



SELF STUDY REPORT

FOR

2nd CYCLE OF ACCREDITATION

DAYANANDA SAGAR COLLEGE OF ENGINEERING

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Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Dayananda Sagar College of Engineering (DSCE) is a self-financing Institution established in Bangalore in the year 1979 by Philanthropist and social worker late Sri R. Dayananda Sagar. It was started with four branches of Engineering, over the years it has evolved leaps and bounds into one of the prominent Technical Educational Institutions in the country.

Currently, the Institution offers 15 under graduate courses and 13 Post graduate programs which are affiliated to Visvesvaraya Technological University (VTU), Belagavi, Karnataka. DSCE obtained academic autonomy approved by VTU & UGC in the year 2015. The College is consistently getting ranks in National Institute of Ranking Frameworks (NIRF) NHRD, Government of India. All the eligible UG programs have been accredited by National Board of Accreditation (NBA). DSCE has been accredited with “A” grade by National Assessment & Accreditation Council (NAAC). All the departments in the Institution are recognized as Research Centers from VTU to pursue M.Sc (Engg.) and Ph.D.

All the departments have competent faculty with nearly 141 of them having Doctorates. All Research departments are active with funded Projects and about 163 Scholars are pursuing Ph.D. The departments have MoU with leading Industries and Professional bodies and Research Organizations through which lot of student centric activities are initiated. IEDC Center caters to the requirement of Entrepreneurship training, development and Incubation.

DSCE has a strong placement department with a committed team focusing on campus placements. DSCE Alumni have distinguished themselves by occupying high positions in India and abroad and departments make use of their services for the activities of the departments. DSCE has an active Alumni Association.

The Central Library includes digital library with modern facilities such as RIFD & ICD. Digital library provides access to modern catalogue and e-journals. The Institution has provided hostel facilities for both boys & girls within the campus. In addition the Institution provides sports facilities like well-equipped Gymnasium, Squash court, Football/Cricket ground, Table Tennis & Basket Ball courts, Lawn tennis etc. for multi-dimensional growth of the students.

Vision

To impart quality technical education with a focus on Research and Innovation emphasizing on Development of Sustainable and Inclusive Technology for the benefit of society.

DSCE envisages vision to bring quality technical education focusing on Research innovations emphasizing on development of sustainable and inconclusive technology for the benefit of the society. The accreditations have helped DSCE to significantly improve its academic processes such as new curriculum design, improved examination processes and training students as per the Industry expectations.

The Institution has established Research centers in all the departments to promote Research culture by facilitating Research scholars, faculty and students to work on their research. The Institution has established a

placement and training cell in order to train the students in soft skills and enhance their placement opportunities in reputed Industries & Organizations. IEDC, the entrepreneurship development cell promotes entrepreneurship activities to address the socio economic needs. The Institution has good Alumni base across the globe and are involved in a growth process of the institution in various students' centric activities.

Mission

The DSCE shall meet the requirements of providing quality technical education with a focus on research and innovation through:

- To provide an environment that enhances creativity and Innovation in pursuit of Excellence.
- To nurture teamwork in order to transform individuals as responsible leaders and entrepreneurs.
- To train the students to the changing technical scenario and make them to understand the importance of Sustainable and Inclusive technologies

Mission of the Institution is to achieve the Vision of the institution. DSCE has the state of the art of teaching & learning facilities with well qualified and dedicated staff. Some of the faculty have rich industry experience and global exposure. Outcome based education is followed by taking feedback from all the stake holders. Curriculum is revised regularly to meet the needs of the Industry, Research and competitive examinations.

Suitable weightage and importance are given for laboratories and elective courses. The use of modern tools in teaching learning process is encouraged. All the UG and PG students are encouraged to undergo Internships in Industries and Research Institutions facilitating them to improve their knowledge and technical skills.

All the departments have recognized Research Centers to pursue Ph.D. and M.Sc. (Engg.) by Research scholars. There are many funded projects that are being carried out, which are funded by State Government and Central agencies.

Placement and training centers regularly conducts training programs for overall development of the students. Students are encouraged to take up the innovative and experimental project to address societal problems.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

INSTITUTIONAL STRENGTH:

1. Committed Visionary management with more than four decades of experience in providing Engineering education with a Vision development of Institution to the highest level of quality.
2. Good brand image established over the years, availability of advice and guidance from distinguished experts and Alumni on various academic initiatives of the Institution.
3. The autonomous institution with good faculty having rich academic and industry experience, institution

with good infrastructure and campus ambience.

4. A multi-disciplinary campus with sister institutions like Dental College and attached hospital, Super specialty hospital, Physiotherapy, Arts & Science college etc. allowing meaningful collaboration and convergence of disciplines.
5. Autonomous status for all UG & PG programs strategically located in Bangalore the Silicon Valley of India. The Institution is located in close proximity of leading IT companies like Accenture, Oracle, and Infosys etc.
6. Students from all over the country and abroad leading to the cosmopolitan and progressive culture.
7. The accreditation by NAAC and NBA: All the eligible UG programs are accredited by NBA
8. Active Alumni association with several senior Alumni taking part in academic activities.
9. Regular interactions with Industry experts through Industry Conclaves, Webinars, Technical talks, Workshops etc.
10. Good placement for students in reputed organizations.

Institutional Weakness

INSTITUTIONAL WEAKNESSES:

1. No control over selection of students
2. Industry consultancy and IPR capabilities need to be strengthened considerably.
3. Encouragement for senior faculty in IT related and circuit branches to be a problem area
4. Lack of inter disciplinary research.
5. Scope for pursuing with Industry to carry out research projects, training programs and consultancy services.
6. Possibilities of engaging UG & PG students in R&D projects.
7. Inter disciplinary research and collaboration with sister Institutes to develop effective engineering consultations have problem in the fields of medical science, dental science, pharmacy etc.
8. Leveraging strong links with distinguished Alumni to increase engagements with Industry for project and consultancy works, training, FDP, etc.

Institutional Opportunity

INSTITUTIONAL OPPORTUNITIES:

1. Inter disciplinary research with sister Institutes to develop effective Engineering solutions for problems in the fields of Medical, Dental, Pharmacy etc.,
2. Possibilities of engaging UG & PG students in R&D Projects
3. Networking and sharing facilities with other Institutions and Industries.
4. Possibility for partnering with Industry to carry out Research Projects and for consultancy services.
5. Involving distinguished Alumni to have engagements with Industry for development of Projects,

Consultancy works etc.,

Institutional Challenge

INSTITUTIONAL CHALLENGES:

1. Competition from other Institutions of higher learning and emergence of private Universities in Bangalore.
2. Providing higher level of employability and skills.
3. Cost changing technologies and educational echo system that is certain
4. Huge demands on the efforts, mobilize resources for up grading human resources and physical infrastructure.
5. Faculty retention, decreased availability of committed and quality faculty with passion for teaching.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

Dayananda Sagar College of Engineering is an autonomous institute constantly endeavoring to update the existing curricula, based on the industrial and societal needs. College adopts Outcome Based Education (OBE). The curriculum content addresses the OBE elements, such as PEO, CO, PO and PSO defined by NBA. Curriculum Design Process is framed with an insight to align with the objectives and teaching learning process with defined outcomes. The guidelines and inputs are considered from the AICTE, VTU, Industry Conclave, compiled by faculty and approved by Board of Studies & Academic Council to revamp the curriculum as per the current trends in technology. Institution aims at holistic growth of the students by integrating crosscutting issues relevant to the Professional ethics, Environment and sustainability and human values into the curriculum. As a social responsibility, Institution organizes various programmes on education, health and environment etc., subsumed under NSS activities. Institution encourages organizing workshops, conferences, hackthons etc., as value added courses to enrich the student's ability and skills in the latest fields. Processes are in place for academic audits and feedback from stakeholders towards continuous improvements in Curriculum, Design and Delivery.

The graduate's attributes which are missing in curricula are provided by taking students to industry so that they are abreast with the improvements going on in industry and by way of guest lectures from industry experts. Workshops are arranged to provide hands on experience with current technology and software. To mould their leadership and organizational aspects conferences are arranged with considerable role for them to play. Regular cultural and societal activities are arranged so that they understand the ethics, team work, societal aspects which are very much part of the graduate attributes.

Teaching-learning and Evaluation

Teaching Learning Process is a very important parameter in OBE. The teachers & instructors play a vital role in this process. The admission process is done through KCET & COMEDK. 40 % of seats are filled through KCET, 35% through COMEDK & 25% through management quota. The minimum qualifying marks for admission to college is 50% in PUC. During admission processes, members of various admission committees & department interact with prospective students and their parents regarding course of study. Seminars are organized by institute to brief the aspirant about different courses, their objectives, future prospectus. Bridge courses are arranged to cater the need of heterogeneous group of students.

An orientation programme is designed to make the students aware of corporate expectations. Faculty mentors are allotted to students who interact with students regularly. The course curriculum is divided into units or modules to be covered during the duration of semester. Teaching plan is given well in advance to enable the students to be mentally prepared for the topics to be taught. Assignments are given to be submitted by students within stipulated period. Department enforces group activity, collaborative learning, project-based learning. Our entire faculty uses a number of E-learning websites, open source software, books, and journals relevant to their disciplines. College has rich collections of books, national and international journals, magazines, NPTEL courses, DVDs, CDs in different subjects. The evaluation methods and the schedules are communicated to the students and faculty through hand book.

College conducts 3 internal tests, 1 assignment and quiz. 50 % weightage is given to Internals test & 50 % weightage to SEE. Faculty follows teaching plans, while delivering lectures. Departmental meetings are held periodically to assess the progress. The college monitors and ensures the achievement of the intended learning outcomes through the recommendation of the programme chair-person from time to time. The graduate attributes as specified by the AICTE / NBA are followed. Institution focuses on enhancing attributes of graduating students, co-curricular, curricular, extra-curricular & skill development program with activity-based learning.

Research, Innovations and Extension

Dayananda Sagar College of Engineering is actively involved in Research, Innovations and extension activities through its faculty and students. Committees were formed for providing continuous support by framing policies for the promotion and the average amount through the project grants during the past 5 years is around Rs. 400 Lakhs with an average of 14 projects per year. Research works were published in reputed national factors. An average citation index of 10 was scored in Scopus and Web of Science through enhances the culture of knowledge exchange on national and international platforms. MoUs with reputed companies have reduced the gap between the institution and the industry. Tech talks by industry experts, supporting internships to students and advising the faculty in their research were the prime activities under these MOUs. Dayananda Sagar College of Engineering always encourages its students in stepping out of the curriculum to experience hands-on in the form of internships and collaborative activities so that students could “Learn by doing and observation”. Innovation and Entrepreneurship Development Center (IEDC), Centre for Innovation & Leadership (CIL), DSCE-TOYOTA Centre of Excellence, DSCE-VOLVO Centre of Excellence BMW Skill Development, BOSCH - DSCE Centre, Centre for Biotechnology Finishing School (BTFS), Center for Ophthalmic Instrumentation & Imaging (COII), DSCE-KIOCL Centre of Excellence and AUTODESK-DSCE Centre of Excellence are few among to be mentioned in this context. DSCE is also a socially responsible institution actively involved in many extension activities for the neighborhood community. All the departments along with the DSCE-NSS unit and the DSCE Nature club -”Prakruthi” are involved in outreach programs like awareness

programs, blood donations, flood relief, visit to orphanages and tree plantations. Dayananda Sagar College of Engineering is committed to support the students and faculty to get trained to the future challenges in a technosocio environment.

Infrastructure and Learning Resources

The Institution has a total 120 classrooms, 134 laboratories, 1 Central library, 3 Auditorium with ICT facilities, 01 board room, 01 amphitheatre, 01 playground, 01 Basketball Court, 01 Tennis Court and Gymnasium facility. The institution has 2212 computing equipment for the teaching learning process and classrooms, laboratories and seminar halls are equipped with Wi-Fi/LAN of 1 GBPS total Internet Bandwidth. The institution has extended LAN to Offices & Sections of college Main Office. Server, Switch (Juniper) and Firewall are in place. The college promotes Open-Source Software. FortiGATE firewall server FG800C is used with ensuring its renewal. Most of the labs are equipped with LCD's for online demonstration to students. Video lecture capturing facility is available. The media centre is equipped with full HD MDH2 Panasonic Camcorders fixed in video Tripod Stand Kit AT-7402A with all the necessary arrangements.

