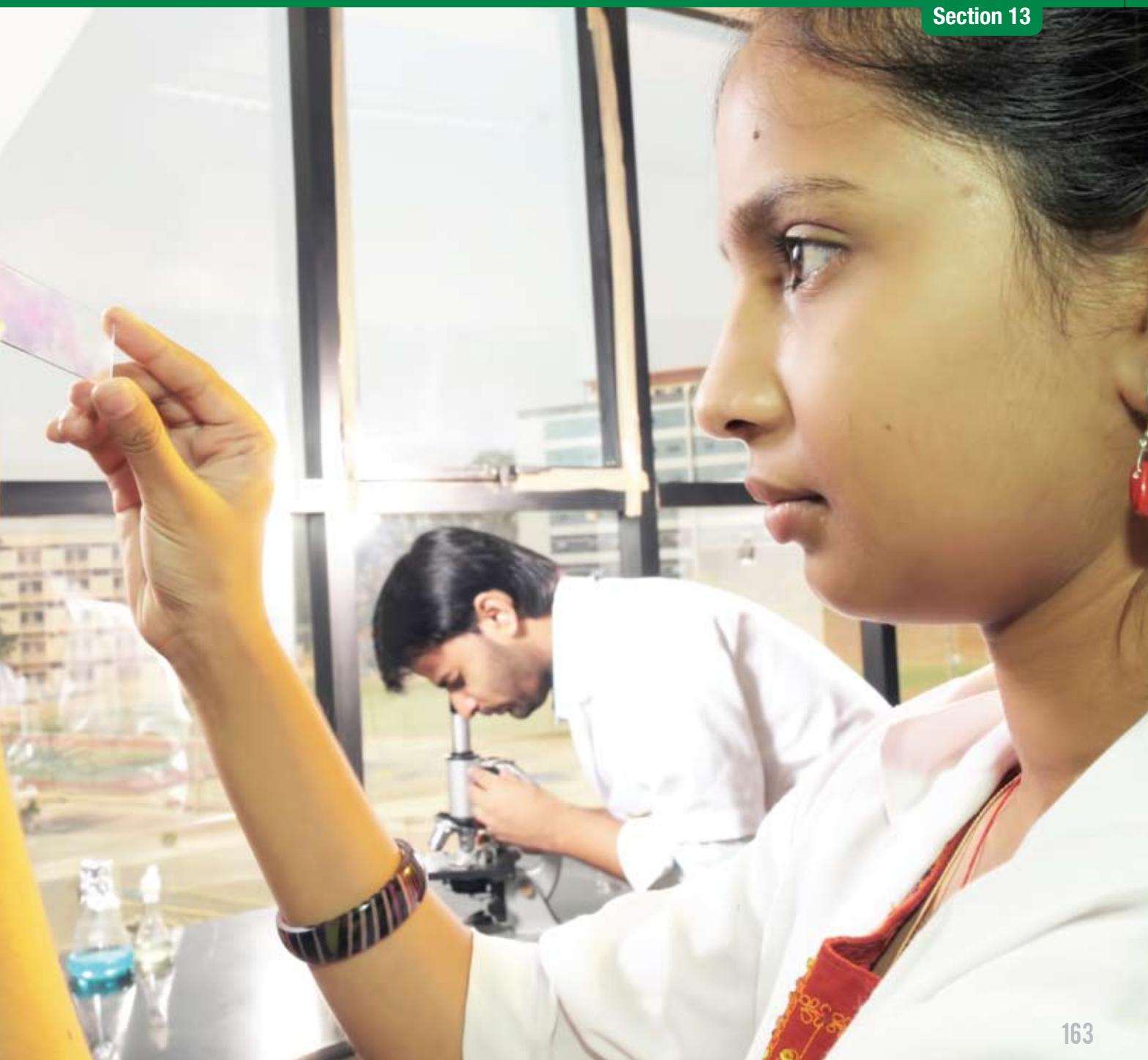
BTP 201	Biochemical Technology and Enzymology
BTP 202	Molecular Biology
BTP 203	Immunology & Immunotechnology
BTP 204	Bioinformatics & Biostatistics
BTP 205	Biochemical and Enzymology
BTP 206	Molecular Biology, Immunotechnology & Bioinformatics Practicals

#### III SEMESTER

BTP 301	Plant and Agricultural Biotechnology
BTP 302	Animal Biotechnology
BTP 303	Genetic Engineering
BTP 304	Environmental Biotechnology
BTP 305	Plant & Animal Biotechnology Practicals
BTP 306	Genetic Engineering & Environmental Biotechnology Practicals

#### IV SEMESTER

BTP 401	Bioprocess Engineering
BTP 402	Medical Biotechnology
BTP 403	Genomics and Proteomics
BTP 404	Bioprocess Engineering & Medical Biotechnology Practicals
BTP 405	Project work - Presentation with dissertation
BTP 406	Agricultural Biotech, Bioethics, Biosafety & Entrepreneurship Practicals



## MSc IN BIOCHEMISTRY

This is a 2-year full time Post Graduate Program in Biochemistry, which is affiliated to Bangalore University. The admission is open to Science Graduates from all recognized universities provided they satisfy the minimum requirements laid down by the University.

The aim of the science of biochemistry is to explain life in molecular terms. Modern Biochemistry derives knowledge from Chemistry, Cell Biology Genetics and uses techniques borrowed from Physics. Discoveries in all of these sciences have contributed to the development of molecular biology.

Biochemistry is an experimental science and remarkable recent advances in biochemistry are due in large part to the development of powerful new techniques. Biochemistry has had major impact on medicine, agriculture, nutrition, ecology and many other facets of life.

### Eligibility

Must have secured 40% in aggregate in Chemistry or Biochemistry as one of the Cognate subject securing 50% marks at B.Sc level and studied Biology at PUC level.

### Title of papers and practicals :

#### I SEMESTER

- BC 101 Fundamentals of Chemistry & Environmental Biochemistry
- BC 102 Biomolecules
- BC 103 Microbiology
- BC 104 General Physiology
- BC 105 General Biochemistry (P)
- BC 106 Microbiology (P)

#### II SEMESTER

- BC 201 Enzymology
- BC 202 Biochemical Techniques
- BC 203 Metabolism of Fuel Molecules
- BC 204 Membrane Biochemistry and Bioenergetics

- BC 205 Biochemical Techniques (Practical)
- BC 206 Clinical Biochemistry (Practical)

#### III SEMESTER

- BC 301 Metabolism of Nitrogen Compounds & Nutrition
- BC 302 Molecular Physiology
- BC 303 Immunology
- BC 304 Molecular Biology – I
- BC 305 Enzymology (P)
- BC 306 Immunology (P)

#### IV SEMESTER

- BC 401 Molecular Biology – II
- BC 402 Biochemical Genetics
- BC 403 Biotechnology
- BC 404 Bioinformatics & Research Methodology
- BC 405 Molecular Biology (P)
- BC 406 Protein Chemistry & Biotechnology (P)







## MSc IN MICROBIOLOGY

Microbiology is the study of living organisms that generally are seen with a microscope. Some microbes are devastating pathogens of humans, animals or plants or cause serious problems in food production systems. Microbiologists study the interaction of microbes with other organisms or with the environment in order to solve problems caused by microbes or to use microbes for their advantageous properties.

This is a 2-year full time Post Graduate Programme in Microbiology, which is affiliated to Bangalore University. The admission is open to Science Graduates from all recognized universities provided they satisfy the minimum requirements laid down by the University.

### Eligibility

B.Sc degree of Bangalore University or any University equivalent with 50% marks (45% in case of SC / ST candidate) with Microbiology as a compulsory subject and any two of the other optional subjects from the following: (a) Botany / Applied Botany, (b) Chemistry, (c) Zoology, (d) Environmental Science / Sericulture.

## Title of Papers and Practical

### I SEMESTER

Paper Code	Title	Theory/ Practical (Hrs/ Week)	Total No. of Hrs/ Sem	Duration of Exam (Hrs)	Examination Scheme (Max. Marks)		
					Max Marks	IA	Total
MBP 101	Bacteriology and Virology	4	52	3	80	20	100
MBP 102	Eukaryotic Microbiology	4	52	3	80	20	100
MBP 103	Microbial Physiology and Biochemistry	4	52	3	80	20	100
MBP 104	Microbial and Biochemical techniques	4	52	3	80	20	100
MBP 105	Bacteriology, Virology and Eukaryotic Microbiology	2 Pract. 4 Hrs each	104	3	40	10	50
MBP 106	Microbial Physiology, Biochemistry and Microbial and Biochemical techniques	2 Pract. 4 Hrs each	104	3	40	10	50
Total Marks							500

## II SEMESTER

Paper Code	Title	Theory/ Practical (Hrs/ Week)	Total No. of Hrs/ Sem	Duration of Exam (Hrs)	Examination Scheme (Max. Marks)		
					Max Marks	IA	Total
MBP 201	Microbial Genetics	4	52	3	80	20	100
MBP 202	Molecular Biology	4	52	3	80	20	100
MBP 203	Environmental Microbiology	4	52	3	80	20	100
MBP 204	Bioinformatics and Biostatics	4	52	3	80	20	100
MBP 205	Microbial Genetics and Molecular Biology	2 Pract. 4 Hrs each	104	3	40	10	50
MBP 206	Environmental Microbiology, Bioinformatics and Biostatics	2 Pract. 4 Hrs each	104	3	40	10	50
Total Marks							500