The central library of the institution is 5160 sq.m with a total seating capacity of 800. The library includes Digital Library with modern facilities such as RFID and ICT. In the library, No. of Titles, No. of volumes, National Journals and International Journals available are 37816, 134887 and 7361 respectively. The Institution has language lab for improving communication skills. Mineral drinking water facility, canteen facility and Bank facilities are available within premise of the college. Wi-Fi and CCTV facility is available in the institute and Hostels.

Student Support and Progression

The institute has Indoor Sports Complex which houses, two International level Squash courts, Chess, Multi Gymnasium and Yoga/Aerobics hall. The facilities for outdoor sports are: football, basketball, cricket, Volleyball, Throw ball, Kho-Kho, Ball badminton, and Synthetic Tennis court. The college encourages the students to take part in cultural activities that enable them to showcase their talent and creativity in the form of dance, music, art, literature, theatre, fashion and management etc., in various intra and inter-collegiate, regional, state and national levels. There is Center of Performing Arts established to cater to various cultural requirement, training and nurturing of student talents. The most notable teams representing Centre for Performing Arts are MUDRA – Indian Contemporary Dance Group, Samudra- The Music Group, ABD – Western Hip Hop Dance Group, CK-6 Western Dance Group and Rhythmic Rockers – Bollywood Dance Group.

The placement and training cell and CIL (Centre for Innovative Learning) conducts the training program about placements and higher studies. The average placement is about 61 percent and averages of 200 students are admitted for higher studies in reputed educational institutes across globe every year.

Maintenance Department of Dayananda Sagar College of Engineering consists of one Chief Civil Engineer, Two Supporting Civil Engineers and one electrician and two carpenters who maintain the physical infrastructure. The institute has Power Backup by using the Solar Power. The Alumni association is registered with Government of Karnataka Registration No: DRB-2/SOR/03/2016-17. Alumni are contributing through their participation in preplacement trainings, technical talks, mentoring students and in placements.

The Institute has grievance redressal mechanism to address grievances such

as ragging, sexual harassment and drug addiction. The Institute has a well-established scholarship cell which encourages the backward class and other social challenged students in getting government scholarship. The Institute has a good proctorial system with students grouped into small groups of 20 to 25 and a faculty being made in-charge of the group. The Proctor allocated from the department coordinates with each student of the group and acts as an pseudo parent in addressing all the issues of the student to ensure overall growth of the student during their study. Students are counseled regularly by the proctors and the parents/guardians are regularly kept in the loop to make them aware of academic progress of their ward to monitor each student academic activities. At each department mentoring and monitoring committee is constituted to monitor top and bottom scoring students.

Governance, Leadership and Management

The Institutional Vision, Mission and Leadership are implemented using a well-framed administrative set up conforming to the norms of the regulatory bodies. The Governing Body of the College comprises of representatives from management, Industry, academia and regulating agencies like UGC, AICTE and VTU. Important decisions regarding administration affairs and policy matters are taken in the regular meetings and the implementation is reviewed by the Governing body, Academic body and the members of other committees. The day-to-day management of the college is vested with the principal & committees with the help of IQAC. All the HOD's & Staff interact with the institutional stakeholders, viz., the students, parents and alumni to take care of students' progress. Service rules for staff are framed by management to give clear instructions for the staff to work in the institute. Code of conduct to staff and students along with student guidelines help the staff and students to maintain decorum and discipline in the college. The institution has also got effective welfare measures for teaching and non-teaching staff and avenues for career development/ progression. Implementation of the e-governance in areas of operation such as in Administration, Finance and Accounts, Student Admission and Support & in the Examination process is carried out in the institute. Teachers are provided with support to attend conferences, workshops. A number of activities are being conducted in the various departments such as conferences, workshops, seminars, webinars, hackathons, FPDs, training programmes, etc. Teachers also are made to attend professional development programmes. Institution conducts internal and external audits regularly. Funds & grants are received from bodies, individuals, philanthropists towards the staff & student development of the departments in the college. The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through BOS, IQAC, which is also involved in the accreditation and ranking activities such as in the NIRF, NBA, NAAC, ISO & other national and international rankings.

Institutional Values and Best Practices

Dayananda Sagar College of Engineering (DSCE) has been regularly conducting various activities that are necessary to inculcate the ethical values and social responsibilities among the students. DSCE has organized various activities in the form of workshops, seminars, cultural events, commemorative days and campaigns, for practicing gender equality, understanding fundamental duties and rights, promoting universal values and preserving the importance of nationalism etc. National Service Scheme (NSS) is one of the driving forces for these activities. DSCE regularly practices gender sensitivity by planning proper action plan. There are set policies for code of conduct for students and staff, students with disabilities, and to maintain ecofriendly campus.

DSCE implemented Environmental management system in the campus and it is ISO 14001:2015 certified.

Institute is following a systematic approach for disposal of degradable and non-degradable waste. The institute has waste water treatment plant; the treated water is used for horticulture purpose. The Institute is continuously engaged for making the campus eco-friendly by installing LED bulbs/ tubes and solar energy systems for conservation of energy. Rain water harvesting system has been installed in the campus. The Institute undertakes tree plantation to neutralize carbon. The Institute conducted Quality audit that includes Green campus management audit, Water audit, Energy audit, Waste management audit, and Environment audit. Different activities are conducted with specific themes in order to develop inclusive environment in the campus. Majority of these activities are conducted under the umbrella of: Centre for Performing Arts (CPA), National Service Scheme (NSS). Institute organizes different activities to build communal socio economic harmony among the society. Best practices can help organizations to fill the knowledge gaps, improve efficiency, encourage leadership, and more. DSCE is following two best practices which are: Proctor system for students and Project open day.

College has distinctive unique approach of industry institute interaction that is “Engineering Conclave” for self-augmentation, which bridges the gap between academia & industry. The event mainly aims at designing or updating the syllabus and organizing workshops, conferences to meet industry requirements and needs.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	DAYANANDA SAGAR COLLEGE OF ENGINEERING
Address	Dayananda Sagar College of Engineering Shavige Malleswara Hills, Kumaraswamy Layout Bengaluru 560078
City	Bengaluru
State	Karnataka
Pin	560078
Website	www.dsce.edu.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	C P S Prakash	080-42161753	9448667198	080-26660789	ppl-dsce@dayanandasagar.edu
IQAC / CIQA coordinator	Dr. Ravishankar	080-42161740	9448327476	080-42201997	hod-chml@dayanandasagar.edu

Status of the Institution	
Institution Status	Self Financing

Type of Institution	
By Gender	Co-education
By Shift	Regular

Recognized Minority institution	
If it is a recognized minority institution	No

Establishment Details	
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Date of Establishment, Prior to the Grant of 'Autonomy'	01-01-1979
Date of grant of 'Autonomy' to the College by UGC	06-06-2015

University to which the college is affiliated

State	University name	Document
Karnataka	Visvesvaraya Technological University	View Document

Details of UGC recognition

Under Section	Date	View Document
2f of UGC	30-09-2015	View Document
12B of UGC		

Details of recognition/approval by stationary/regulatory bodies like AICTE, NCTE, MCI, DCI, PCI, RCI etc (other than UGC)

Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day, Month and year (dd-mm-yyyy)	Validity in months	Remarks
AICTE	View Document	31-07-2020	12	

Recognitions

Is the College recognized by UGC as a College with Potential for Excellence (CPE)?	No
Is the College recognized for its performance by any other governmental agency?	No

Location and Area of Campus				
Campus Type	Address	Location*	Campus Area in Acres	Built up Area in sq.mts.
Main campus area	Dayananda Sagar College of Engineering Shavige Malleswara Hills, Kumaraswamy Layout Bengaluru 560078	Urban	23	88962

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Programme/Course	Duration in Months	Entry Qualification	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	Integrated(UG),Chemical Engineering	48	II PUC	English	60	31
UG	Integrated(UG),Automobile Engineering	48	II PUC	English	60	31
UG	Integrated(UG),Mechanical Engineering	48	II PUC	English	180	104
UG	Integrated(UG),Industrial Engineering And Management	48	II PUC	English	60	30
UG	Integrated(UG),Telecommunication Engineering	48	II PUC	English	120	81
UG	Integrated(UG),Medical Electronics	48	II PUC	English	60	43
UG	Integrated(UG),Computer	48	II PUC	English	240	198

	Science And Engineering					
UG	Integrated(U G),Information Science And Engineering	48	II PUC	English	120	120
UG	Integrated(U G),Artificial Intelligence And Machine Learning	48	II PUC	English	60	58
UG	Integrated(U G),Biotechnology	48	II PUC	English	60	44
UG	Integrated(U G),Civil Engineering	48	II PUC	English	180	109
UG	Integrated(U G),Electrical And Electronics Engineering	48	II PUC	English	120	92
UG	Integrated(U G),Electronics And Communication Engineering	48	II PUC	English	240	185
UG	Integrated(U G),Electronics And Instrumentation Engineering	48	II PUC	English	60	32
UG	Integrated(U G),Aeronautical Department	48	II PUC	English	60	45
PG	Integrated(P G),Mechanical Engineering	24	BE	English	18	3

PG	Integrated(P G),Mechanical Engineering	24	BE	English	18	9
PG	Integrated(P G),Telecommunication Engineering	24	BE	English	18	10
PG	Integrated(P G),Computer Science And Engineering	24	BE	English	18	6
PG	Integrated(P G),Information Science And Engineering	24	BE	English	18	10
PG	Integrated(P G),Civil Engineering	24	BE	English	18	14
PG	Integrated(P G),Construction Technology And Management	24	BE	English	18	13
PG	Integrated(P G),Electrical And Electronics Engineering	24	BE	English	18	10
PG	Integrated(P G),Electronics And Communication Engineering	24	BE	English	18	11
PG	Integrated(P G),Electronics And Communication Engineering	24	BE	English	18	9
PG	Integrated(P G)	24	BE	English	18	6

	G),Electronics And Instrumentation Engineering					
PG	Integrated(PG),Master Of Computer Applications	24	UG with Maths in II PUC	English	60	60
PG	Integrated(PG),Master Of Business Administration	24	UG	English	120	120

Position Details of Faculty & Staff in the College

Teaching Faculty												
	Professor				Associate Professor				Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	0				0				0			
Recruited	0	0	0	0	0	0	0	0	0	0	0	0
Yet to Recruit	0				0				0			
Sanctioned by the Management/Society or Other Authorized Bodies	44				53				316			
Recruited	32	12	0	44	29	24	0	53	141	175	0	316
Yet to Recruit	0				0				0			

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				192
Recruited	118	74	0	192
Yet to Recruit				0

Technical Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				115
Recruited	90	25	0	115
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	31	12	0	24	23	0	33	22	0	145
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	1	0	0	5	1	0	108	153	0	268

Temporary Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

Part Time Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

Details of Visting/Guest Faculties				
Number of Visiting/Guest Faculty engaged with the college?	Male	Female	Others	Total
		0	0	0

Provide the Following Details of Students Enrolled in the College During the Current Academic Year

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
UG	Male	643	320	0	0	963
	Female	304	65	0	0	369
	Others	0	0	0	0	0
PG	Male	158	7	0	0	165
	Female	111	6	0	0	117
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years					
Programme		Year 1	Year 2	Year 3	Year 4
SC	Male	81	90	89	79
	Female	42	44	38	39
	Others	0	0	0	0
ST	Male	15	23	29	18
	Female	6	7	9	11
	Others	0	0	0	0
OBC	Male	318	438	425	462
	Female	145	192	163	182
	Others	0	0	0	0
General	Male	714	802	872	694
	Female	293	254	265	266
	Others	0	0	0	0
Others	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
Total		1614	1850	1890	1751

2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

Department Name	Upload Report
Aeronautical Department	View Document
Artificial Intelligence And Machine Learning	View Document
Automobile Engineering	View Document
Biotechnology	View Document
Chemical Engineering	View Document
Civil Engineering	View Document
Computer Science And Engineering	View Document
Construction Technology And Management	View Document
Electrical And Electronics Engineering	View Document
Electronics And Communication Engineering	View Document
Electronics And Instrumentation Engineering	View Document
Industrial Engineering And Management	View Document
Information Science And Engineering	View Document
Master Of Business Administration	View Document
Master Of Computer Applications	View Document
Mechanical Engineering	View Document
Medical Electronics	View Document
Telecommunication Engineering	View Document

Institutional preparedness for NEP

1. Multidisciplinary/interdisciplinary:	<p>The curriculum is being worked out as per the Visvesvaraya Technological University guidelines to implement NEP-2020 in phases to the new academic batch starting from 2021-2022. Accordingly syllabus is framed with a multidisciplinary approach wherein students in first year will have exposure to basic branches of Engineering and basic sciences. A course on ability enhancements is introduced to bring the awareness to the students on Rural Development. This will give opportunity to the students to interact with other discipline students and faculty and use the lab of other discipline. To improve communication and presentation skills in English, students will be</p>
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	<p>undergoing a credit course in English. We have introduced mini project work to facilitate the students to implement what they learn in the course in the form of an analysis work, case study or development, presentation skills and realization of application of what they learn during their course work.</p>
2. Academic bank of credits (ABC):	<p>The guidelines from the affiliation university: Visvesvaraya technological University is awaited for implementation. VTU has indicated that the guidelines regarding the academic bank of credits will be notified after getting the National Qualification Framework by UGC, new Delhi.</p>
3. Skill development:	<p>In order to provide necessary skills to the students to supplement the coursework that they undergo in each semester, we have introduced skill development training to the first year students from 2021-2022.</p> <p>The skill training will be on: Personal Effectiveness: Meeting the daily challenge of managing professional and personal responsibilities requires a strategy designed to meet individual needs. the pressure to find innovative ways to achieve goals, pay attention to the competition, respond quickly to both internal and external customer needs, and enjoy life outside work is even more intense in today's fast-paced, ever-changing, competitive environment. We just never seem to have enough time. the reality is we all have the same amount of time but it is how we use our time that makes the difference. Students will be trained on major inhibitors of personal effectiveness such as: lack of understanding of oneself, poor management of time, Ineffective stress management.</p> <p>Hands on Training on Python Programming: It is an emerging and powerful programming language. It is used to build website, software, automate tasks and conduct data analysis. Students will get job opportunities in various IT Industries. Students can pursue their career in Artificial Intelligence, Machine learning & Data Science using the Python Program.</p> <p>The main objective of this skill development program is to acquire programming skills and enable students with problem solving & programming capability in Python. 3D printing Technology: 3D printing makes it possible to produce objects with much more complex structure than traditional manufacturing methods and is likely to become the go-to manufacturing process for many different areas in manufacturing. AutoCAD certified program: Product</p>

	<p>visualization and conceptualization is a crucial aspect of the design process of every engineering. It allows us to get a better idea of the final product, far before we even get close to sending design of the part or assembly off to production.</p>
<p>4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):</p>	<p>To give impetus on Indian language, all the students will undergo a credit course in kannada as they enter second year. This will enable the students to know more about speaking and writing more language and they will be in a position to network locally. From 2021-2022 batches, we have introduced at first year level a course on Indian Education System and Rural Development. Course on Indian Education System gives exposure to distinguish different levels in Indian education systems, to analyze policies implemented to apply the acquired knowledge in the learning process. Similarly the course on Rural Development provides students with knowledge of sustainable rural development and building competence to implement them for different conditions in their hometowns.</p>
<p>5. Focus on Outcome based education (OBE):</p>	<p>We have adopted to outcome based education across all branches of DSCE. it is a student-centered learning philosophy that focuses on measuring student performance, which is called outcomes. Outcome based education gives recognition to students for the knowledge, skills and attitudes they have acquired. Faculty across DSCE assess and collect data on students learning outcomes and aim at better and effective teaching learning process. Practicing outcome based education enables faculty to clearly focus and organize everything on what is essential on students to be able to do successfully at the end of their learning experiences. This means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, instructions, and assessment to make sure that the desired learning ultimately happens.</p>
<p>6. Distance education/online education:</p>	<p>To give students opportunity to learn on emerging technologies, students are given online credits score through SWAYAM and NPTEL. From third year till the students come to eighth semester end examination, students are given opportunity to go through a two credit online certification course. The respective course faculty advise students on the kind of online course that they can taken up so that it</p>

becomes a good value add to them in term of knowledge enhancement with better learning outcomes.

NAAC

Extended Profile

1 Program

1.1

Number of programs offered year-wise for last five years

2020-21	2019-20	2018-19	2017-18	2016-17
28	31	31	35	35
File Description		Document		
Institutional data in prescribed format		View Document		

1.2

Number of departments offering academic programmes

Response: 18

2 Students

2.1

Number of students year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
6647	6866	7090	7218	7304
File Description		Document		
Institutional data in prescribed format		View Document		

2.2

Number of outgoing / final year students year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1777	1866	2055	1937	1852
File Description		Document		
Institutional data in prescribed format		View Document		

2.3**Number of students appeared in the examination conducted by the Institution, year-wise during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
6647	6866	7090	7218	7304
File Description		Document		
Institutional data in prescribed format		View Document		

2.4**Number of revaluation applications year-wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
0	227	1036	898	443

3 Teachers**3.1****Number of courses in all programs year-wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
1272	1266	1260	1292	1229
File Description		Document		
Institutional data in prescribed format		View Document		

3.2**Number of full time teachers year-wise during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
413	412	422	488	470
File Description		Document		
Institutional data in prescribed format		View Document		

3.3

Number of sanctioned posts year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
413	412	422	488	470
File Description		Document		
Institutional data in prescribed format		View Document		

4 Institution**4.1****Number of eligible applications received for admissions to all the programs year-wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
1612	1719	1802	1652	1788
File Description		Document		
Institutional data in prescribed format		View Document		

4.2**Number of seats earmarked for reserved category as per GOI/State Govt rule year-wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
517	517	517	458	458
File Description		Document		
Institutional data in prescribed format		View Document		

4.3**Total number of classrooms and seminar halls****Response: 123****4.4****Total number of computers in the campus for academic purpose****Response: 2212**

4.5

Total Expenditure excluding salary year-wise during last five years (INR in Lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
3643.91	5184.66	5619.67	5069.32	5347.50

NAAC

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curriculum Design and Development

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific Outcomes(PSOs) and Course Outcomes(COs) of the Programmes offered by the Institution.

Response:

Dayananda Sagar College of Engineering is an autonomous institute constantly endeavoring to update the existing curricula, so as to address the challenges faced by the Industry and the society under the changing global scenario. The Institution has adopted Outcome Based education and designed various OBE elements such as PEO, PO, PSO and CO's for the various academic programmes to strengthen the (enrich the quality) curriculum design.

The curriculum is designed considering :

- Guidelines provided by UGC, AICTE and VTU
- Inputs from Professional body, alumni and Industry experts
- Syllabus of premier institutions

The Board of Studies (BOS) and Academic Council (AC) have domain experts as members and syllabi of all the programmes are framed by taking the suggestions from stake holders.

The Institute has a practice to organize Industry Conclave to revamp the curriculum as per the current trends in technology. Industry experts are invited stream wise to discuss the technology and subjects that are to be introduced in the curriculum. The institute effectively uses the autonomous status and comes up with unique courses and also revises the curriculum frequently based on the needs and suggestions of stake holders.

Procedures followed during the curriculum design :

1. Basic course structure is prepared by the faculty of the programme.
2. Course owners will prepare the detailed syllabus of the courses offered by the department.
3. Course outcomes are defined for all courses
4. Detailed syllabus is discussed with the domain experts during BOS meeting
5. The final version of the scheme and syllabus is presented to the academic council for approvals.

The courses are developed / adopted relevant to the local, national and global developmental needs. Some of the courses are :

Sl. No.	Courses in the Curriculum	Government of India's initiative	Justification
1	Environment Engineering –I	CSIR - National Environmental Engineering	CSIR - National Environmental Engineering Research Institute and Indian Water Works

		Research Institute, Indian Water Works Association	Association provides the effective & innovative sustainable development to the society
2.	Building Materials and Construction Practices	Bureau of Indian Standards	Bureau of Indian Standards provides the set of regulations to follow up during construction practices
3	Water resources engineering	Central Board Of Irrigation And Power, National Fluid Power Association	Central Board Of Irrigation And Power and National Fluid Power Association provides insight about surface runoff, precipitation, power generation and design of irrigation structures
4	Electrical Safety, Operations and Regulations	Indian Electricity Grid Code by Central Electricity Regulatory Commission	The IEGC set technical and commercial rules, encompassing all the utilities connected to/or using the inter-state transmission system. It includes ISTS, SLDC, RLDC, NLDC, RPC, & power exchanges.
5	Solar Energy Harvesting	National Solar Mission	In this subject, will study the solar energy harvesting techniques and helps to design a solar cells. National Solar Mission is the initiative taken by government of India to promote solar power.
6	Block Chain	National Strategy on Block chain Government of India Ministry of Electronics and Information Technology (MeitY) January 2021	This course includes Block chain technology, platforms, security and privacy aspects in blockchain networks.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

<p>1.1.2 Percentage of Programmes where syllabus revision was carried out during the last five years.</p> <p>Response: 100</p>
<p>1.1.2.1 Number of all Programmes offered by the institution during the last five years.</p> <p>Response: 28</p>
<p>1.1.2.2 How many Programmes were revised out of total number of Programmes offered during the last five years</p> <p>Response: 28</p>

File Description	Document
Minutes of relevant Academic Council/BOS meeting	View Document
Details of program syllabus revision in last 5 years(Data Template)	View Document
Any additional information	View Document

1.1.3 Average percentage of courses having focus on employability/ entrepreneurship/ skill development offered by the institution during the last five years

Response: 59.09

1.1.3.1 Number of courses having focus on employability/ entrepreneurship/ skill development year-wise during the last five years..

2020-21	2019-20	2018-19	2017-18	2016-17
837	729	697	740	731

File Description	Document
Programme / Curriculum/ Syllabus of the courses	View Document
MoU's with relevant organizations for these courses, if any	View Document
Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses	View Document
Average percentage of courses having focus on employability/ entrepreneurship(Data Template)	View Document

1.2 Academic Flexibility

1.2.1 Percentage of new courses introduced of the total number of courses across all programs offered during the last five years.

Response: 8.99

1.2.1.1 How many new courses are introduced within the last five years

Response: 571

1.2.1.2 Number of courses offered by the institution across all programmes during the last five years.

Response: 6353

File Description	Document
Minutes of relevant Academic Council/BOS meetings	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

1.2.2 Percentage of Programmes in which Choice Based Credit System (CBCS) / elective course system has been implemented (Data for the latest completed academic year).

Response: 100

1.2.2.1 Number of Programmes in which CBCS / Elective course system implemented.

Response: 28

File Description	Document
Minutes of relevant Academic Council/BOS meetings	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

1.3 Curriculum Enrichment

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics ,Gender, Human Values ,Environment and Sustainability into the Curriculum

Response:

Dayananda Sagar College of Engineering is an Institution which aims at holistic growth of the students by integrating crosscutting issues relevant to the Professional ethics, Environment and sustainability, Human values in to the curriculum. It also organizes lecture series, conferences, and talks from experts. NSS organizes awareness programmes on health and environment, blood donation drive, camps on social responsibilities.

1. **Human Values:** To inculcate ethical, social and moral values, the institution has organized expert talks from learned people, yoga and meditation classes. The other activities that have been organized under NSS are blood donation camps, Swatch Bharath Abhiyan and visit to Government schools, orphanage and old age homes. During Induction programme for the first year UG students, a series of lecture classes were organized on Universal Human Values.

Courses offered by the institute are:

Sl. No	Name of the Course	Course Code	Course offered
1	Human Resource Management	17IM6DEHRM	BE-IEM
2	Organizational Behavior	17IM7DEOBE	BE-IEM
3	Rural Infrastructure and Community Development	IECT76X	BE-CTM
4	Human Resource Management & Organizational Behavior	19MBA21	MBA
5	Leadership and Team Development	19MBAHR43	MBA

b) Professional Ethics :

Constitution of India and Professional ethics are the courses offered to the entire first year UG programme. To give exposure to professional practices, departments are organizing Industrial visits, talks from professional bodies like IEEE, ACM, etc...

Following courses are introduced by the Institute :

Sl. No	Name of the Course	Course Code	Course offered
1	Management and Entrepreneurship	17HS5ICMEP	All BE-Programmes
2	Medical Innovation Process	ML55	BE-ML
3	Cyber Forensics	18DCN331	M.Tech-DCN
4	Business, Government and society	19MBA13	MBA
5	Principles of Management	19MBA11	MBA
6	Professional communication and ethics	18MCA16	MCA
7	Research Methodology	18RMI17	All M.Tech Programmes & MCA
8	Cyber security	18MCA561	MCA
9	Cyber Law	18MCA562	MCA

c) **Environment and Sustainability:** Dayananda Sagar College of Engineering organizes many awareness programmes such as: Tree plantation drive, Swach Bharath Abhiyan, E-waste and Plastic eradication, water pollution etc... under NSS and as a part of Institution and Social Responsibility activity.