### III SEMESTER

Paper Code	Title	Theory/ Practical (Hrs/ Week)	Total No. of Hrs/ Sem	Duration of Exam (Hrs)	Examination Scheme (Max. Marks)		
					Max Marks	IA	Total
MBP 301	Medical and Cellular Microbiology	4	52	3	80	20	100
MBP 302	Recombinant DNA Technology	4	52	3	80	20	100
MBP 303	Immunology	4	52	3	80	20	100
MBP 304	Food Microbiology	4	52	3	80	20	100
MBP 305	Medical Cellular Microbiology and Recombinant DNA Technology	2 Pract. 4 Hrs each	104	3	40	10	50
MBP 306	Immunology and Food Microbiology	2 Pract. 4 Hrs each	104	3	40	10	50
Total Marks							500

## IV SEMESTER

Paper Code	Title	Theory/ Practical (Hrs/ Week)	Total No. of Hrs/ Sem	Duration of Exam (Hrs)	Examination Scheme (Max. Marks)		
					Max Marks	IA	Total
MBP 401	Agricultural Microbiology	4	52	3	80	20	100
MBP 402	Industrial Microbiology	4	52	3	80	20	100
MBP 403	Microbial Technology	4	52	3	80	20	100
MBP 404	Agricultural, Industrial Microbiology and Microbial Technology	2 Pract. 4 Hrs each	104	3	40	10	50
MBP 405	Project		156		150		150
VIVA							
Total Marks							500

## Scheme of Valuation

1. Distribution of IA in theory paper: 5 marks for test, 5 marks for assignment, 5 marks for seminar and 5 marks for attendance.
2. Practical examinations: Each practical examination shall carry 40 marks.
3. Distribution of IA in Practical 5 marks for Record and 5 marks for test.
4. Submission of Practical record for examination is mandatory.

## MSc IN APPLIED GENETICS

Applied genetics is the manipulation of the hereditary characteristics of an organism to improve or create specific traits in offspring. The applied genetics has wide application in improving plants and animals for their higher productivity as well as in understanding human genetics.

### Eligibility

A B.Sc. Degree of Bangalore University or any university equivalent with minimum 50% marks in the aggregate of all the optional subjects with any three of the following subjects: Chemistry, Biochemistry, Botany, Applied Botany, Applied Zoology, Environmental Science, Microbiology, Biotechnology, and Genetics.

### Title of papers and practicals:

#### I SEMESTER:

MBP 101	Microbial Diversity
Paper 101	Principles of Cell Biology
Paper 102	Principles of Genetics
Paper 103	Biological Chemistry
Paper 104	Molecular Biology of the Gene
Paper 105	Cell Biology of the Gene (P)
Paper 106	Biochemistry and Molecular Biology (P)

#### II SEMESTER:

Paper 201	Cell physiology
Paper 202	Developmental Genetics
Paper 203	Cytogenetics
Paper 204	Population and Evolutionary Genetics
Paper 205	Developmental Genetics and Cell Physiology (P)
Paper 206	Cytogenetics and Population Genetics (P)

#### III SEMESTER:

Paper 301	Computer Applications and Bioinformatics
Paper 302	Mutagenesis and Cancer Genetics
Paper 303	Immunology and Hematology
Paper 304	Human Biomedical Genetics
Paper 305	Mutagenesis, Carcinogenesis and Bioinformatics (P)
Paper 306	Biomedical Genetics and Immunogenetics (P)

#### IV SEMESTER:

Paper 401	Microbial and Plant Biotechnology
Paper 402	Animal Biotechnology
Paper 403	Recombinant DNA Technology and Genomics
Paper 404	Molecular Medicine
Paper 405	Biotechnological Techniques (P)
Paper 406	Recombinant DNA Technology and Molecular Medicine (P)





## MANAGEMENT & COMMERCE - BU

### BBM / BCom / MBA / MCom

#### An Overview

##### DSCMIT - Prelude

A career in management and IT allows one to manage business and information technology. Challenges transform into opportunities, which are not just as they appear in textbooks. The dynamic, fascinating and human problems of real business setting are unique, from the great surging tides of the global markets to the daily concerns of running a small enterprise, the fact of dynamism is real. DSCMIT prepares one to handle that perpetual challenge of change through campus experience that is just as very dynamically demanding as business is.

The innovative pedagogy at DSCMIT is beyond mere prescriptions. The teaching processes and methods here are extensive to include role-playing, videos, simulations, team exercises, outbound learning, problem solving, current issue analysis, industry interaction, project work, internships, competitions, presentations and lectures.

##### Masters Program

- MBA - Masters of Business Administration in Four semesters.

- Specialisation: Marketing, Human Resources Management, Finance and Systems, Production
- AICTE approved
- Bangalore University - affiliated
- NAAC accredited
- Academic performance: 100% results
- 100% Placements

##### Bachelors Program

- BBM - Bachelor of Business Management of six semesters:
- Bangalore University permanently affiliated
- NAAC accredited
- Academic performance: 100% passes with distinctions

##### Rankings

- Ranked 'A' by Business India's 9th Annual B-School Survey
- Ranked 32nd by Business Barons - NS India Survey
- Ranked 21st by CSR - GHRDC B-School Survey
- Ranked 17th by CSR- GHRDC B- School Survey



## BACHELOR OF BUSINESS MANAGEMENT - BBM

### Bachelor Programs

BBM facilitates students with programs intimately associated to professional standards. These programs are directly coupled to meet the needs of the corporate world wherein the curriculum aims to develop the posture and philosophical skills that are crucial to perform well in an international environment. This bachelor degree proposes to inflate managerial dexterity and adeptness via well thought out course sculpts and activities vital to students like industrial internships, workshops, industry visits, guest lectures, presentations, management fests and seminars.

Students have excelled in many areas by participating and winning awards in varieties of programmes like sports, music concerts, management and cultural programmes organised in-house and in other institutions.

## Course contents for BBM Degree

Semester No.	Paper No.	Title of the paper	Lecture hour per week	Total Marks
I	1.1	Language: Kannada/Sanskrit/Urdu/Tamil/Telugu/ Additional English/Marathi/Hindi	04	100
	1.2	LANGUAGE: ENGLISH	04	100
	1.3	Fundamentals of Accounting	04	100
	1.4	Business Organisation and Environment	04	100
	1.5	Quantitative Methods for Business - I	04	100
	1.6	Market Behaviour & Cost Analysis	04	100
	1.7	Management Process	04	100
II	2.1	Language: Kannada/Sanskrit/Urdu/Tamil/Telgu/ Additional English/Marathi/Hindi	04	100
	2.2	LANGUAGE: ENGLISH	04	100
	2.3	Financial Accounting	04	100
	2.4	Quantitative Methods for Business - II	04	100
	2.5	Organizational Behavior	04	100
	2.6	Production and Operations Management	04	100
	UGC	2.7	Environmental Studies	04
III	3.1	Language:Kannada/Sanskrit/Urdu/Tamil/Telgu/ Additional English/Marathi/Hindi	04	100
	3.2	Soft Skills for Business	04	100
	3.3	Corporate Accounting	04	100
	3.4	Human Resource Management	04	100
	3.5	Services Management	04	100
	3.6	Corporate Environment	04	100
	UGC	3.7	Computer Fundamentals	04

Semester No.	Paper No.	Title of the paper	Lecture hour per week	Total Marks
IV	4.1	Language:Kannada/Sanskrit/Urdu/Tamil/Telgu/ Additional English/Marathi/Hindi	04	100
	4.2	Business Research Methods	04	100
	4.3	Marketing Management	04	100
	4.4	Financial Management	04	100
	4.5	Business Regulations	04	100
	4.6	Cost Accounting	04	100
	UGC	4.7	Indian Constitution	04
V	5.1	Entrepreneurial Management	04	100
	5.2	Computer Application in Business	04	100
	5.3	Banking Regulations & operations	04	100
	5.4	Corporate Governance	04	100
	5.5	Management Accounting	04	100
	5.6	Elective - Paper - I	04	100
	5.7	Elective - Paper - II	04	100
VI	6.1	International Business	04	100
	6.2	E - Business	04	100
	6.3	Income Tax	04	100
	6.4	Strategic Management	04	100
	6.5	Elective - Paper - III	04	100
	6.6	Elective - Paper - IV	04	100
	6.7	Project Report & Viva-Voce (75 marks+25 marks)		100

**Duration: 3 Years**

**Affiliation: Bangalore University.**

**Entry Requirements: Plus Two, with any subjects or, its equivalent.**



## MANAGEMENT MBA - BU

The MBA program at DSI adheres to Bangalore University syllabus which offers the following Dual Specializations:

- Finance and Marketing
- Finance and Human Resource Management
- Finance and Systems
- Finance and Production
- Marketing and Human Resource Management
- Marketing and Systems
- Marketing and Production
- Human Resource Management and Systems
- Human Resource Management and Production
- Systems and Production

### Pedagogy

In addition to classroom teaching, primary focus is laid upon case studies, role-play, simulations, experiential and process-oriented learning, internship, presentations, seminars, guest lectures, group assignments, compulsory mentorship and management fests which not only hone decision making skills but

also develop team skills, preparing the students to take on the intricacies of the real world.