Number of courses introduced by the Institute :

Sl. No	Name of the Course	Course Code	Course offered
1	Automotive Pollution and Control	AU 74	BE- AU
2	Renewable Energy Sources	IEAU761	BE-AU
3	Alternative Energy Sources for Automobiles	18AU7DEAES	BE-AU
4	Environmental Engineering	CV42	BE-Civil
5	Solid Waste Management	CV563	BE-Civil
6	Industrial Wastewater Treatment	CV813	BE-Civil
7	Environmental Impact Assessment	IECV76X	BE-Civil
8	Air Pollution & Control	CV653	BE-Civil
9	Electric and Hybrid vehicles.	EE751/ 17EE7DEHEV	BE-EEE
10	Introduction to smart grid	EE651/17EE6DEISG	BE-EEE
11	Solar Energy Harvesting	18EVS251	M.tech- VLSID & ES
12	Green Computing	18IS7DEGCT	BE-ISE

File Description	Document
Upload the list and description of the courses which address the Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum	View Document

1.3.2 Number of value-added courses for imparting transferable and life skills offered during last five years.

Response: 36

1.3.2.1 How many new value-added courses are added within the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
5	10	6	9	6

File Description	Document
List of value added courses (Data Template)	View Document
Brochure or any other document relating to value added courses	View Document

1.3.3 Average Percentage of students enrolled in the courses under 1.3.2 above.

Response: 5.28

1.3.3.1 Number of students enrolled in subject related Certificate or Add-on programs year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
445	471	293	429	204

File Description	Document
List of students enrolled	View Document
Any additional information	View Document

1.3.4 Percentage of students undertaking field projects/ internships / student projects (Data for the

latest completed academic year)

Response: 61.26

1.3.4.1 **Number of students undertaking field projects / internships / student projects**

Response: 4072

File Description	Document
List of programs and number of students undertaking field projects / internships / student projects (Data Template)	View Document
Any additional information	View Document

1.4 Feedback System

1.4.1 **Structured feedback for design and review of syllabus – semester-wise / year-wise is received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni**

Response: A. All 4 of the above

File Description	Document
Any additional information	View Document
Action taken report of the Institution on feedback report as minuted by the Governing Council, Syndicate, Board of Management	View Document
URL for stakeholder feedback report	View Document
Link for Additional Information	View Document

1.4.2 **The feedback system of the Institution comprises of the following :**

Response: A. Feedback collected, analysed and action taken and report made available on website

File Description	Document
Any additional information	View Document
URL for stakeholder feedback report	View Document
Link for Additional Information	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average Enrolment percentage (Average of last five years)

Response: 85.32

2.1.1.1 Number of students admitted year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1330	1407	1481	1419	1565

2.1.1.2 Number of sanctioned seats year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1680	1680	1680	1700	1700

File Description	Document
Institutional data in prescribed format (Data Template)	View Document
Any additional information	View Document
Link for Additional Information	View Document

2.1.2 Average percentage of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc. as per applicable reservation policy) during the last five years (exclusive of supernumerary seats)

Response: 69.09

2.1.2.1 Number of actual students admitted from the reserved categories year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
409	102	337	409	422

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Link for Additional Information	View Document

2.2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners

Response:

DSCE being autonomous follows CBCS, Choice Based Credit System. Advanced learners and slow learners are identified based on their interaction in the classes, labs and in their performance in the continuous evaluations (tests & examinations).

In order to encourage the advanced learners, Institution provides various platforms to enhance their learning capabilities. Alternate assessment tools like group discussions, quizzes, assignments, debates, seminars, certification courses, etc. are organized to assess their overall performance. Mini-projects are given to the students to improve their creative thinking on various problems in the interdisciplinary areas and develop their practical skills in model development.

Technical talks, Guest lectures by Industry experts, Webinars, etc. are organized to expose the students on recent advances in different technologies. Student coordinators, Various technical activities like Hackathons, Ideathons, Programming contests, Professional society chapter activities, Student club activities, Project exhibitions, Poster presentations, etc. are regularly conducted in the departments to enhance the learning capabilities of the advanced learners. With these extra activities, advanced learners are exposed to new technologies in various fields and are made to get acquainted with the industrial needs. Also, students are tuned to have leadership capabilities during the project works and learn how to work in teams by learning project management skills. Students are encouraged to attend conferences and make presentation of the papers and publish them in journals. Advanced learners are encouraged to take up competitive exams like GRE, GATE, CAT, MAT, GMAT, TOFEL, UPSC, Civil services examinations etc. To enhance the skill-set among the advanced learners, challenging tasks are given to them to solve.

In order to encourage the slow learners, the Institution shows extra interest in boosting their confidence and showing the paths, making them confident that they do not fall behind anyone else, so that they can reach to the advanced learner levels. Such students are supervised regularly to develop independent thinking and creative skills. Slow learners are monitored for continuous improvement by their respective course faculty, thus showing their progress and monitoring their academic progress through the proctorial system. Some of the techniques for providing support to slow learners are as follows.

Remedial classes are conducted for failed students in the tests. Tutorial classes are conducted for slow learners, previous year question papers are discussed and make them to solve. During the remedial classes, course faculty will discuss major topics that are essential for the course along with those topics that students require assistance such as in problem solving, derivations, etc. Additional numericals are given to

slow learners to improve their analytical & problem-solving skills. Students are motivated to attend workshops to gain hands on experience in the usage of modern tools.

Extra assignments from the self-study components of the course are given to them for practice purposes so that their learning capability increases and the students come up with new thoughts. Faculty also provides the study materials, supporting materials, PPTs, Notes, e-contents, Video lectures, Programming, Question-banks, Extra numericals to increase their learning capability.

File Description	Document
Link for Additional Information	View Document

2.2.2 Student - Full time teacher ratio (Data for the latest completed academic year)

Response: 16:1

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

2.3 Teaching- Learning Process

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

Response:

DSCE believes in adoption of student's centric methods to enhance student involvement at various levels as a part of participative learning and problem-solving methodology.

In order to encourage students to solve complex engineering problems, faculties motivate them by giving on the spot problem solving questions. Students are encouraged to think beyond the syllabus by developing projects and implementing them in the form of models, which are useful to the society. Events are conducted in the departments to facilitate the students to gain knowledge to learn beyond the courses with respect to what is prescribed in syllabus. Students are also given priority to take up problem statements as part of the research and work towards publishing papers along with proposal submissions.

Majority of the classrooms are equipped with projectors to enable the faculty for teaching the students to provide a better visual understanding of the courses being taught. Teachers make the classes as interactive as possible, encourage innovative thoughts and novel interpretations. Audio-Visual methodology, Language Lab, Google Classroom, Industrial Visits, Field Works, Team works, Debates, Quizzes, Case Studies are some of the means which are utilized by the departments to provide experiential and participative learnings.

Departments are having departmental libraries for quick access of books which are related to different areas of engineering. NPTEL lecture videos, e-books, project reports, e-journals are accessed in the college library and in the campus. Tools like Matlab, MI power, Pspice, LabVIEW, Ansys, Multisym, Cadence, HFSS, Kiel, Java, C, Python, Visual Basic, Oracle, RDBMS, etc... are used by the faculties for effective teaching & to implement project-based learning concepts.

In order to develop innovative ideas and scientific knowledge amongst the student community, departments organize various state level and national level technical activities in association with student clubs & professional society chapters like ASI, ISA, IE, IET, ASME, IEEE, CSI, SAE India Collegiate Club, ISOI, IChE, ECSI, IWWA, ISTE, ICI, ACM, IGBC, IVES, IIIE, ISE, ORSI, ASI, ICBI, ISHRAE, IIF, AMI, IETE, etc. for enhancing the participative learning & experiential learning ideas.

Students are encouraged to do mini and main-projects, poster presentations and exhibit the same to showcase their creative & hidden talents. Also, they are encouraged to participate in project and quiz competitions to enhance their learning experiences. Flip-classes and cooperative-learning methods are used for enhancing the learning capability of the students. Activities like hands-on sessions and coding competitions are organized to encourage the students in imbibing better programming, learning and thinking skills. Students are encouraged to take part in conferences and also present their work in suitable forums.

Various technical societies and student chapters of National/International Associations are active in the departments and students are encouraged to present technical papers at National/International Conferences conducted at the college. Invited talks, Seminars, Webinars, Faculty Development Programmes, Workshops, Symposiums, Training programmes, Technical talks, Guest Lectures, etc. are organized in the departments to enhance the students' knowledge upgradation and group activity skills. The Institution also promotes writing of articles by the students in college magazines & in newsletters.

File Description	Document
Link for Additional Information	View Document

2.3.2 Teachers use ICT enabled tools including online resources for effective teaching and learning process.

Response:

Today, it is essential for the students to learn and master the latest technologies in order to be corporate ready. To facilitate this, teachers are combining technology with traditional mode of instructions to engage students in long-term learning. DSCE uses Information and Communication Technology (ICT) in education to support, enhance & optimize the delivery of education. Majority of the classrooms and labs are ICT enabled with projectors installed & the campus being enabled with high speed wi-fi broadband internet and LAN connectivity.

Faculties use various ICT enabled tools to enhance the quality of teaching-learning like-Google classroom (to manage and post course related informations), Virtual labs (to conduct labs through simulations), Google forms (On-line Quiz tools). e-materials like lab videos, notes, etc. are displayed on website for

benefit of students. Students are encouraged to register for various on-line course certifications, training programmes & internships. ICT Tools used in the institution for the teaching-learning process include the projectors, desktop, laptops, mobiles, smart boards, i-pads, audio-video facility.

Online classes & proctor meetings are conducted through Zoom, Google Meet, etc. What's Up groups, Group e-mail ids, Telegrams are used for various types of interactions with the students & the stakeholders. MOOCs, NPTEL, Coursera, SAP, Udemy, etc. are used as few of the learning platforms for effective teaching-learning process. In addition to chalk and talk method of teaching, faculty members use the IT enabled learning tools like video clippings, demos, online resources, to expose students to get good knowledge and practical learning.

Faculties use interactive methods for teaching & the major emphasis is on classroom interaction in terms of research paper presentations, seminars, debates, group discussions, assignments, quiz/tests/viva and laboratory work. DSCE's own E-Governance portal (smart campus-ERP) is used for various activities such as attendance, marks, informing parents & maintaining the student database along with academic calendar, lesson plan, Time table, lab manuals.

Power Point Presentations-Faculties are encouraged to use ppt's in their teaching by using laptops/desktops and projectors, online search engines, you-tube videos and websites to prepare for effective presentations. Students use ICT facilities in the departments for presentation purposes.

Industry Connect-Seminar and Conference room are digitally equipped where guest lectures, expert talks and various competitions are regularly organized for students.

ICT Facilities are being made available in the various Learning Centres such as in the Classrooms, Laboratories, Board room, Conference & Seminar Halls, Auditorium, Digital Libraries, Wi-Fi areas, Central & Departmental Libraries.

Online quiz, project reviews & surveys-Faculties prepare online quiz for students with the help of google forms, conduct project reviews & take exit surveys.

Lab videos-is made available to the students for long term learning and future referencing.

Online competitions-Variou technical and management events are being organized with the help of various modern Information Communication Tools.

Workshops-Teachers use various ICT tools for conducting workshops on various topics.

Digital library is utilized by students to get exposed to various digital contents of the notes, project reports, magazines, dissertations, video-lectures, journals, conference proceedings, e-books, etc.

File Description	Document
Any additional information	View Document
Provide link for webpage describing ICT enabled tools including online resources for effective teaching and learning process	View Document
Link for Additional Information	View Document

2.3.3 Ratio of students to mentor for academic and other related issues (Data for the latest completed academic year)

Response: 17:1

2.3.3.1 Number of mentors

Response: 386

File Description	Document
Upload year wise, number of students enrolled and full time teachers on roll	View Document
Circulars pertaining to assigning mentors to mentees	View Document

2.3.4 Preparation and adherence of Academic Calendar and Teaching plans by the institution

Response:

In order to bring in smooth functioning of academics and to maintain a vibrant learning environment, the college & departmental activities are well-planned, organized at the beginning of every semester in the form of an academic calendar. The department calendar of events is prepared in-line with university and institutional calendar of events prior to commencement of every semester. The purpose is to plan all the activities in the beginning of the semester itself so that the students are well aware of all academic & other activities.

The key points followed to ensure the enhancement of the effective teaching-learning plans are... planning at department, faculty, course conduction & evaluation levels. All types of academic & curricular activities like Continuous Internal Assessment dates, Theory & Laboratory examination dates, Marks display & Attendance status, Vacations, Proctor Meetings, Remedial Classes, Students club activities, Holidays, Term starting & ending dates, Total working days, Activity dates, Project & Seminar plans are displayed in the academic calendar with a view to continuously improve the quality of teaching learning process.

Keeping in view of the departmental calendar, individual faculty members create Course and Lesson Plans for their various theory & laboratory courses to deliver course contents effectively. Work diary and attendance registers are maintained by each faculty to record day-to-day academic activities, which are reviewed by head of the department regularly. The day-to-day academic activities are also updated on a daily basis on the E-Governance (ERP) portal. Subject allotment is done well before the start of semester

to allow staff to prepare their lecture plan and deliver the course. After the subject allotment, time-table for the semester will be prepared by respective time-table coordinator.

Course coordinator prepares a common course file incorporating the study materials such as notes, ppts, question papers, scheme and solutions of internal question papers/semester end examination question papers, model question papers, syllabus, module-wise or unit-wise question banks, extra reading materials, assignments, quizzes, alternate assessment tools, e-resources, student details, result analysis. For each course, there will be a course mentor/coordinator, who will monitor and coordinate with course teachers for smooth handling of course throughout the semester.

Course teachers in coordination with course mentor prepares lesson plans for the course, according to calendar of events provided by department and adheres to it. Each faculty member provides a detailed lesson plan of the course and takes the concurrence of HOD before the semester starts. Once the lesson plan is approved, the faculty members make the teaching plans as per the time-table. The concerned faculties prepare teaching plan for their respective courses of 2/3/4 credits.

Similarly, teaching staff can also plan their academic & other activities such as their research and departmental developmental activities. Continuous Internal Assessment tests for theory courses and laboratory courses are planned and conducted for students along with quiz, assignments, AATs & evaluated. HoD monitors the coverage of portions regularly. The remedial classes, tutorial classes are conducted to fill up the gaps during the semester period. The semester ends with SEE examinations.

File Description	Document
Upload Academic Calendar and Teaching plans for five years	View Document
Link for Additional Information	View Document

2.4 Teacher Profile and Quality

2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years

Response: 100

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years (Data Template)	View Document
List of the faculty members authenticated by the Head of HEI	View Document
Link for Additional Information	View Document

2.4.2 Average percentage of full time teachers with Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. during the last five years (consider only highest degree for count)

Response: 26.71

2.4.2.1 Number of full time teachers with *Ph.D./D.M/M.Ch./D.N.B Superspeciality/D.Sc./D’Lit.* year wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
129	118	118	110	109

File Description	Document
Institutional data in prescribed format (Data Template)	View Document

2.4.3 Average teaching experience of full time teachers in the same institution (Data for the latest completed academic year in number of years)

Response: 7.84

2.4.3.1 Total experience of full-time teachers

Response: 3238

File Description	Document
Institutional data in prescribed format	View Document

2.5 Evaluation Process and Reforms

2.5.1 Average number of days from the date of last semester-end/ year- end examination till the declaration of results year-wise during the last five years

Response: 28

2.5.1.1 Number of days from the date of last semester-end/ year- end examination till the declaration of results year wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
28	28	28	28	28

File Description	Document
Institutional data in prescribed format (Data Template)	View Document
Link for Additional Information	View Document

2.5.2 Average percentage of student complaints/grievances about evaluation against total number appeared in the examinations during the last five years

Response: 0

2.5.2.1 Number of complaints/grievances about evaluation year wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	0	0	0

File Description	Document
Number of complaints and total number of students appeared year wise	View Document

2.5.3 IT integration and reforms in the examination procedures and processes including Continuous Internal Assessment (CIA) have brought in considerable improvement in Examination Management System (EMS) of the Institution

Response:

DSCE being autonomous follows CBCS. The performance of the student is evaluated with 50% waitage to the performance during semester and 50% to the semester end Exam. Out of the 50 marks of continuous internal assessment, 30 marks are for tests, 10 marks for assignments, 10 marks for quiz or any activity decided by course coordinator.

Continuous Internal Assessment System:

Three Continuous Internal Assessment (CIA) tests are conducted as per calendar of events. Each test paper consists of questions covering numericals, descriptive along with multiple choice questions based on the topics covered in class. The departmental test coordinators frame the internal test time-table as per calendar of events and course coordinator sends the test question paper to the HOD one week before internals. Test is conducted for a maximum of 50 marks for a duration of one & half hours and invigilated by staff. Test paper is set based on the Bloom's Taxonomy. Test question papers are reviewed by question paper review committee in the department based on various parameters, viz, course code & title, syllabus coverage and spelling mistakes before printing.

Revised question papers are sealed & taken for printing in exam section. Required number of question

papers are printed & kept in safe custody in HOD's office and are distributed to students at the commencement of test. The scheme and solution of the test question paper is prepared by the course coordinator for the respective course and blue books are evaluated based on the scheme and solution for 50 marks and scaled down to 10. Marks scored in tests are recorded and analyzed to counsel the students in subsequent proctor interactions. The solutions to the questions are explained in the class by the faculty after every internals, which enables students to perform better in the SEE. The test marks of 30 is then added to the 10 marks of assignment along with 10 marks of quiz, totalling to 50 marks of the particular course's CIE marks. Provision for make-up tests is given only for medical emergency cases.

Examination procedures:

Semester End Examinations (SEE-Regular/Make-up/Supplementary) are conducted as per time-table provided by the Controller of Examinations (CoE). To begin with, the CoE sends the process of examination conduction to the respective department heads to submit the scheme, syllabus, model question paper & panel of examiners for setting-up of question papers well before the start of SEE. Department then submits the afore said information to the CoE. Departmental Board of Examiners (BoE) identifies the suitable examiners (both external & internal examiners) in the relevant course for setting-up of Question Papers (QP) for the SEE in each of the courses of the respective semesters.

Once all the Question Papers are received, CoE schedules the Question Paper Scrutiny meet to be conducted by the BoE on a particular date. The scrutiny of question papers is done with one external subject expert, HOD (BoE Chairman) and 3-4 Faculties under supervision of the CoE/Deputy CoE at the scheduled date in examination section. Scrutiny committee thoroughly checks all question papers received as per the given template, i.e., whether the set questions are in syllabus or out of syllabus, whether there are any missing data to be provided, proper course codes & course names is written, proper distribution of marks is there or not, whether multiple choice questions are in proper order, whether choices are present or not. Question paper will be accepted if all conditions are met & rejected if deviations are found.

BoE Chairman finalizes the scrutinized papers & submits to the CoE-the results of the scrutiny process (rejected & accepted papers). During the semester term, semester end exams are announced by the examination section, the detailed time-table is being put up on the notice board and disseminated to all students & staffs of the institution. Final evaluation of the Projects, Seminars, Internship evaluations is done as per norms. After the SEE results are declared, make-up exams are conducted for students who have got X/I grade in immediate previous SEE and for those who miss regular exams due to health issues. The supplementary semester is conducted for students who have got F grade in previous semester for 5 courses not exceeding 16 credits.

IT Integration Processes:

Examination process is completely IT integrated & managed by the examination management system, which enables the different examination procedures for the fast processing of fee payment, registration, conduction, evaluation, announcement of results, Semester Grade Point Average & Cumulative Grade Point Average calculation, printing of grade cards & course completion certificates. SEE is conducted as per the scheduled time-table under strict vigilance of the Chief Superintendent, Deputy Chief Superintendents, Room Invigilators and squads, who monitor the entire examination process. Once SEE is over, the answer booklets are scanned & uploaded onto the Digital Valuation System. Intimation is sent to all eligible valuator to complete valuation in stipulated times. Scheme & Solutions of the question paper will be prepared by concerned faculty for particular course's evaluation.

Digital valuation is carried out in the valuation centre by two internal faculties (double valuation system) & if the difference between the valuations of the two internal faculties exceeds 15 marks, the script will be refereed for III valuation which will be done by one external faculty. Once all the answer scripts are evaluated and moderated, the SEE results are compiled using the examination system software & the results will be announced on the website of the institution, which can be seen by each and every student on putting their USN in the result sheet web-page. Evaluation Status such as the first, second & the third valuation is sent by the examination section on a daily basis to the heads, which makes the departmental exam coordinator to intimate concerned valuers to speed up the valuation process and declare the results early. There is a provision for revaluation of the answer scripts. Once the revaluation results are announced, the entire result sheet is being sent to department, after which the result analysis will be carried out and analyzed.

File Description	Document
Any additional information	View Document

2.6 Student Performance and Learning Outcomes

2.6.1 Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

Response:

Programme Outcomes (POs) are the statements which describe the qualities/competencies of a graduate acquired throughout the programme. Programme Outcomes are derived from the graduate attributes & are defined based on the knowledge, skill and attitude components. The statements of Programme Outcomes are defined by the NBA for Engineering, MBA and MCA programmes. Course Outcomes (COs) describe the competencies which are gained by the student on the completion of the course. The Course Outcomes are defined for all theory laboratory, project courses. 4-6 Course Outcomes are framed depending on the course content & are defined based on the Bloom's Taxonomy by the course coordinator.

The Course Outcomes are mapped to appropriate Programme Outcomes with a proper weightage from one to three. Project work is mapped to majority of the Programme Outcomes. Every Course Outcome is mapped to one or more Programme Outcomes and is measured at the end of the course, through various types of assessments, designed specifically to measure the Course Outcome in an effective means. All Course Outcomes are mapped to Programme Outcomes with its strength by indicating Levels, say, Level-1 indicates low mapping, Level-2 indicates medium mapping and Level-3 indicates high level mapping. The various Course Outcomes are prepared by course coordinator based on the discussions and the meetings conducted with the DAC-Members and it is approved by BOS, The importance is given to the knowledge which the student achieves after a course has been completely taught.

Course Outcomes & Programme Outcomes are displayed or disseminated at various levels starting from the students, staffs, alumni's, parents & to all the remaining stake holders. The following mechanism is followed by the institution to communicate the learning outcomes to the teachers and students as follows.

College website <https://www.dsce.edu.in/> at all departmental levels.

Display boards containing College & Departmental Vision, Mission, POs and COs are displayed in Classrooms, Laboratories, Corridors, Research Centres, Notice boards, Departmental Library, HOD rooms, Staff rooms, etc.

Hard copies & soft copies of the Syllabus books & Laboratory manuals.

In the brochures of events that are conducted.

Students are made aware of the learning outcomes during the starting of the particular course in the class, i.e., during the introduction class.

Autonomous course student hand-books.

Faculty course files.

Blue books.

Printed Notes, Question Banks & in Proceedings of Conference, workshops.

Emails of the faculties as signatures.

Orientation program (induction program): Students of first year and their parents are made aware of Vision and Mission of the Institute, Department, POs, COs, Outcome Based Education (OBE), about NAAC, NBA, ISO, NIRF, etc... during the Induction Program.

At the second year, an orientation programme is conducted by the departmental head and the students are introduced to the department's Vision & Mission, Program Outcomes & Program Specific Outcomes.

During Parents teachers meeting and Alumni meetings, Proctors meeting also CO, PO are discussed.

File Description	Document
Upload COs for all courses (exemplars from Glossary)	View Document
Any additional information	View Document
Link for Additional Information	View Document

2.6.2 Attainment of programme outcomes and course outcomes are evaluated by the institution.

Response:

PSOs are framed by the department which strongly maps to the department's strength. The Program Outcomes (POs), Program Specific Outcomes (PSOs) are assessed with the help of Course Outcome (CO) attainments of the relevant courses through direct and indirect methods.

The departments have designed the curriculum taking into consideration all the Program Outcomes (POs) & the Program Specific Outcomes (PSOs). The curriculum maps to all the POs and PSOs. The Course Outcomes (COs) are mapped with Program Outcomes & the Program Specific Outcomes with weightage (3 – high, 2 – medium and 1 – Low) for the conformity. The Course Outcomes are designed considering the Bloom's Taxonomy Levels.

The COs are framed as the outcomes of the student on completion of the course. 4-6 Course Outcomes are framed for each course. The framed Course Outcomes are then mapped with the POs and the PSOs. During the CO-PO/PSO mapping, the strength of mapping is also considered (three levels).

The framed COs for a particular course are measured by following the assessment Plan [Evaluation Scheme] done by the Course instructor.

The mapping of COs to POs and PSOs represents the contribution of courses towards the attainment of POs and PSOs of the programme.

CO attainment is computed by the direct & indirect assessments. The Direct Assessment includes Continuous Internal Evaluation (CIE), Semester End Examination (SEE), analysis of internal tests, assignment, quiz & case studies. The Indirect assessment is carried out through course exit surveys by students (CO attainment) and graduate exit survey/alumni survey/employer survey (for final PO attainment).