### (BU) MBA COURSE MATRIX

#### First Semester

Managerial Communication  
Accounting for Managers  
Organisation Behavior  
Managerial Economics  
Business Statistics  
Information Technology for Business  
Business Perspectives

#### Second Semester

Research Methodology & Technical Writing  
Financial Management  
Production & Operations Management  
Human Resource Management  
Marketing Management  
Quantitative Methods & Operations Research  
Legal Aspects of Business

### Third Semester

Entrepreneurship Development  
Business Ethics & Corporate Governance  
5 Papers as Electives and Internship

### Fourth Semester

Strategic Management  
International Business  
5 Papers as Electives and Dissertation

### Hands on Learning

The projects that students undertake here reflect the depth to which they assimilate the academics in classrooms. The projects they work upon go beyond classroom learning and get them into newer realms of knowledge where extensive re-learning happens. The ability of the DSCMIT students has captured the interests of a large number of front line industries and corporates. Here we present a few of the projects taken up by the DSCMIT students:

- Formulation of effective strategies to improve the market share of HMT Watches.
- Feasibility study on working capital advance for Vijayanagar Steel Ltd.
- Assessment of customer perception and expectations regarding after sales service strategy of BPL Ltd with regard to medical equipment products in Bangalore.
- Performance Evaluation of CanBank Mutual Funds.
- Analysis of dealer's perception on direct cool refrigerators in Bangalore - for BPL.
- Study on role and impact of online marketing on consumer buying behaviour towards hotel and restaurants service in Bangalore - LS Software.
- Effectiveness of HLL, ENBEE advantage for a tool building company / retailer relationship.
- Report on market share analysis of LECEF and as key promoters for promotion in the competitive environment in Bangalore City for - LECEF.
- Report on customer perception towards Heritage Milk in Bangalore City for Heritage Foods India Ltd.,
- Opinion analysis of air conditioner sales/services dealers in Bangalore for Samsung.
- Effectiveness and relevance of performance appraisal system for middle level managers for Kurl-On Ltd.
- Analysis of doctors' and chemists' perception towards atorvastatin and carvedilol in Bangalore City for Cipla Ltd.
- Job analysis, redesigning and implementation of selection process for insurance advisers for TATA AIG.
- Competitive analysis of video colour televisions with other brands for Videocon International.
- Consumers' and retailers' attitude towards Mysore Sandal Soap in Bangalore City.
- Capital budgeting process in public sector for BEL.
- Air conditioner sales and service study of dealer's attitude for Samsung India.
- Financial Performance Evaluation conducted for BEML.
- Pre-launch marketing analysis for steel cots - Godrej & Boyce.
- Comparative study on monthly income plan with competition as a short-term investment option for UTI.
- Consumer perception and purchase behaviour towards cosmetic products - IB&W Communications.
- Effective management of purity levels in Visi Coolers among retail outlets of NESTLE.
- Capital budgeting process in large sector unit - HAL Ltd.
- Measurement of marketing effectiveness of ASHWA TVS through sales analysis and customer satisfaction of TVS Victor /VS Motors.

- Brand awareness and Customer expectation- a study of software professionals in Bangalore City - ABN Amro Bank.

### Faculty - the key drivers

#### Professing Faculty

DSCMIT shines itself with facilitators who are excellent in their field of expertise, ready to handle any kind of environment and subjects, with a mindset which stimulates and engrosses intellectual symphony, playing off all the minds in the classroom. Like any world class faculty they constantly engage themselves in research and consultancy in the ever-changing business and technology environments and are more focused in discovering newer ways to train business leaders and managers of tomorrow. With progression of the intensive semesters, they ensure the skills and conceptual up-gradation that will serve one for life, no matter what career is chosen.

#### Business Professionals as Faculty

The eminent industries and visiting faculty represent an outstanding resource of knowledge and acumen. In keeping with its commitment to staying in touch with business and professional practices, many faculty members inducted are business leaders, entrepreneurs, consultants and board members. But the hallmark of the DSCMIT faculty - the aspect, students remember and value most - is their extraordinary passion, commitment, and teaching skills that come alive in the vibrant classrooms. They see their mission as educating the next generation of executive and technology leadership. Because of the intensely interactive nature of classes at DSCMIT, one will know the professors, perhaps better than any instructor one ever had in college. DSCMIT faculties make it a point of being available to students outside of class as well.

Some of the research projects of the DSCMIT faculties are

1. Management of Strategic Assets for Karnataka Milk Federation
2. Management of Construction Projects for Shankar Constructions
3. Management of Interior Designing Projects for Aldecor Interiors and
4. Management of School Activities for Palette Art School
5. Implementation of Credit Policy and Sales Tax and legal consulting for Henkel Loctite
6. Implementation of Accounting and Financial Management for DOS Electronics and SM Interiors
7. Consultation for Commercial Activities for Mic. Deep Exports

#### Placements

DSCMIT enjoys a reputation for placing all its students in rewarding careers in reputed corporates and industries, in India and abroad. This apart, for those from the family business. Special orientation programmes are conducted to bring about modern concepts of management in traditional vocations.

List of some companies where students have been placed include ABN Amro, Amul Ltd, Apollo Tyres, Ashok Leyland, Asian Paints, Ceat Tyres, CSIR India, ICICI, HCL, MRF Tyres, NTPC, Oracle, Pepsi, Tech Satyam, Tata, Trident, Wipro, Infosys, NJ India investments, ITC Infotech, Dell, Thomson Corporation, Cap Gemini, HDFC, Honeywell, Samsung etc.

#### Corporate Interaction

Every week executives from Corporate Sector meet our prospective managers to exchange ideas about industry needs and knowledge trends. This has also helped students in final placement.





## MANAGEMENT STUDIES: MBA - VTU

The Department of Management Studies (DOMS) at Dayananda Sagar College of Engineering is on a mission to groom individuals to manage as managers for the changing world. The department administers extreme methodologies of training which comprises of lectures, role plays, work shops, seminars, guest lecturers from industry experts and the like. The degree is awarded by the Visvesvaraya Technological University, the only Technological University in Karnataka.

## Master's Program

### MBA – Master of Business Administration (Four Semesters)

1. Areas of Specialization – Marketing, Human Resources, Finance.
2. Approved by AICTE.
3. Affiliated to Visvesvaraya Technological University.
4. Excellent Academic Results
5. 100% Placements.

## Course Structure

### I Semester

1. Managing Organizations
2. Managerial Economics
3. Quantitative Methods
4. Accounting for Management
5. IT for Managers
6. Managerial Communication

### II Semester

1. Business, Government and Society
2. Quantitative Methods
3. Macro Business Environment
4. Marketing Management
5. Financial Management
6. Human Resource Management

### III Semester

1. Strategic Management
2. Operations Management
3. 4 Electives

### IV Semester

1. Supply chain Management
2. Total Quality Management
3. 4 Electives
4. Summer Project

## Teaching Faculty

Department of Management Studies, Dayananda Sagar College of Engineering has experienced and dedicated faculty who are excellent in their fields of expertise. They continuously engage themselves in research and publications. Faculties publish and participate in numerous National and International conferences and seminars.

## Summer Projects

Learning through projects is an integral part of study at DSI. Our students had the opportunity to get hands on exposure and work with professional managers in the industrial sector which includes:-

- Larsen & Turbo Limited,
- Microland Limited,
- Cigfil Limited,
- J. K. Industries Limited,
- ING Vysya Bank Limited,
- Coca-Cola Beverages Pvt Ltd,
- Oil India Limited,
- The Arvind Mills Limited,
- Sai Rocks,
- NTPC,
- Siemens,
- Titan,
- Geojit Financial Services Limited,
- Boavista Business Solutions Private Limited.

## Guest Lectures

Students get best of cutting edge knowledge from industry experts. Industry Institute interactions known as “KNOWLEDGE SERIES” help the students to gain practical knowledge from the experts.

## Holistic Growth - Integrated Learning

### 1. Contemporary Business Management Issues

Students are encouraged to exchange ideas and view points on the current business scenario. They

are provided with Business Line & The Economic Times news papers and business magazines like Business World to rely upon for their presentations.

## 2. Domain Workshop

Workshops on functional areas like Marketing, Finance, Business Research, Industrial Business and others are conducted on a regular basis.

## 3. Computer Lab

A State-of-the-art computer lab facility with Wi-Fi Connection has been provided to the students and faculty. Hands on experiences in doing computer applications in management is provided to the students.

## 4. Management Club

Students are encouraged to conduct various learning activities like management games, quiz etc., to help in fulfilling their knowledge urge.

## 5. Department Newsletter - "KATHANA"

A monthly e-newsletter is published by the faculty with support of students discussing events, programmes & awards to update on the departmental activities.

## 6. Research Journal - "SANGRAHANA"

A biannual referred International Journal is planned to be published including quality research papers by authors from academic and industrial backgrounds.

## 7. CIL Young India Chapter

Students participate in seminars, workshops and specifically leadership forms in order to network with corporate professionals.

## 8. Teaching Learning Process

An effective Teaching Learning Process is in place

which includes teaching tools like case studies and role plays.

## 9. Entrepreneurship Cell

To encourage students to become successful entrepreneurs, an e-cell has been established in association with National Entrepreneurship Network (NEN), an initiative of Wadhvani Foundation.