The course end survey questions are framed by the course instructor to indirectly find the level of confidence of the students on the COs framed.

The surveys are designed on a scale of 5.

Course Outcome Attainment = 80% of the Continuous Internal Assessment test + 20% of Assignment & Quiz/Case study.

A qualitative analysis is done on the attainment of the COs for a course by the course instructor after the COs are computed & the analysis are made.

At the end of programme, the Program Outcomes (POs) & Program Specific Outcomes (PSOs) are computed using Course Outcome computation value of all the COs that are mapped to a PO/PSO and through Exit Survey. The PO/PSO computation are done using the weighted average of all the COs that are mapped to that PO/PSO. The attainment level of Course Outcome, Program Outcome and Program Specific Outcomes are compared with target level set by the course coordinator.

Final Program Outcome attainment = 80% of Direct attainment + 20% of Indirect attainment.

80% of Direct attainment = 60% of Continuous Internal Evaluation + 40% of Semester End Examination.

20% of Indirect attainment = 10% of Course Exit Survey + 10% of Graduate Exit Survey.

A thorough analysis on these attainment levels is done to find the gaps & prepare a detailed plan of action.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

2.6.3 Pass Percentage of students(Data for the latest completed academic year)	
Response: 99.69	
2.6.3.1 Total number of final year students who passed the examination conducted by Institution.	
Response: 1906	
2.6.3.2 Total number of final year students who appeared for the examination conducted by the Institution.	
Response: 1912	
File Description	Document
Upload List of Programmes and number of students passed and appeared in the final year examination(Data Template)	View Document
Link for the annual report	View Document

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process	
Response:	
File Description	Document
Upload database of all currently enrolled students	View Document
Upload any additional information	View Document

Criterion 3 - Research, Innovations and Extension

3.1 Promotion of Research and Facilities

3.1.1 The institution Research facilities are frequently updated and there is well defined policy for promotion of research which is uploaded on the institutional website and implemented

Response:

Research Promotion Guidelines

Dayananda Sagar College of Engineering (DSCE) faculties and students regularly involve themselves in research activities related to various domains. At DSCE, most of the departments are recognized as Research Centers approved by Visvesvaraya Technological University (VTU) in different branches of Science, Engineering and Technology catering to the research scholars for obtaining their Ph.D. The Institution has an information resource center in the form of a Digital Library with good infrastructural facilities to enable researchers to review the recent literature in the core areas of research. The Research and Development promotion guidelines of DSCE has a vision to impart quality technical education with a focus on Research and Innovation emphasizing on the development of sustainable and inclusive technology for the benefit of the society. DSCE also encourages faculties regularly to involve themselves in research related activities and also to undertake sponsored research projects from various Governmental agencies. Research and Development is carried out in several thrust areas like Cloud Computation, Environment, Image Processing, Artificial Intelligence & Machine learning, Cyber Security, Computer Networks, Software Engineering, Materials Science, Nano synthesis, Telecommunication, Sensor networks and so on.

A PhD candidate should register at a DSCE Research Center after getting a provisional registration letter from VTU and are permitted to do their research in respective Research Center. Research scholars are encouraged to publish their research work in reputed National and International Journals and Conferences. The Institution's Digital Library is provided with anti-plagiarism software to help the students and faculty to check their manuscripts before proceeding for publication.

DSCE also encourages the faculty to apply for the projects under various schemes in core areas of research. As a means of recognition and reward to faculty, an incentive scheme is in place. Principal Investigators (PI) of the sanctioned project will be encouraged with an incentive as per the guidelines. All the appointments related to the sanctioned projects under the category of Junior Research Fellows and Research Assistants will be screened by a committee constituted by the PI of the project.

DSCE also encourages the faculty to engage in Industrial Consultancy related activities in the Institution and the coordinator will be benefitted as per the terms and conditions of the consultancy and the Institution.

File Description	Document
Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption	View Document
Any additional information	View Document
URL of Policy document on promotion of research uploaded on website	View Document

3.1.2 The institution provides seed money to its teachers for research (average per year, INR in Lakhs)

Response: 0.65

3.1.2.1 The amount of seed money provided by institution to its faculty year-wise during the last five years (INR in lakhs).

2020-21	2019-20	2018-19	2017-18	2016-17
0.0	0.0	1.5	1.74785	0.0

File Description	Document
Minutes of the relevant bodies of the Institution	View Document
List of teachers receiving grant and details of grant received	View Document
Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized	View Document

3.1.3 Percentage of teachers awarded national / international fellowship for advanced studies/research during the last five years

Response: 0.14

3.1.3.1 The number of teachers awarded national / international fellowship for advanced studies / research year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	2	1	0

File Description	Document
List of teachers and their international fellowship details	View Document
e-copies of the award letters of the teachers	View Document

3.2 Resource Mobilization for Research

3.2.1 Grants received from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs)

Response: 1402.44

3.2.1.1 Total Grants from Government and non-governmental agencies for research projects , endowments, Chairs in the institution during the last five years (INR in Lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
290.88	716.75	151.34	166.22	77.25

File Description	Document
List of project and grant details	View Document
e-copies of the grant award letters for research projects sponsored by government and non-government	View Document
Any additional information	View Document

3.2.2 Percentage of teachers having research projects during the last five years

Response: 3.22

3.2.2.1 Number of teachers having research projects during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
33	8	16	10	4

File Description	Document
Names of teachers having research projects	View Document
Link for additional information	View Document

3.2.3 Percentage of teachers recognised as research guides

Response: 13.32

3.2.3.1 Number of teachers recognized as research guides

Response: 55

File Description	Document
Upload copies of the letter of the university recognizing faculty as research guides	View Document
Link for additional information	View Document

3.2.4 Average percentage of departments having Research projects funded by government and non-government agencies during the last five years

Response: 41

3.2.4.1 Number of departments having Research projects funded by government and non-government agencies during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
14	7	10	7	3

3.2.4.2 Number of departments offering academic programmes

2020-21	2019-20	2018-19	2017-18	2016-17
20	20	20	20	20

File Description	Document
Supporting document from Funding Agency	View Document
List of research projects and funding details	View Document
Any additional information	View Document
Paste link to funding agency website	View Document

3.3 Innovation Ecosystem

3.3.1 Institution has created an eco system for innovations, creation and transfer of knowledge supported by dedicated centers for research, entrepreneurship, community orientation, Incubation etc.

Response:

DERBI Foundation is a section 8 company hosted by Dayananda Sagar College of Engineering and was incorporated in 2015. It is supported by Department of Science and Technology, Ministry of Electronics & IT and Invest India. It has supported more than 110 startups with mentoring, pilot trials , prototyping support and access to grants and funds . Cumulatively DERBI Foundation has obtained grants from various schemes to the tune of Rs.25Cr.

Institution Innovation Council of DSCE organizes several events related to IPR, Start ups, Entrepreneurship and Incubations for faculties and students.We have Centre for Innovation & Leadership (CIL) to bridge the gap between pure academics and corporate realities. This center aims to impart innovative soft skill training programs for all the students.

DSCE-TOYOTA Centre of Excellence was established in the Department of Automobile Engineering for enhancing the technical knowledge of the students. M/s Toyota has provided one Innova engine with transmission and chassis of a Fortuner vehicle. With the aid of these models, students will be trained to understand the real orientation of the assembled engine, transmission and chassis systems.

Volvo Group India Private Limited established DSCE-VOLVO Centre of Excellence in 2017 in the Department of Automobile Engineering for enhancing the technical knowledge of the students. Volvo Group India Private Limited handed over a ‘Driveline model’ to DSCE.

BMW Skill Development Centre was established in Department of Automobile Engineering under the BMW’s Skill Next program, which is a unique technical initiative under which BMW India donated Twin-power turbo inline 4-cylindered 2L diesel BMW engine.

BOSCH & DSCE Joint training Centre was established in the Automobile Engineering Department in 2017 to provide Joint Certification Courses.

Biotechnology Finishing School (BTFS) was a very unique initiative in India with enhanced placement opportunities in Biotechnology Sector launched by Government of Karnataka in the Millennium Biotech Policy-II, in association with Government of India.

Center for Ophthalmic Instrumentation & Imaging (COII), is a center of excellence in bio-medical engineering with a focus on applications to Ophthalmology & Vision Science established in the Department of Computer Science Engineering in 2014 in collaboration with Indiana University, USA.

DSCE-KIOCL Centre of Excellence was established in the Department of Civil Engineering in 2019 by Kudremukh Iron Ore Company Ltd. As a part of enhancing the academic excellence, KIOCL has presented a working model of a Concrete flow box to the Department of Civil Engineering.

3D Printing Laboratory was established in the Department of Mechanical Engineering to build three-dimensional objects from a computer-aided design (CAD) model.

AUTODESK-DSCE Centre of Excellence was established in the Department of Mechanical Engineering in 2015 to expose students to advance Digital Technologies used in Mechanical Engineering.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

3.3.2 Number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR), entrepreneurship, skill development during the last five years.

Response: 145

3.3.2.1 Total number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR), entrepreneurship, skill development year-wise during the last five years.

2020-21	2019-20	2018-19	2017-18	2016-17
29	32	37	35	12

File Description	Document
Report of the event	View Document
List of workshops/seminars during last 5 years	View Document
Any additional information	View Document

3.4 Research Publications and Awards

3.4.1 The Institution ensures implementation of its stated Code of Ethics for research through the following: 1. Inclusion of research ethics in the research methodology course work 2. Presence of Ethics committee 3. Plagiarism check through software 4. Research Advisory Committee

Response: A. All of the above

File Description	Document
Any additional information	View Document
Link for additional information	View Document

3.4.2 Number of Ph.D's registered per teacher (as per the data given w.r.t recognized Ph.D guides/supervisors provided at 3.2.3 metric) during the last five years

Response: 1.84

3.4.2.1 How many Ph.Ds are registered within last 5 years

Response: 101

3.4.2.2 Number of teachers recognized as guides during the last five years

Response: 55

File Description	Document
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	View Document
URL to the research page on HEI web site	View Document

3.4.3 Number of research papers per teachers in the Journals notified on UGC website during the last five years

Response: 1.15

3.4.3.1 Number of research papers in the Journals notified on UGC website during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
199	101	88	84	35

File Description	Document
List of research papers by title, author, department, name and year of publication	View Document

3.4.4 Number of books and chapters in edited volumes / books published per teacher during the last five years

Response: 0.37

3.4.4.1 Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
48	33	26	23	32

File Description	Document
List books and chapters in edited volumes / books published	View Document

3.4.5 Bibliometrics of the publications during the last five years based on average citation index in Scopus/ Web of Science or PubMed

Response:

File Description	Document
Bibliometrics of the publications during the last five years	View Document

3.4.6 Bibliometrics of the publications during the last five years based on Scopus/ Web of Science - h-index of the Institution

Response:

File Description	Document
Bibliometrics of publications based on Scopus/ Web of Science - h-index of the Institution	View Document

3.5 Consultancy

3.5.1 Revenue generated from consultancy and corporate training during the last five years (INR in

Lakhs).

Response: 10.37

3.5.1.1 Total amount generated from consultancy and corporate training year-wise during the last five years (INR in lakhs).

2020-21	2019-20	2018-19	2017-18	2016-17
3.2976	0.2832	1.2673	5.29	0.23

File Description

Document

List of consultants and revenue generated by them

[View Document](#)

Audited statements of accounts indicating the revenue generated through consultancy and corporate training

[View Document](#)

3.5.2 Total amount spent on developing facilities, training teachers and staff for undertaking consultancy during the last five years (INR in Lakhs).

Response: 7.39

3.5.2.1 Total amount spent on developing facilities, training teachers and staff for undertaking consultancy during the last five years (INR in Lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
0.4631	0.3302	1.1021	5.26	0.23

File Description

Document

List of training programmes, teachers and staff trained for undertaking consultancy

[View Document](#)

List of facilities and staff available for undertaking consultancy

[View Document](#)

Audited statements of accounts indicating the expenditure incurred on developing facilities and training teachers and staff for undertaking consultancy

[View Document](#)

3.6 Extension Activities

3.6.1 Extension activities are carried out in the neighbourhood community,-sensitising students to social issues, for their holistic development, and impact thereof during the last five years

Response:

Report on Extension activities conducted

Dayananda Sagar College of Engineering (DSCE) is a socially responsible institution and is actively involved in many extension activities for the neighborhood community. There are various wings of organizations and clubs involving students and faculty to contribute to the well-being of the society. Different extension activities carried out by the faculty and students of the Institution are listed below:

- i. Voluntary blood donation camp
- ii. Best out of waste
- iii. Fund collection drive
- iv. Stem cell transplantation awareness
- v. Visit to "Sampathu" an Orphanage
- vi. Visit to Asha Niketan through SAGAR SMILES
- vii. SWACHH BHARAT Programme
- viii. Traffic safety awareness campaign
- ix. Free dental screening camp
- x. Tree planting
- xi. Training on Terrace gardening
- xii. Yoga Classes
- xiii. Nature club activities
- xiv. Visit to Anatha Shishu Nivasa Orphanage
- xv. IEDC Activities
- xvi. Jatha to create awareness on water, sanitation and health

About NSS:

National Service Scheme abbreviated as NSS was inaugurated in DSCE in the year 2017. The scheme has

a moto “Not me But You”. The moto itself underlines the belief that the welfare of an individual is ultimately dependent on the welfare of the society on the whole.

For a report on the activities held during 2018-2019, please visit:

https://www.dsce.edu.in/images/Home/NSS/NSS_activities_2018-19.pdf

About the Nature club - Prakruthi:

Our nature club is the first of its kind initiated in the campus towards saving our mother nature. Started by the Department of Physics, DSCE mainly aims at our contribution to a nature friendly College campus. Our nature club was constituted with first year students as club members aiming at improving the diversity of plant life in the campus to save nature.

For the details of the activities of the club please visit:

<https://www.dsce.edu.in/campus-life/dsce-clubs/nature-club>

About IEDC @DSCE:

Dayananda Sagar institutions are producing a large number of trained manpower, thus fulfilling the needs of the industry, R&D institutions and other sectors of the economy in order to make the optimal use of facilities, expertise and know-how available in these institutions for the benefit of the society. It is necessary that appropriate links be established between them and the industry. In addition, young graduates are also looking out for opportunities to exploit their full potential by setting up their own ventures.

For details of the activities, please visit:

<https://www.dsce.edu.in/research/iedc>

Professional body Activities @ DSCE

The Department of Civil engineering is one of the departments involved in imparting society-oriented activities for engineering students through different student chapter programs to imbibe social responsibilities into budding engineers. Most of the activities include extension activities in the neighborhood community in terms of impact and sensitizing students to social issues for holistic development. For a list of Professional Clubs and the details of the activities of the various Professional bodies please visit:

<https://www.dsce.edu.in/campus-life/dsce-professional-societies>

File Description	Document
Upload Any additional information	View Document
Paste link for additional information	View Document

3.6.2 Number of awards and recognition received by the Institution, its teachers and students for extension activities from Government / Government recognised bodies during last five years**Response:** 9**3.6.2.1 Total number of awards and recognition received for extension activities from Government/ Government recognised bodies year-wise during the last five years.**

2020-21	2019-20	2018-19	2017-18	2016-17
1	1	1	2	4

File Description	Document
Number of awards for extension activities in last 5 year	View Document
e-copy of the award letters	View Document

3.6.3 Number of extension and outreach programs conducted by the institution through NSS/NCC, Government and Government recognised bodies during the last five years**Response:** 19**3.6.3.1 Number of extension and outreach programs conducted by the institution through NSS/NCC, Government and Government recognised bodies during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
1	3	3	6	6

File Description	Document
Reports of the event organized	View Document
Number of extension and outreach Programmes conducted with industry, community etc for the last five years	View Document
Any additional information	View Document

3.6.4 Average percentage of students participating in extension activities listed at 3.6.3 above during the last five years**Response:** 3.19

3.6.4.1 Total number of students participating in extension activities listed at 3.6.3 above year-wise during the last five years.

2020-21	2019-20	2018-19	2017-18	2016-17
34	178	212	365	352

File Description	Document
Reports of the event	View Document
Average percentage of students participating in extension activities with Govt or NGO etc	View Document
Any additional information	View Document

3.7 Collaboration**3.7.1 Number of Collaborative activities per year for research/ faculty exchange/ student exchange/ internship/ on –the-job training/ project work****Response:** 447.8**3.7.1.1 Total number of Collaborative activities per year for research/ faculty exchange/ student exchange/ internship/ on –the-job training/ project work**

2020-21	2019-20	2018-19	2017-18	2016-17
706	657	359	399	118

File Description	Document
Number of Collaborative activities for research, faculty etc	View Document
Copies of collaboration	View Document
Any additional information	View Document

3.7.2 Number of functional MoUs with institutions of national, international importance, other institutions, industries, corporate houses etc. during the last five years (only functional MoUs with ongoing activities to be considered)**Response:** 103

3.7.2.1 Number of functional MoUs with institutions of national, international importance, other Institutions, industries, corporate houses etc. year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
24	30	20	17	12

File Description	Document
e-copies of the MoUs with institution/ industry/ corporate house	View Document
Details of functional MoUs with institutions of national, international importance, other Institutions etc during the last five years	View Document
Details of functional MoUs with institutions of national, international importance, other Institutions etc during the last five years	View Document
Any additional information	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 The Institution has adequate infrastructure and physical facilities for teaching- learning. viz., classrooms, laboratories, computing equipment etc.

Response:

The campus is spread over 23 acres of land. The institution has excellent infrastructural facilities like spacious classrooms, laboratories, workshops, libraries, faculty rooms, conference halls, auditoriums administrative block, separate hostels for boys, girls and International students are provided. The institution has augmented new infrastructure to create improved teaching learning environment . The Institution has a total 120 classrooms, 134 laboratories, one central library, 3 auditorium with ICT facilities, one board room, one amphitheatre, one playground, one basketball court and one tennis court. The institution has 2212 computing equipment for teaching learning process and classrooms are equipped with Wi-Fi/LAN. The Laboratories are provided with Internet facility. The total Internet bandwidth available in the campus is 1 Gbps.

The Institution has provided ICT facilities in all the departments. The classrooms and Computer labs are provided with LCD projectors for Multimedia presentations. The campus is Wi-Fi enabled with adequate computing facilities. The faculty and students make use of these facilities for enriching their domain knowledge.

The central library of the institution is of 5650 sq.m, spread over seven floors, with a total seating capacity of 800 . It has 37816 No. of Titles, 135909 No. of volumes, 131 print National and International Journals. The library includes Digital Library with modern facilities such as RFID and ICT. Dayananda Sagar College of Engineering is the first Private sector Engineering College in Karnataka to install this system. This latest system is user friendly and provides access to any book available. The Library has 40000 E-books, 3800 CDs and DVDs and about 10000 e journals. Institution is a member of National Digital Library with 311 memberships and also a member of VTU e-Consortium, which will provide access to national and international journals. Discussion rooms, reprographic facility, elevators and restrooms are provided at appropriate places in the library. An audio-visual auditorium of 80 seating capacity is exclusively made available for e-videos.

File Description	Document
Paste link for additional information	View Document

4.1.2 The institution has adequate facilities for cultural activities, yoga, games (indoor, outdoor) and sports. (gymnasium, yoga centre, auditorium, etc.)

Response:

Dayananda Sagar College of Engineering has well-established sports infrastructure. For overall growth of the students, sports and cultural groups are created. The physical wellness of the students is taken care by

domestic gymnasiums headed by a Physical Education Director. Physical Education Director is assisted by individual coaches for sports activities. The institution aims to provide students and staff with a wide range of sports, recreation and leisure activities.

The Indoor Sports Complex houses two International level Squash courts, Multi Gymnasium and Yoga/Aerobics hall. The total built-up area of indoor sports complex is 558 sq.m. The outdoor play ground of area 6500 sqm has facilities for football, basketball, cricket, Volleyball, Throw ball, Kho-Kho, and Synthetic Tennis court. The sports facilities and the playground user rate per day is excellent. Certificates/Prizes will be given for outstanding achievers in sports and cultural events during college day celebration.

Dayananda Sagar College of Engineering students participate in university sports level activities and were winners in cricket and volleyball during 2017 VTU sports meet. Our students also won gold, silver and 3 bronze in athletics and gymnasium events at the same sports meet. Also, we stood runners-up in three sports divisions during (2018 & 2019). Our College student was declared as the best Athletic of VTU in 2017-18.

The facilities for yoga and meditation for the faculty members and the staff of DSCE is provided. Regular training sessions on yoga and meditation are conducted at the meditation centre (110 sq. m.), During COVID-19 pandemic, many online sessions on yoga and meditation for the benefit of students and staff were conducted.

Cultural Activities

The college encourages the students to take part in cultural competitions held at various intra and inter-collegiate, regional, state and national levels. This will enable them to showcase their talent and creativity in the form of dance, music, art, literature, theatre, fashion and management etc. Every year, Dayananda Sagar College of Engineering organizes, biggest techno-cultural-adventure fest in the college for 3 days in the name of FURORE.

The college has a exclusive cultural division by the name Centre for performing arts though which we make sure that the students are given an equal chance and opportunity to showcase their talent. We have individual teams for each art and auditions are conducted for students at the beginning of academic year. Notable teams representing our college are MUDRA – Indian Contemporary Dance Group, Samudra- The Music Group, ABD – Western Hip Hop Dance Group, CK-6 Western Dance Group and Rhythmic Rockers – Bollywood Dance Group. There is a separate Media team taking care of Photography, Videography and Design that covers all the events happening in the college. The Design team holds the responsibility of coming up with the most prime and superlative designs for the promotions of art and culture. The Institution has a 700 seating capacity auditorium and an amphitheatre of area 237 sq.m. for conducting various cultural activities.

File Description	Document
Upload any additional information	View Document
Geotagged pictures	View Document

4.1.3 Percentage of classrooms and seminar halls with ICT- enabled facilities such as smart class, LMS, etc. (Data for the latest completed academic year)**Response:** 100**4.1.3.1 Number of classrooms and seminar halls with ICT facilities**

Response: 123

File Description	Document
Institutional data in prescribed format	View Document

4.1.4 Average percentage of expenditure for infrastructure augmentation excluding salary during the last five years (INR in Lakhs)**Response:** 5.77**4.1.4.1 Expenditure for infrastructure augmentation, excluding salary year-wise during last five years (INR in lakhs)**

2020-21	2019-20	2018-19	2017-18	2016-17
46.34	126.75	165.04	231.93	941.52

File Description	Document
Upload Details of Expenditure , excluding salary during the last five years	View Document
Upload audited utilization statements	View Document

4.2 Library as a Learning Resource**4.2.1 Library is automated using Integrated Library Management System (ILMS)****Response:**

Nature of automation (fully or partially)- Fully

Name of the ILMS software- LIBSYS with RFID Technology

Version – 4.0

Year of automation – 2008

LIBSYS, library management software has a user-friendly interface, which is built on international standards and open technology. It covers Acquisition, Cataloguing, Circulation, Serial control and Online Public Access Catalog, OPAC. The library automation incorporated allows a seamless workflow enabling library staff with a powerful tool to manage library operations efficiently.

The digital library is a rare and unique addition to a dynamic process in the campus, reflecting the use of technology for sharing knowledge and resources. 100 computer systems are made available for the users at digital library. Apart from this faculty can access these facilities from their respective department. Availability of the e-books can be accessed by the users in mobile. Confirmation of the deposition of hard copy books will be communicated through SMS to the user.

The Library has 40000 E-books, 3800 CDs and DVDs and about 10000 e journals. Institution is a member of National Digital Library with 311 memberships and also a member of VTU e-Consortium, which will provide access to national and international journals. The Library has a corporate membership of British Council Library, DELNET, IIMB, NAL, IISC, CMTI. Library has the following facilities like reading hall, Private study room/cubicles, discussion room, reprographic facility, print zone, elevators and restrooms are provided at appropriate places in the library. An audio-visual auditorium of 80 seating capacity is exclusively made available for e-videos. It is designed for seminar, academic presentation, educational films on a variety of subjects and other educational activities.

The central library of the institution is of 5650 sq.m, spread over seven floors, with a total seating capacity of 800. It has 37816 No. of Titles, 135909 No. of volumes, 131 print National and International Journals. The library includes Digital Library with modern facilities. It also has access to E-books, E-journal, E-learning, Educational videos. There are 13000 numbers of NPTEL videos and scanned old question papers with solution for students reference. It is supported by RFID and ICT. Dayananda Sagar College of Engineering is the first Private sector Engineering College in Karnataka to install this system. This latest system is user friendly and provides access to any book available. Book drop station is located at the entrance of the library. This offers flexibility and convenience of returning library books at any time of the day, even when book circulation section is closed. Turnitin web tool is available at the library for plagiarism checks. All research scholars, faculty, PG and UG students make use of this facility.