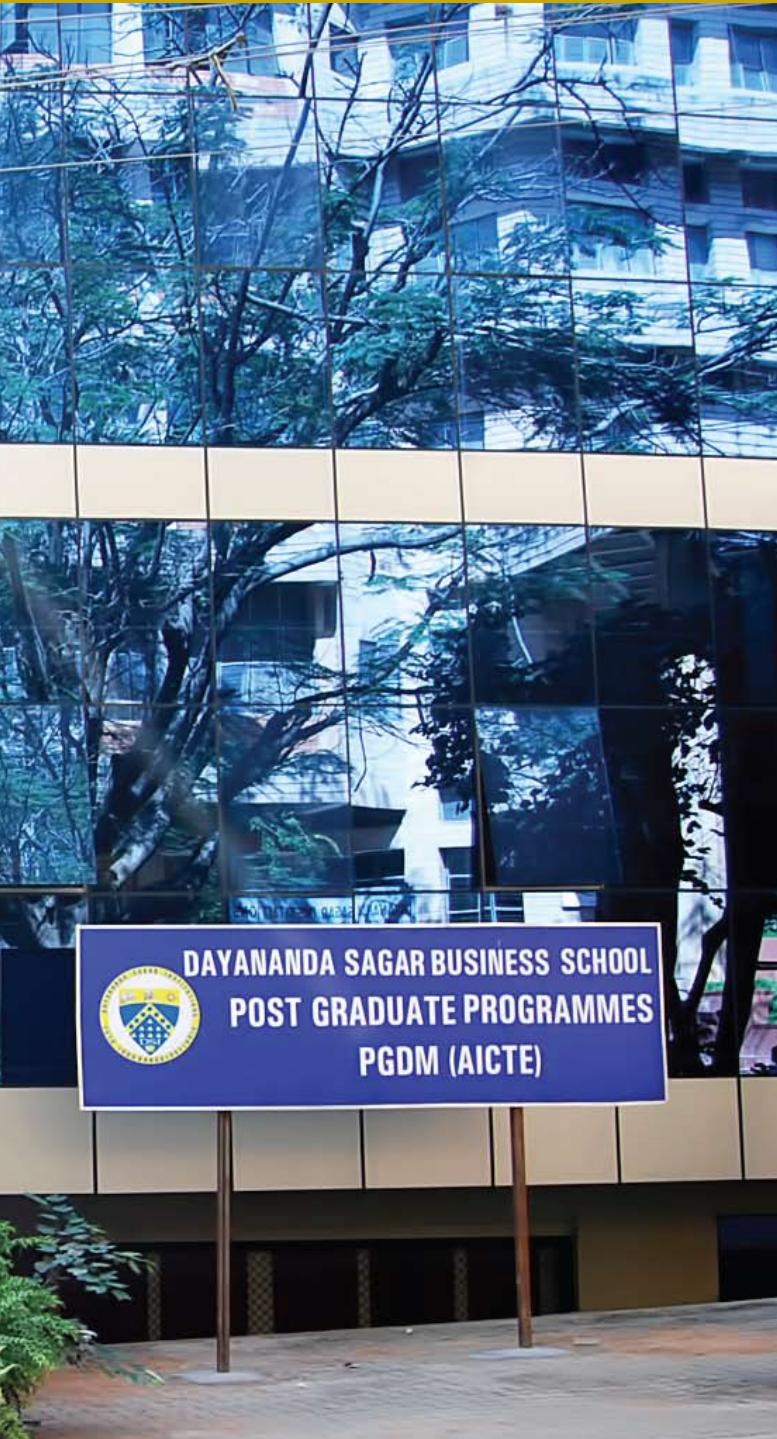
## Foreign Language Lab

Department of Management Studies, Dayananda Sagar College of Engineering offers a number of additional courses. Foreign languages are one of the recent additions. Students are offered French, German and other foreign languages.

## Industrial Visits and Study Tours

Study tours are organized to industrial cities around the country to give a wide exposure and experience to the students. This gives wide exposure, confidence and broadens the vision of the students.





## MANAGEMENT PGDM - AICTE

### **Dayananda Sagar Business School**

The PGDM (Post Graduate Diploma in Management) programme approved by AICTE under the banner of DSBS came into existence in the year 2007. It was conceived with an objective to meet the growing needs of management graduates in the corporate sector of Indian economy. As the program offered is autonomous, it is aimed to be a flagship and vibrant programme of the institution. Just as the physical environment of the campus has been improved and enriched by the development programme over recent years, the PGDM department's track record in making higher education accessible to those who have never previously been given the opportunity to study, has also enriched the lives of a whole generation of students.

### **Campus Infrastructure**

Facilities: The facilities consist of a computer lab, an integrated wireless Campus, student activity areas such as lounge and snack bar, five classrooms of varying seating capacities, three conference halls exclusively for Executive Development Programmes, Placement office, Admission office and Admission department.

### **Information Center System**

The information center subscribes to over 34 journals/periodicals, contains around 1500 books and has an extensive collection of reports and projects. The information center system contains the record of all books and journals. Faculty & students can access online journals-current as well as retrospective ones through the electronic database.

### **Programme Structure**

The Two years full time PGDM (Post Graduation and Diploma in Management) programme which has been granted equivalence of MBA degree by AICTE, New Delhi and prepares students to assume leadership roles. The curriculum is continuously evolving with a supporting pedagogy in sync with the changing needs and aspirations of the corporate sector. The programme is approved by the All India Council of Technical Education (AICTE), Ministry of HRD, Government of India, and New Delhi. The programme offers dual specialization in functional areas such as Marketing, Finance, Human Resources Management, Information Technology and International Business.

The first three academic terms focus on foundation courses. The remaining 3 terms provide students with an opportunity to pursue study in the field of their special interest. It will thus include a set of core and elective courses. In between the first and second year study, there is a summer project assignment which attempts to integrate theory with practice.

We believe that our graduates learning will equip them with an intellectual depth that will be suited for wide range of professional careers. DSBS thus prepares its business leaders to face the challenges of tomorrow. On successful completion of the programme requirements, a student is awarded a Post Graduate Diploma in Management (PGDM) equivalent to MBA Degree as approved by AICTE Ministry of HRD, New Delhi.

### **Evaluation System**

The overall performance of a student is indicated by two indices viz. Term Grade Point Average (TGPA) and Cumulative Grade Point Average (CGPA). The evaluation is done on a 10-point scale viz. 'A+' to 'F' (Fail). To be eligible to receive the PGDM Diploma, a student must receive 5.0 on 10.0 scale. To get promoted from 1st year to 2nd Year programme of study the above stipulation will hold good. The assessment tools are embedded in the academic structure itself and allow academic progress to be assessed on a continuous basis. The evaluation system is holistic and its components include:

#### **Evaluation Pattern :**

- Class Participation
- Tests & Quizzes
- Group & Individual Projects
- Mid-Term Examination
- Assignments & Term Papers
- Case Discussions
- Seminars & Presentations
- End-Term Examinations
- Dissertation Project

#### **Eligibility and Selection Process**

All the students with a bachelor's degree in any discipline from a recognized university with a minimum of 50 percent marks in aggregate or candidates appearing for their final year examination may also apply. The applicant would have appeared in MAT/CAT examination. The candidates will be selected based on their performance in MAT/CAT test, group discussion, personal interview, undergraduate track record and work experience if any.

#### **Placement Assistance**

Placement assistance to 1st year students for summer projects internship and 2nd year students for career

placements is available at DSBS. The efforts in successful placements of the students start from term projects and industrial visits, Personality Development Programmes leading to final placement.

Some of the leading corporates where management students from DSI have been placed are listed below. The list is illustrative but not exhaustive:

- ABN Amro Bank
- Acquis Software
- Aviva Life Insurance
- CitiBank
- CSIR India
- GE
- HCL Infosystems
- Hewlett Packard
- Honey Well
- IBM
- ICICI Home Loans
- I-Gates Solution
- Infosys
- Mind tree
- Oracle Financial
- Reliance Infocom
- Trigent
- Wipro-E-Peripherals
- Shoppers Stop
- Pepsi
- Deloitte
- Pantaloon Retail India
- JP Morgan
- Novartis





## BACHELOR OF COMMERCE

### BCom

Department of Commerce at DSI is contributing to top-notch educational standard that is both cost-effective and sustainable, to all classes of society. It aims to imbibe the best academic practices at every opportunity by nurturing human relationships, practices, values and ethics to bring out the best from the students.

Crucial advantages of education in this basic degree provide opportunities to prepare for entry into Chartered Accountancy, Cost Accounting, Company Secretary, Actuarial Services and Management.

Students qualifying in the Commerce program have been finding employment around graduation time, even before leaving college. The race from companies to pick up students in the pre-final year of study is on. Quite a few passing out student, return to join a post graduate program either to the DSI campus or go overseas.

Duration: 3 Years.

Affiliation: Bangalore University.

Entry Requirements: Plus Two or its equivalent with any subjects.

## Course contents for B.Com Degree

Semester No.	Paper No.	Title of the paper	Lecture hour per week	Total Marks
I	1.1	Language: Kannada/Sanskrit/Urdu/Tamil/Telugu/ Additional English/Marathi/Hindi	04	100
	1.2	Language: English	04	100
	1.3	Financial Accounting	04	100
	1.4	Market Behavior and Cost Analysis	04	100
	1.5	Organizational Management	04	100
	1.6	Corporate Administration/Methods and Techniques for Business Decisions.	04	100
II	2.1	Language-I	04	100
	2.2	Language-II	04	100
	2.3	Advanced Financial Accounting	04	100
	2.4	Marketing and Services Management	04	100
	2.5	Indian Financial System	04	100
	2.6	Quantitative Analysis for business Decision-I	04	100
UGC	2.7	Environmental Studies	04	100
III	3.1	Language: Kannada/Sanskrit/Urdu/Tamil/Telugu/ Additional English/Marathi/Hindi	04	100
	3.2	Language - II:		
		a) English	02	50
		b) Soft Skills for Business	02	50
	3.3	Corporate Accounting	04	100
	3.4	Financial Management	04	100
	3.5	Banking Law and Operations	04	100
3.6	Quantitative Analysis for Business Decision-II	04	100	
UGC	3.7	Computer Fundamentals	04	100

Semester No.	Paper No.	Title of the paper	Lecture hour per week	Total Marks
IV	4.1	Language - I	04	100
	4.2	Language - II		
		a) English	02	50
		b) Corporate Communication	02	50
	4.3	Advanced Corporate Accounting	04	100
	4.4	Cost Accounting	04	100
	4.5	e-Business and Accounting	04	100
UGC	4.6	Stock and Commodity Markets	04	100
	4.7	Indian Constitution	04	100
V	5.1	Entrepreneurship Development	04	100
	5.2	International Business	04	100
	5.3	Income Tax - I	04	100
	5.4	Cost Management	04	100
	5.5	Elective - Paper - I	04	100
	5.6	Elective - Paper - II	04	100
VI	6.1	Legal Environment of Business/Business Regulations	04	100
	6.2	Principles of Auditing	04	100
	6.3	Income Tax-II	04	100
	6.4	Management Accounting	04	100
	6.5	Elective - Paper - III	04	100
	6.6	Elective - Paper - IV	04	100







## MASTER OF COMMERCE MCom

### Area of Specialization

- Accounting & Taxation, Finance, Human Resources Management, Marketing Management, Small Business & Entrepreneurship Management, Banking and Insurance.
- Approved by UGC.
- Affiliated to Bangalore University, Bangalore

### Duration of the Course

The course of study for M.Com degree shall extend over a period of two years divided into 4 (four) semesters.

### Eligibility for Admission

A candidate who has passed the B.Com or B.B.M Degree examination of this University or of any other University recognized as equivalent thereto and has secured not less than 50% of the marks in the aggregate in all the Commerce subjects of Business Education in all the years (Examinations of the B.Com/BBM course) shall be eligible for admission to the course. In the case of SC/ST students and blind students the minimum percentage of marks required shall be less by 5%.

### Preamble

The Course has its own uniqueness in the academic studies. Being a traditional course, it has great potential to mould competent teachers, matured administrators and business professionals. It has the inbuilt spirit to bring out the real talents of aspirants through its sensible structured syllabs.

### Objectives

- To be the best institution by providing the State-of-the-art coaching.
- To bridge the gap between academia and industry through the development of Knowledge, Skills & Abilities of the students.
- To make students more responsible for building up a healthy business environment and stabilized economy.

### Roadmap

- Guest lectures to keep students abreast with the latest technology and dynamic changes in economic and business environment.
- Brand building supported by skills and knowledge.
- Co-circular and extra circular activities to build the business acumen.
- Industrial visits to build synergy between academics and industry.
- Seminars and workshops for academic excellence.

- Proctor service and parent meet.
- Soft skill training.
- Entrepreneurship Cell activities.
- Club activities.
- Foreign language lab (Spoken English, French, German and other foreign languages)

### Academic Focus

- Excellent teaching fraternity to deliver prescribed Curriculum
- Case studies and Role plays to supplement the teaching
- Foreign language coaching to make the students to compete in international market
- Spoken English classes to provide a platter for better communication
- Placement training to compete in the business environment
- Placement facilities to spread the horizons
- Finishing school

### Means

- Experienced faculty members with required academic and professional qualification who are capable to handle the dynamisms of business environment and economy
- State-of-the-art computer labs
- Excellent library facilities
- Placement wing

### Course Structure

#### First Semester

- 1 Organizational Behavior
- 2 Monetary Systems
- 3 Consumer Behaviors and Marketing Research
- 4 Macro Economics for Business Decisions
- 5 Information System and Computers

**Second Semester**

- 1 Human Resources Management
- 2 Advanced Financial Management
- 3 E- Commerce
- 4 Business Environments
- 5 Operations Research & Quantitative Techniques

**Third Semester**

- 3.1 International Business
- 3.2 Business Ethics and Corporate Governance
  - Elective Paper – I
  - Elective Paper – II
  - Elective Paper – III

**Fourth Semester**

- Elective Paper – IV
- Elective Paper – V
- Elective Paper – VI
- Project Report and Viva (150 + 50)

**Electives****Group – I****Accounting and Taxation**

- A.1 Strategic Cost Management - I
- A.2 Accounting Standards and Corporate Reporting
- A.3 Direct Taxes
- A.4 Indirect Taxes
- A.5 Accounting for Management Decisions
- A.6 Strategic Cost Management – II

**Group - II****Finance**

- F.1 Financial Markets
- F.2 Securities Analysis
- F.3 Commodity Markets - I
- F.4 Financial Services
- F.5 Port Folio Management
- F.6 Commodity Markets – II

**Group – III****Human Resources Management**

- H.1 International Human Resources Management
- H.2 Organisational Culture, Change and Development
- H.3 Learning Organisations and Leadership
- H.4 Employee Relations Management
- H.5 Compensation Management
- H.6 Labour Legislation

**Group - IV****Marketing Management**

- M.1 Business Marketing
- M.2 Advertising Management
- M.3 International Marketing
- M.4 Sales and Distribution Management
- M.5 Services Marketing
- M.6 Brand Management

**Group - V****Small Business and Entrepreneurship Management**

- S.1 Government Business Interface
- S.2 Small Business Marketing
- S.3 Financing of Small Business
- S.4 New Enterprise Management
- S.5 Entrepreneurial Development
- S.6 Small Business Environment and Management

**Group – VI****Banking and Insurance**

- B.1 Banking Operations Management
- B.2 Life Insurance
- B.3 General Insurance
- B.4 Risk Management in Banking
- B.5 Management of Insurance Companies
- B.6 Marketing of Bank Products







## COMPUTER SCIENCE AND APPLICATIONS

### BCA / BSc-CS / MCA - BU

**Affiliation: Bangalore University.**

#### **Faculty of Information Technology**

Master in Computer Application (MCA), Bachelor of Computer Application (BCA) & Bachelor of Science (Mathematics, Electronics and Computer science) courses focus on the applications of Computer and Communication in information collection, processing and distribution. Information application is becoming wide spans from manufacturing to service sectors. In a knowledge based Society, Information Technology as a subject of study has gained special status. DSI, catering to the growing need is offering undergraduate and postgraduate programs.

At the undergraduate course, students get a strong

exposure to all the nuances of computer sciences more specifically in programming languages, software engineering, computer design and architecture. At the Master's level the study and focus is on programming, system development, software testing, networking, web designing, system administration, system planning and managing and software application development. In depth exposure is given to students in the master's level in advanced areas of Information Technology. With the emergence of e-paradigm that is electronic applications in commerce, learning, business, medicine, governance, Information-Science has been playing a vital role. Subjects like e-com, ERP (Enterprise Resource Planning), MIS (Management Information Science), Data Warehousing, Software Engineering; DBMS (Database Management Systems) are vital subjects for computer application students.

### Subjects at MCA/BCA/B.Sc-CS

Students of this course get exposed to info-science subjects like Operating Systems, Computer Networking, Database Management Systems (DBMS), Software Engineering, Management Information System (MIS), Multi-media and Web-computing, Enterprise Resource Planning (ERP), TCP/IP, Simulation and Modeling, System Programming, Operation Research. Most of the leading MNCs are involved in this business. Companies like Oracle, Infosys, WIPRO, IBM, Hewlett Packard, Dell, Mind Tree Consulting, Accenture, Sonata and Phoenix are involved in providing IT solutions starting from financial services in areas like banking and insurance. These companies are also into ITES (Information Technology Enabled Services), which includes BPO, Call Centers etc. The business opportunities in these areas have seen companies grow in leaps and bounds.

### Eligibility To Enter MCA

- Students after graduating in Arts, Commerce and Science from any recognized University with 50%
- Aggregate marks (including languages) and must have studied Mathematics/Business Mathematics/Statistics/Computer Science/Electronics as compulsory subjects at Plus two level or at Degree level are eligible to seek admission to First semester of M.C.A program.

### Eligibility to enter BCA

- Students after plus-two class or equivalent examinations are eligible to seek admission to the First year BCA course.

### Eligibility to enter B.Sc-CS

- Students after Plus two class or equivalent examination with Science stream are eligible to seek admission to First year B.Sc-CS course.

### Duration of the Program

**MCA:** 3 Years with 6 semesters program affiliated to Bangalore University

**BCA:** 3 Years with 6 semesters program affiliated to Bangalore University

**B.Sc-CS:** 3 Years with 6 semesters program affiliated to Bangalore University

### Career Opportunities

With the e-paradigm career opportunities are booming as in:

- e-business
- e-commerce
- e-learning
- e-medicine
- e-journalism
- e-governance

### Students of this stream find openings as:

- Software Engineers
- System Engineers
- Programmers
- System Administrators
- Network specialists
- Service Providers
- Web & Multi-media designers.

Competent faculty, modern infrastructure like the state-of-the-art computer labs, library and documentation centre in a Wi-Fi campus make DSI an attractive destination for studying an advanced program in Information Technology.

### Campus Placements

Graduating students are well placed in reputed Information Technology organizations. The list of

companies which selected students in the previous three years include WIPRO, WIPRO-GE, Infosys, TCS Accenture, Satyam, IBM, ORACLE, Caritor/Keane, ALIT, TI, Intel, Philips, Honeywell and TEXAS.

### Laboratories

- Algorithms
- Microprocessors
- Systems Programming
- Computer Networks
- Computer Architecture
- COBOL/C/C++/Java
- DBMS/OOAD
- UNIX
- Simulation & Modeling
- Operations Research

### Highlights of the Programs

Industry-institution interaction, industrial visits, students seminars and symposia, student conventions, live projects, guest lectures.

### Future directions in Information Technology

#### Information Technology Mapping:

In computer cryptography.

#### Tech-encyclopedia:

In e-learning.

#### Military Information Technology:

In defence applications.

#### Legal Information Technology:

In legal studies & legal transcriptions.

#### Shared Global Vulnerability:

Info sharing globally.

#### Information Security:

Encryption, Decryption and Firewall.

#### Business Intelligence:

Business scanning for global opportunities & environmental scanning, Marketing.

### Government Data Centre Solutions:

e-governance is playing a vital role in public administration Data centre, information kiosks for public information.

### Service area support:

Service sector areas like banking & insurance, medical centre, educational centre, media, essential service sectors are doing continuous research in order to compete & face the challenges of info-science.

The other focus areas of development are in Enterprise mobile solutions, media research, intelligence & surveillance, forensic medicine

### Industry Institution Interaction

Apart from the University curriculum, certification programs from premier IT companies are planned. A few among them are mentioned below:

- IBM certification program
- NET-PRO certification program
- SUN-MICRO program
- NOVELL NetWare programs
- CISCO programs
- IETE specialized programs

### On-going program in partnership with industry:

#### IBM

Training students in IBM certification programs in software engineering, programming, database administration and web designing.

#### NET-PRO

Certification programs in mobile networking, communication and system architecture.

#### IETE

Programs in computer networking, mobile commerce and software project management.





## MASTER OF COMPUTER APPLICATION: MCA-VTU

Recognized as Research Centre by Visvesvaraya Technological University (VTU)

### An Overview

The Department of MCA (VTU) started in 2006 has excelled in its teaching- learning methodology and has a good academic track record. The learning experience here is wholesome, tailored to suit needs of the industry and independent career development. Teaching lays emphasis through practice. Students are encouraged to participate in state level and national competitions covering academic and cultural areas. Many of our students have won laurels in academic an extra-curricular activities.

### Introduction

MCA is a course exclusively designed to meet the IT requirement of any organization. An extremely balanced course with emphasis on planning, designing & building of complex commercial application software & system software gives equal importance to functional knowledge in various areas. A three year full-time course, MCA is not just a postgraduate course, but also a complete professional course grooming an individual.

### **Duration of the course**

The department of MCA offers postgraduate program, which is a six-semester course. Keeping with the current trends, some of the electives provided in the courses are Unix System Programming, Pattern Recognition, Principles of User Interface Design, Advanced Computer Networks, Wireless networks And Mobile Computing, Compiler Design, Web 2.0 & RIA to name a few.

### **Job opportunities**

Companies in India and abroad have been recruiting MCA students reflecting the importance of this course and the quality of our students.

- a) MCA graduates begin their career as junior programmers and grow at a very fast pace to become systems analysts and project leaders etc. Since the course is also designed with emphasis on research, students prefer to go for higher studies. Others seek entrepreneurial roles like consultants etc.
- b) Application areas include transaction processing (such as banking, stock exchange order processing) simulation, database management, E-commerce, Design support, Data communications & Networking, Embedded Technologies etc.

### **A student studying MCA can become**

- Software Programmer
- Software Engineer
- Software Developer
- Systems Analyst
- Software Application Architect
- Software Consultant

### **Areas of study in MCA Programming Languages**

- Operating System

- Computer Graphics
- Computer Networks
- Database Management
- Software Engineering
- System Programming
- Plus practical subjects with hands on exposure.

### **Application areas**

- Banking
- Insurance
- Office and Accounting
- Architecture
- Games

### **Conferences / Seminars / Technical fests**

The department has conducted various National/ International Conferences, faculty development programmes sponsored by ISRO, AICTE, VGST, VTU and CSIR. Student is aided learning through Conferences / Workshop. Also instruction with hands on experience for students through experts is provided to train them for their career. Every year the department conducts an intercollegiate technical fest “AGAN” for students. The department also hosted a National Network Security Championship program sponsored by ACM and IIT-Delhi. Many of our students have won at the zonal level and have contested in the Grand finale at IIT-Delhi and have won the prizes.

### **Student Development Program**

The Wi-Fi enabled campus helps the student to pursue academic activities in the calm and green environs. The vast repository of books in the library supported by various technical journals being subscribed along with the digital library ensures holistic development of students.

The department of MCA periodically invites eminent personalities in the areas of Cloud computing,

e-Learning, HPC and Mobile Computing. Highly acclaimed academicians like Dr. Omkar, IISc, Mr. Balasubramanya, Deputy Director, Infosys (R&D), Mr. Kundu, IBM, Mr. Sudheendra, Regional Director, IGNOU Bangalore, Mr. Unkalkar, Mr. Ramani, Director, Software Development Division, ISRO, Prof. Guruprasad, Dept. of CSE, Director Buddha Institute of Technology, Mr. Narayana Roa HP, Mr. Siddique Oracle and experts from VMWARE.

The MCA club "SUNAVA" has been active in bringing out talents of the students through many cultural and technical activities such as paper presentations, industrial interaction, participation in technical fests, improving communication skill and technical skills. The annual MCA newsletter "CHANAKYA" elicits journalistic traits of the students bringing to the fore discussions and opinions on topics varying from trends in IT to the trendy lifestyle.

The centre for innovation and leadership caters to the overall development of students and trains them in all placement related activities.

### Result analysis

We have secured 100% result throughout and also achieved 100 % placement in several multinational companies. Nearly 50 companies visit the campus every year and hire our students. The placement for MCA students commence during the 4th semester and students are trained constantly to be well prepared to attend the interviews. Regular session for improving communication skills, personality development, etc is conducted at the department.

### Collaboration with Industry

1. The Department has entered into an MOU with the following companies
  - EthnoTech

- Data Talk
2. MOU with TCS is under progress to establish the super computer lab
  3. Students participate in Infosys's "Campus Connect Program"

### R & D Programs

The faculty members are involved in various fields of research such as Digital Image Processing, Data Mining, Embedded Systems, Remote Sensing, e-Learning, Wireless sensor Networks and Web Services. They continuously engage themselves in research by publishing in National / International conferences and Journals. There are seven research students registered for the Ph.D in our R & D center.

### Department advisory council

The Department has an advisory council, having members from Industry / research organizations. The council meets at least once in a semester to review and evaluate the performance of the department and offer advice in needed areas.

### List of companies that visited the campus:

Wipro • Nokia Siemens • Infosys • Dell • HP  
Carritor\Keane • IBM • Accenture • Honeywell

Our students are also actively participating in cultural activities and social activities like NSS , Blood donation, etc.

### Alumni meet:

With a string active alumni network, the students are guided and mentored by the successful graduates of the department. Alumnus interaction is facilitated regularly apart from the annual alumni meet.



## PRE-UNIVERSITY

Preparing the ground for entry into university education

At the end of twelve years of schooling, the most important decision is to be taken by an individual. Education now needs to be for a specific purpose. Entering university needs the right choice that has an impact for a lifetime.

Individuals keen on entering a career, have varied choices. Commonly preferred courses have been medicine and engineering. And within engineering a tendency has been towards select courses. There are various options to choose a successful career and these will be highlighted during the PU Course.

### Looking at new avenues

Picking up non-traditional courses has proved equally fascinating to a large number of young people. To cater to these needs, the Pre-University College in the DSI campus offers a wide choice. The streams on offer include science, commerce, mathematics, electronics and computer sciences.

DSI Colleges have been helping students get top positions at every stage. Our students from the PU program have met with major success at the Common Admission Tests and other national entrance examinations reinforcing the belief that the PU College can deliver pure academics as much as it allows for growth and development of creativity and originality in every young mind.

Taking up employment immediately after graduation is right for a fresh graduate needing to support the family. But if a family can support the young professional, it is good to encourage him/her to enter higher education and research.

In the long run, individuals with good basic and specialized knowledge enjoy commanding positions in larger organizations. The initial sacrifices are compensated by entry at higher levels and career movement being faster.

Specialists are scarce. Industry and research labs need people with a creative bent of mind. Parents and peers need to support a new thinking.

### What makes our Pre-University College Special

We believe that “education completes a man” - the vision of our founder Late Sri R Dayananda Sagar. Attention is thus paid to the all-round development of students.

The pre-university college is aided by high caliber, well-qualified staff and supported by well-laid out infrastructure in terms of laboratories, libraries, sports grounds, gymnasiums and other facilities.

### Eligibility for Admission

Students who have passed SSLC of Karnataka State or any other examination recognised by the board are eligible for admission to 1 year of the two year Pre-University course. Admission of foreign candidates shall be made on production of provisional eligibility certificate issued by the department of P.U. Education. The eligibility certificate is issued to candidates who have done ICSE or CBSE and to Non- Karnataka students by the Principal.

### Course of Study

#### Part I

Under part I students have to learn English and any one of the following languages: Kannada, Hindi, Sanskrit. On self study basis a student can opt for French / languages.

#### Part II

Any one of the following disciplines combinations may be selected under this part:

- Physics, Chemistry, Mathematics, Biology
- Physics, Chemistry, Mathematics, Electronics
- Physics, Chemistry, Electronics, Computer Science
- History, Economics, Business Studies, Accountancy
- Economics, Business Studies, Accountancy, Computer Science
- Economics, Business Studies, Accountancy, Statistics

### Pass and eligibility

Minimum of 30 marks in each subject 35% in each part and a total of 210 marks out of maximum 600 marks are required.

### Laboratories

The college has well equipped laboratories and encourages students to utilize the lab facilities to the maximum extent. The mode of instruction is in English and a foundation course will be held for students coming from non-English medium schools.



## CENTRE FOR ENGLISH & FOREIGN LANGUAGES

### Preamble

#### The Goals of the Department

The Centre for English and Foreign Languages (CEFL) has developed the following mission statement to represent its commitment and goals.

The goals of CEFL are to promote effective teaching and profitable learning of English and the learning and practice of professional communication skills in Bangalore and its surrounding areas. It also aims to train students to communicate effectively with others in the global community.

#### The Department of English

- Offers varied courses of different duration, intensity and levels in the Teaching of English as a Second Language (TESL) and in Teaching of English as a Foreign Language (TEFL) to select groups.
- Delivers instruction in English for all its students to meet their academic, communication and professional needs (English for Academic, Occupational and Specific Needs: EAP/ EST, EOP, and ESP).
- Supports a technology-based learning environment for teaching professional communication skills.
- Provides opportunity for its staff for continued professional development.
- Seeks to encourage research and development activities, which supports the Centre's goals.
- Seeks to provide resources and expertise in language education through seminars, conferences, workshops and consultancies.

- Aims to collaborate with other institutions to widen its horizons.

#### Physical Facilities

The language centre (DSCEFL), housed in the impressive Heritage Building in DSI campus has physical facilities that contribute to an atmosphere conducive to learning:

- Clean, airy and safe premises.
- Spacious classroom and offices, with adequate ventilation and lighting.
- The classrooms are equipped with hi-tech amenities.
- Courteous and co-operative staff.
- Resources for quality teaching and learning with high returns.
- A well-stocked and expanding library.

#### Management and Administration

This quality language centre is under the direction of an appropriately-trained and experienced management and administration, which is knowledgeable about designing. Implementation and evaluation of ELT programmes. Seeks to attract and retain a staff of trained, dedicated and professional ELT practitioners.

#### Certificate

A certificate is given to the students attesting to their satisfactory completion of the course.

### Eligibility

- The minimum requirement for admission is higher secondary/senior secondary school certificate, but CEFL will conduct a test on arrival, modeled on International Language Tests.
- Students must maintain 75% attendance in classes during their stay here.
- Students are expected to sign a Pledge from stating that they will abide by the rules of the institution.

### Faculty

A core group of qualified trainers supported by some experienced part-time trainers work to deliver the best inputs to the students enrolled here. Native- Speaker Guests/ Visiting Professors also participate in these programmes.

### Aims and Objectives of Courses

#### Listening

- To prepare students for purposeful listening in a variety of situations
- To deal with word stress rhythm, intonation and pace of delivery
- To develop accuracy, appropriacy, and fluency in communications
- To prepare students for fact-to-face and real life situation
- To engage students in meaningful communication through meaningful interactive tasks
- To offer excellent model of use of English through variety of listening exercises on CDs, tapes, and online resources
- To provide tips to students to eliminate influence of their native language
- To provide creative speaking, reading, and writing practices through enjoyable extension activities

### Speaking

- To express simple ideas and to convey information so as to be understood
- To comprehend everyday spoken English , talks and radio broadcast of general interest
- To make English pronunciation intelligible
- To give short talks e.g. at meetings/ function
- To conduct meetings
- To make formal speeches such as : introductions, welcome or farewell speeches, announcements and vote of thanks

### Reading

- To read independently academic and other material, including magazine and newspaper articles with good reading speed and comprehension, e.g. (300-400 wpm and 60-70% comprehension)
- To read texts aloud with clarity, appropriate stress and intonation

### Writing

- To express ideas with clarity and in a reasonable accurate English, including practical genres of writing such as letters, memos, certificates, minutes of meeting, reports, invitations and notices
- To make notes on what is read or take notes on what is heard
- To write creatively: both personal and academic compositions
- To write legibly by hand or to type according to established academic practices

### Content of Courses

#### Content-Areas:

Skills for English

- Listening
- Speaking
- Reading

- Writing
- Grammar- for all four skills
- Vocabulary- for all four skills

### Description of Courses

- **EFL( English as a Foreign Language)**  
Duration -36 weeks
- **ESL (English as a Second language)**  
Duration -20 hours
- **ESP (English for Specific Purpose)**  
Duration -20 hours
- **EOP (English for other purposes)**  
Duration -10 hours

In addition DSCEFL offers Learning for Life – Continuing Educational Programmes in English

- Creative Writing
- Preparation for international Tests
- English to Enhance Employability

DSCEFL extends its full support towards the Social Corporate Responsibility of DSI

- Woman Accomplished programme – for a new social and economic order

### Foreign Languages

#### French/ Spanish/ German

Course emphasis on listening, speaking, reading and writing.

#### Course Objectives

To develop equally the four language skills: reading, writing, speaking and listening comprehension, and to familiarize the student with the usage of the language. The specific course objectives are to provide instruction and practice towards competence in oral and written communication, as follows:

To extend invitations, to ask questions and make suggestions, to talk about the weather and daily routine, home activities and leisure/hobbies, to describe meals and order food, to tell the time, to specify quantities, to be able to describe one's family members, to talk about clothing, color and sizes, to be fluent in regular and irregular verb tense, and to develop the appropriate pronunciation, rhythm and articulation.

To develop skills to understand generally written and oral language, as well as the learned ability to write and speak the language on their own. Writing includes weekly compositions which are typed with correct accents and grammar. Weekly pronunciation recordings are developed to improve speaking and pronunciation skills.

### Assessment Procedures

#### Achievement Tests

Final Testing and Evaluation (100%)

#### Projects

Based on local visits to contextually important places in Bangalore (100%)

#### Portfolios

For continuous evaluation in all language - based skills done personally, out of class. No grades.

#### Feedback to students

For personal and academic development.



## THE Dr. C.D. SAGAR CENTRE FOR LIFE SCIENCES

This is a six level modern and new contribution to the dynamic pace of institution building taking place inside the DSI campus. This ambitious, well-designed structure houses a research centre and the departments of biological & pharmaceutical sciences. The Centre will act as a common platform for integration of science and technology to create new pathways for scientists in their pursuit of new solutions to minimize human suffering.

### Exclusive R & D Centre

#### Research Focus and Programmes

#### BT Finishing School at DSI

#### DST- FST Funding (2007-2012)

- Continuous centrifuge - for handling good separation of biological molecules.
- Cold centrifuge - for DNA isolation and for the separation of biological molecules.
- Homogenizer - to routinely homogenize microbiological sample.
- Hot air oven - dry heat sterilizing equipment.
- Fermenter - for carrying out small-scale fermentation.
- BOD Incubator - to estimate dissolved oxygen.
- PCR - for amplification of DNA.
- UV-VS spectrophotometer - to estimate DNA, RNA and other biological components.
- TLC - for separation of proteins and amino acid.
- Gerber's centrifuge - for estimation of fat content in milk.
- Other instruments and equipments include
  - Table top centrifuge
  - Incubator
  - Colorimeter
  - Laminar air flow units
  - Binocular microscope
  - Compound microscope
  - PH meter
  - Electronic balances
  - Monopan balance
  - Furnaces
  - Gel electrophoretic units
  - SDS - PAGE Units
  - Deep freezer
  - Western blotting apparatus
  - Ultrasonic bath
  - Lyophilizer
  - Filter units
  - COD incubator
  - CO2 incubator
  - Gel documentation system
  - Fluorescent microscope with camera and video attachment
  - Phase contrast microscope with camera and video attachment

## RESEARCH & INDUSTRY INCUBATION CENTRE

### Research Centre

The Research and Industry Incubation Centre at Dayananda Sagar Institutions was established to promote research in a multidisciplinary mode to achieve excellence in frontier areas. Over a period of two years, the centre has attained a status of one of the leading research houses in the field of software engineering, communication technology, proteomics etc. The manifestation of the leading research activities happened through the vast publication list RIIC has today amounting to 60 papers spread over Journals, Conferences at International and National levels and Technical Reports. Several International and national conferences on frontier topics were organized by RIIC in the recent past which promoted the dissemination of knowledge effectively. A new Journal "Journal of

Research and Industry' was introduced which caters to the need of research groups engaged in product oriented applied research internationally.

### Objectives:

- Coordinate the research programs in the thrust areas like Advanced Networking, Software Engineering, Artificial Intelligence & Robotics, Real-time systems, Structural Proteomics, High-Performance Computing, Bioinformatics, Image processing, Nanotechnology etc.
- Set up the centralized research facility for all research activities in the DSI campus and evolve as a centre for excellence in Academia and Industry partnership programs.

- Integrate the resources of the industry along with strength of academia, for the development of Masters and Ph.D research programs for students.
- To promote companies and firms wishing to create new products and process and offer opportunities in incubator units. The incubation centre has access to the facilities and expertise required for its growth.
- To Develop marketing strategies for the products / process originating from research.
- Develop a strong doctoral program to evolve in to a centre of excellence in research.

### Doctoral Programs

One of the successes of any research center is its ability to support strong doctoral programs by which next generation scientists are groomed for powerful and meaningful research in their fields. RIIC, DSI made major breakthrough in this domain and institutionalized a strong Ph.D program with 20 students currently enrolled.

### Doctoral Symposium and Colloquium

The dissemination of knowledge is the key to success in any research field. It brings out the review process and refines the knowledge to better standards. RIIC has strong system where the research is presented and reviewed by eminent people.

### International Collaborations

A host of association with different international entities were realized by RIIC in the recent past. Several eminent scientists visited and presented their research work as a part of this program. In addition to this a few projects are under development which could be submitted jointly for international grant.

### Research Interest Groups

- RIIC has a modern out look best suited for 21st century. It conducts its research work through

Research interest group which spans across conventional knowledge boundaries of science and engineering. The major research interest groups are:

- Advanced Networking Group
- Software Engineering Group
- Real-Time Systems Group
- Proteomics and Bioinformatics Group
- Nanotechnology Interest Group

These groups are not a limiting factor for RIIC to initiate new themes at any time if situation and need warrants so.

### Incubation Centre

Incubation Centre provides a modern ambience of business and technology process to entrepreneurs to transform their innovative ideas to practice. Aero IT, an Australian based company has utilized the state-of-the-art facilities and resources provided by RIIC to progress their venture and development activities. The company's strength lies in its flexible and cost effective model. It uses cutting edge technology and very advanced tools for application development. Also the inclusion of promising students from the DSI campus gives the company a very young and energetic look. The company provides a lot of space to its employees to innovate and grow as an individual. The company also creates good entrepreneurial ecosystems for these young leaders.

RIIC organized a national level seminar entitled, "Innovation, Incubation and Entrepreneurship" during February 2008 where Mr. Mark Asbell, Director, Aero IT, Australia presented the theme. RIIC always welcomes applications from new firms and companies who have a process or product development idea that can be converted in to a commercial product.





## CENTRE FOR INNOVATION & LEADERSHIP (CIL)

CIL was established during 2006 to bridge the gap between pure academics and the corporate realities. The Centre aims to impart innovative soft skill training programs to enable individuals to become champion leaders in their endeavor, and to sustain a high level of performance at the individual and the organizational level.

CIL recognizes the challenge of unleashing the potential of individuals to transform them to achieve excellence.

To face the challenge, CIL is armed with eminent Academicians, Business Leaders, CEOs and Thinkers with hands on experience in the corporate world to design high quality training modules. The primary aim of all the training modules would be to allow individuals to take control of their lives by re-discovering their potential.

CIL has conducted more than 2,000 in - house training programs for a very large number of young people.

## CIL's 7 Dynamic Skills Transformation Programme



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## HALL OF ADMISSIONS

This is a unique information centre and a place for counseling. Prospective students and their parents are invited to the hall of admissions as part of their visit to the DSI campus.

The centre offers exhaustive information on the need for college education, wide opportunities available for students to pick an appropriate course, plan before selection, discuss with parents and peers and take a decision based on information and deliberation.

The next level for a student is to visit the campus for one to one interaction with faculty of various departments and colleges inside the campus. These interactions will bring great clarity to a prospective student on the choice of a particular subject or course.

### Guidelines on Admissions

#### National

Admissions to professional programs for Indian Students are guided by Government notifications issued from time to time. Prospective students are required to be informed of these guidelines that could be applicable for certain courses which may be available on the DSI website also.

These guidelines generally speak of candidates needing to appear at entrance examinations conducted either by the government or the college managements. Several programs are by direct admissions; requirements are available in the prospectus under, Courses at DSI.

#### International

15% of the seats in DSI Colleges are reserved for NRIs/Foreign students and are offered as direct admissions on first come first serve basis.

Students coming from outside the country have to obtain an equivalence certificate from the Association of Indian Universities (AIU), New Delhi or the applicable university and enclose a copy of the letter along with the admission application form and other enclosures such as: proof of date of birth, certificates, passport copies etc. The college office will also help in this effort in certain circumstances but such assistance is optional.





## FEE REFUND RULES - INDIAN - STUDENTS

### General Category

1. Generally no refund of the fee is permitted on withdrawal / absence from college or other reasons once a student is admitted to any course of study.
2. A refund claim may, however, be admitted on merit by the college management after due consideration of the request. If approved, the amount to be refunded shall be within the limits stated below:
3. In all cases where the student has been admitted to the course after the commencement of classes through waiting list or otherwise, the number of days specified in (ii) and (iii) above will be reckoned from the date of "commencement of classes" in August / September and not from the date of actual admission.

Sl. No.	Time of Withdrawal	Fee Refunded
(i)	Any time after admission but before the date of commencement of classes	Total fees after deducting Rs.10,000/-
(ii)	Within fifteen days from the date of commencement of classes	50% of the total fees
(iii)	After fifteen days, from the date of commencement of classes	No refund, required to pay the remaining years' tuition fee

4. Any student who withdraws from the course after fifteen days from the date of commencement of classes or after admission as mentioned in para 3 above will be required to remit to the college, in addition to the amount already forfeited, the tuition fee payable for the remaining period of the course.
5. All refunds will be processed by the Admission Office of the college upon receiving approval from the Management. Requests for withdrawal should be made in the prescribed application available at the Admission Office. Refunds will be made only after the candidate has surrendered the ID card, original fee receipt and the dues clearance certificate.

- Decision of the college is final on all the matters related to fee / refunds. Policies and regulations subject to revision from time to time.
- Caution deposit is refundable after the completion of the course or candidate leaving the course for any other reason.

## FEE REFUND RULES - INTERNATIONAL STUDENTS

### International Students Category

1. Generally no refund of the fee is permitted on withdrawal/ absence, from college or other reasons once a student is admitted to any course of study.
2. A refund claim may, however, be admitted on merit by the college management after due consideration of the request . If approved the amount to be refunded shall be within the limits stated below:
3. In all cases where the student has been admitted to the course after the commencement of classes through waiting list or otherwise, the number of days specified in (ii) & (iii) above will be reckoned from the date of "commencement of classes" in August / September and not from the date of actual admission.

Sl. No.	Time of Withdrawal	Fee Refunded
(i)	Any time after admission but before the date of commencement of classes	Total fees after deducting 250 US\$
(ii)	Within fifteen days from the date of commencement of classes	50% of the total fees
(iii)	After fifteen days, from the date of commencement of classes	No refund, required to pay the remaining years' tuition fee

- College decision is final on all the matters related to fee/refunds. Policies & regulations subject to revision from time to time.
  - Caution deposit is refundable after the completion of the course or candidate leaving the course for any other reason.
4. Any student who withdraws from the course after fifteen days from the date of commencement of classes or after admission as mentioned in para 3 above will be required to remit to the college, in addition to the amount already forfeited, the tuition fee payable for the remaining period of the course.
  5. All refunds will be made in accordance with Foreign Exchange Regulations. The Reserve Bank of India permits refunds only to the extent of Indian Rupees originally realized by the authorized dealer / bank, in such cases there is likely to be variation in the US dollar refund and may not be equal to the amount remitted by the student.
  6. All refunds will be processed by the Admission Office of the college upon receiving the approval from the management. Requests for withdrawals should be made in the prescribed application available at the Admission Office. Refunds will be made only after the candidate has surrendered the ID card, original fee receipt and the dues clearance certificate.



## DSI HOSTELS

### Men's Hostel

- Sardar Patel House  
Telephone Numbers: 080 - 42161701
- Residences @ DSI  
Telephone Number: 080 - 42161705

### Women's Hostel

- Sharada Girls Hostel  
Telephone Number : 080 - 42161727
- Nelson Mandela Girls Hostel
- NRI Girls Hostel
- Ashirwada Girls Hostel
- Sanjeevi Thana Girls Hostel
- Vivek Nest Girls Hostel

### Facilities

1. T.V.
2. Indoor Games
3. Telephone

4. Washing Machine
5. Hot Water (Solar & Electric System)
6. Outdoor Games
7. Balanced & Nutritious Food  
Vegetarian & Non- Vegetarian (Dividing System)
8. Well Furnished Spacious Rooms

### DSI - Hostels Rules and regulation

- Right of admission to hostel is reserved.
- Hostel fees must be paid for the full year before admission to the Hostel.
- Hostel fee will not be refunded under any circumstances. Caution deposit will be returned at the end of the academic year.
- NRI / Foreign students must pay their fees in USD.
- Boarders shall not change rooms without the written permission of the Warden.
- A boarder must always carry the Identification

card issued by the Warden and produce the same when demanded. If the Identification card is lost, a duplicate must be obtained from the Warden after submitting an application and required fee.

- Guests are not permitted into the Hostel. Under exceptional circumstances, guests will be allowed on obtaining written permission from the Warden.
- Each boarder must pay the mess and other Hostel Charges regularly before the due date.
- The mess charges will be levied on dividing system or as levied by the appointed mess contractor.
- Perfect silence must be maintained in the corridors, bathrooms, toilets, common room, T.V. hall etc.,
- Inmates shall handle carefully furniture and other hostel property as if it was owned by them. Appropriate penalty will be levied for breakage, destruction of college property on the students.
- Breakfast, lunch, evening snacks, dinner will be served only during the scheduled time. Late comers will not be entertained.
- Parties, birthday celebrations etc., within the Hostel are prohibited.
- The Hostel inmates must conduct themselves in a disciplined manner with the employees and other inmates of the Hostel.
- Outside food items will not be allowed in the dining hall.
- Self - service may be introduced in case of emergency without prior notice.
- Parking of vehicles in front of the Hostel and within the premises of Hostel is totally prohibited.
- Attendance will be taken everyday and abstention without permission will be viewed seriously.
- Loud music, smoking, gambling, playing cards, shouting and consumption of alcoholic beverages are strictly prohibited within and in the vicinity of the Hostels.
- Viewing of pornographic/obscene films/photos/material with or without the help of computer in the Hostel is totally prohibited.
- Ragging is a serious offence and is strictly banned.
- The Hostel inmates must return to the Hostel in the evening before the stipulated time, and those who want to go to local guardian's place and for other genuine reason and not in a position to return on the same day must apply in writing to the Warden and obtain prior permission.
- Inmates shall not spit and disfigure or break or damage the wall, floors, furniture and any other properties/belongings of the Hostel/other inmates, these offences will attract heavy penalties.
- The inmates shall lock the door of the room when they go out and shall keep the door closed when they are inside the room.
- The inmates shall not cause any kind of disturbance to others.
- The Warden reserves the right to instruct an inmate to vacate the Hostel at any time without assigning any reason whatsoever.
- Use of prohibited drugs etc., by the Hostel inmates is strictly prohibited.
- Each inmate shall conduct himself / herself in the best possible manner and shall not do anything that causes annoyance or problem to others. Bad conduct will result in expulsion from the Hostel.
- The Hostel authorities are not responsible in any manner for the loss or damage to the personal belongings of the student inmates (including cash and other valuables).
- The inmates are advised not to waste food etc., served in their own interest.



*Thank You!*

The DSI Prospectus is one of the most important publications from the DSI Campus. This edition is more comprehensive over the maiden volume. I am thankful to the Chairman, Vice-Chairman, Secretary, Heads of all the colleges/departments & staff, designers (drushcom, efilos) and photographers (Mr. Gireesh) for actively taking part in the upgrading process of this publication.

**R. Janardhan**

Senior Executive Vice President  
Dayananda Sagar Institutions



## Dayananda Sagar Institutions

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admissions.dsi@gmail.com  
www.dayanandasagar.edu

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Opp. Sri Sri Ravishankar Ashram / Art of Living,  
Bangalore - 560 082 - India  
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Dayananda Sagar Institutions