File Description	Document
Upload any additional information	View Document
Paste Link for additional information	View Document

4.2.2 Institution has access to the following: 1. e-journals 2. e-ShodhSindhu 3. Shodhganga Membership 4. e-books 5. Databases 6. Remote access to e-resources

Response: A. Any 4 or more of the above

File Description	Document
Upload any additional information	View Document
Institutional data in prescribed format	View Document
Details of subscriptions like e-journals, e-books , e-ShodhSindhu, Shodhganga Membership etc	View Document

4.2.3 Average annual expenditure for purchase of books/ e-books and subscription to journals/e-journals during the last five years (INR in Lakhs)

Response: 13.44

4.2.3.1 Annual expenditure of purchase of books/e-books and subscription to journals/e- journals year wise during last five years (INR in Lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
6.39	11.466	11.119	17.47	20.751

File Description	Document
Details of annual expenditure for purchase of and subscription to journals/e-journals during the last five years	View Document
Audited statements of accounts	View Document

4.2.4 Percentage per day usage of library by teachers and students (foot falls and login data for online access) during the last completed academic year

Response: 3.12

4.2.4.1 Number of teachers and students using library per day over last one year

Response: 220

File Description	Document
Details of library usage by teachers and students	View Document
Any additional information	View Document

4.3 IT Infrastructure

4.3.1 Institution has an IT policy covering wi-fi, cyber security, etc., and allocated budget for updating

*its IT facilities***Response:**

DSCE has very good IT facilities for conduction of TLP and it is maintained by a separate department called EDP, Electronic Data Processing cell. The EDP cell concentrates on day to day regular maintainance of IT facilities, upgradation and procurement of new facilities. The required budget for the these is made available by the Management as and when the requirement is submitted by respective departments.

At the beginning of the academic year need based assessment for replacement / up-gradation / addition of the existing infrastructure is carried out based on the suggestions of Heads of the Departments. Optimal deployment of infrastructure is ensured through conducting workshops/awareness programs/training programs for faculty on the use of new technology. Effective utilization of infrastructure is ensured through appointment of adequate and well qualified lab technicians/system administrators.

The institute has always been reviewing the current needs and accordingly the internet bandwidth is upgraded from time to time. DSCE established Local Area Network (LAN) at the centre, and it extended LAN to all Offices & Sections of college. Server, Switch (Juniper) and Firewall are in place. FortiGate firewall server FG800C is used with ensuring its renewal. Most of the labs are equipped with LCD's for online demonstration to students. The internet connection has 1Gbps bandwidth.

The Institution has provided ICT facilities in all the departments. The classrooms and Computer labs are provided with LCD projectors for Multimedia presentations. The campus is Wi-Fi enabled with adequate computing facilities. The faculty and students make use of these facilities for enriching their domain knowledge.

File Description	Document
Upload any additional information	View Document

4.3.2 Student - Computer ratio (Data for the latest completed academic year)

Response: 3:1

File Description	Document
Upload any additional information	View Document
Student - computer ratio	View Document

4.3.3 Bandwidth of internet connection in the Institution.

Response: 750 MBPS

File Description	Document
Details of available bandwidth of internet connection in the Institution	View Document

4.3.4 Institution has the following Facilities for e-content development

1. Media centre
2. Audio visual centre
3. Lecture Capturing System(LCS)
4. Mixing equipments and softwares for editing

Response: B. 3 of the above

File Description	Document
Upload Additional information	View Document
Institutional data in prescribed format	View Document

4.4 Maintenance of Campus Infrastructure

4.4.1 Average percentage expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component during the last five years

Response: 41.9

4.4.1.1 Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year wise during the last five years (INR in lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
1764.5	2411.06	2401.97	2079.7	1648.34

File Description	Document
Details about assigned budget and expenditure on physical facilities and academic facilities	View Document
Audited statements of accounts	View Document

4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

Response:

Maintenance Department of Dayananda Sagar College of Engineering consists of one Chief Civil Engineer, Two Supporting Civil Engineers and one electrician and two carpenters who maintain the physical infrastructure of the institute including day to day carpentry and electrical maintenance works in labs and classrooms. Diesel Generator is maintained by the electrical engineer.

Classrooms and other built up area are maintained for their day to day cleanliness by housekeeping staff. Housekeeping has 79 housekeepers and 8 supervisors who report to Facility Department. we have annual maintenance contact for Air conditioning and lift maintenance

Equipment: All major/advanced equipment is calibrated and maintained by Annual Maintenance Contract (AMC).The equipments are regularly serviced by the concerned agencies for its proper usage during academic session. Minor Equipment's are repaired and maintained regularly.

Potable water supply: Dayananda Sagar College has 8 numbers of bore wells. The ground water is tapped and is used for domestic purposes. The drinking water containers with dispenser is provided for students and staff at each department and also at prime locations. Solar water heaters are provided at hostels for boys and girls in the campus.

Rain water Harvesting: Dayananda Sagar College of Engineering has rain water harvesting pond in the parking lot and the harvested rain water is used for gardening purposes. Whenever excess rainfall occurs, the overflow from the rain water harvesting tank and from buildings is directed to infiltration wells which are very near to the bore wells/ recharge point. The rain water gets infiltrated into the ground and recharges the bore wells.

Waste water treatment: Institution has waste water treatment plant, with a capacity to treat 180 KLD of waste water per day using Sequential Batch Reactor(SBR) technology. The treated waste water which conforms to the pollution control board standards is reused for gardening purposes after disinfection. The treated sewage is also used to recharge the bore wells using infiltration well.

Parking arrangement at the Institution: The college provides four wheeler and two wheeler parking facility for the staff at gate -2 (Area-15000 sft). Two wheelers parking facility is available for students at gate -1(Area-30,000 sft).Visitors parking facility is provided at gate-1 near main library.

Solid waste disposal: The solid waste generated inside the college premises is segregated into wet & dry waste at the source by providing colour coded bins at appropriate places in Campus. The solid waste is collected in bags and converted into compost in the campus.

E-waste disposal: The E - waste generated in the campus is stored in respective departments. At the end of each semester the authorized vendor ensures disposal and clearance of E-waste for subsequent treatment and recycle .

Chemical Waste Treatment: The diluted chemical waste water from laboratories is mixed with grey water

and is treated separately in sewage treatment plant (STP).

Electric Power Backup by using the Solar Power: Solar panels are installed at college campus with capacity of 388 kWp. In addition, 4 generators of one 400 kVA, 2 numbers of 250 kVA, one 63 kVA capacity are available in case of power failure.

Budget: The Equipment, instruments, infrastructure and other facilities require a continuous maintenance and repair. Every year, sufficient funds are allocated towards maintenance of these utilities. The infrastructure maintenance is done by Maintenance Department as and when required.

File Description	Document
Upload any additional information	View Document

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1 Average percentage of students benefited by scholarships and freeships provided by the Government during last five years

Response: 29.93

5.1.1.1 Number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years (other than students receiving scholarships under the government schemes for reserved categories)

2020-21	2019-20	2018-19	2017-18	2016-17
2132	2132	2206	2109	1914

File Description	Document
upload self attested letter with the list of students sanctioned scholarships	View Document
Institutional data in prescribed format	View Document
Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years	View Document

5.1.2 Average percentage of students benefited by scholarships, freeships, etc. provided by the institution and non-government agencies during the last five years

Response: 0.39

5.1.2.1 Number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years (other than students receiving scholarships under the government schemes for reserved categories)

2020-21	2019-20	2018-19	2017-18	2016-17
24	24	28	49	13

File Description	Document
Number of students benefited by scholarships and freeships besides government schemes in last 5 years	View Document
Institutional data in prescribed format	View Document

5.1.3 Following Capacity development and skills enhancement activities are organised for improving students capability 1. Soft skills 2. Language and communication skills 3. Life skills (Yoga, physical fitness, health and hygiene) 4. Awareness of trends in technology

Response: A. All of the above

File Description	Document
Details of capability enhancement and development schemes	View Document
Any additional information	View Document

5.1.4 Average percentage of students benefited by career counseling and guidance for competitive examinations offered by the Institution during the last five years.

Response: 27.12

5.1.4.1 Number of students benefitted by guidance for competitive examinations and career counselling offered by the institution year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1005	1562	1853	3024	2169

File Description	Document
Number of students benefited by guidance for competitive examinations and career counselling during the last five years	View Document
Any additional information	View Document

5.1.5 The institution adopts the following for redressal of student grievances including sexual harassment and ragging cases 1. Implementation of guidelines of statutory/regulatory bodies 2. Organisation wide awareness and undertakings on policies with zero tolerance 3. Mechanisms for submission of online/offline students' grievances 4. Timely redressal of the grievances through appropriate committees

Response: A. All of the above

File Description	Document
Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee	View Document

5.2 Student Progression

5.2.1 Average percentage of placement of outgoing students during the last five years

Response: 60.77

5.2.1.1 Number of outgoing students placed year - wise during the last five years.

2020-21	2019-20	2018-19	2017-18	2016-17
1189	1286	1179	981	1111

File Description	Document
Self attested list of students placed	View Document
Details of student placement during the last five years	View Document

5.2.2 Percentage of student progression to higher education (previous graduating batch).

Response: 2.08

5.2.2.1 Number of outgoing student progressing to higher education.

Response: 37

File Description	Document
Upload supporting data for student/alumni	View Document
Details of student progression to higher education	View Document

5.2.3 Average percentage of students qualifying in state/national/ international level examinations during the last five years (eg: IIT-JAM/CLAT/ NET/SLET/GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/State government examinations, etc.)

Response: 63.86

5.2.3.1 Number of students qualifying in state/ national/ international level examinations (eg: IIT/JAM/ NET/ SLET/ GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/ State government examinations, etc.) year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
35	88	93	77	87

5.2.3.2 Number of students appearing in state/ national/ international level examinations (eg: IIT/JAM/ NET / SLET/ GATE/ GMAT/CAT,GRE/ TOEFL/ Civil Services/ State government examinations) year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
83	135	119	121	124

File Description	Document
Upload supporting data for student/alumni	View Document
Number of students qualifying in state/ national/ international level examinations during the last five years	View Document

5.3 Student Participation and Activities

5.3.1 Number of awards/medals won by students for outstanding performance in sports/cultural activities at inter-university/state/national / international level (award for a team event should be counted as one) during the last five years.

Response: 197

5.3.1.1 Number of awards/medals won by students for outstanding performance in sports / cultural activities at inter-university / state / national / international events (award for a team event should be counted as one) year - wise during the last five years.

2020-21	2019-20	2018-19	2017-18	2016-17
4	49	42	75	27

File Description	Document
Number of awards/medals for outstanding performance in sports/ cultural activities at inter-university / state / national / international level during the last five years	View Document
e-copies of award letters and certificates	View Document

5.3.2 Presence of an active Student Council & representation of students on academic & administrative bodies/committees of the institution

Response:

Students being the main stake holders are encouraged to be a part of all academic and administrative initiatives of the institution. Their feedback is sought on various important matters such as syllabus, curriculum and also technical activities. There is Alumni representation in the College Academic Council who participate in all Academic Council meetings and give useful inputs for overall growth of the institution. They are continuously involved in all the activities as mentors to juniors, as members in organising committee and coordination committees. The institute has various active student committees to carry out various Academic and cultural activities.

We have student representation in Institutional development committee who take part in reviewing and analysing measures and steps to be initiated for institutional development along with other members of the committee. There is student representation in Committee for purchasing of Books who regularly discuss on the academic requirement of books, changing the layout and design of the content in the books to suite to various academic activity, decide on vendors by verifying quality. The Library committee has also student representation taking part in deciding the annual requirement analysis and deciding on procurement process, working facilities to enhance the utilisation of library etc. The Anti Ragging committee plays a significant role in creating awareness amongst newly admitted students every year. It designs programs during Induction program for students to make them aware of rules and regulations and protocols to be followed. The student representation in anti ragging committee helps to penetrate into the student community in terms of building confidence in newly admitted students and creating awareness to the higher semester students on their responsibilities. This has helped in ensuring that the campus is free from any ragging incidence over the years.

Student representation in College News Letter adds to bring in participation of students in large numbers through contribution of their articles, report on variety of activities and designing appealing creatives for the news letter. There is students participation in Anti Drug Committee, who along with other members initiate awareness programs for the benefit of students at large. Grievances and Redressal cell and Women's Harassment Cell has students participation who take care of any such issues associated with for immediate coordination and follow up.

File Description	Document
Upload any additional information	View Document

5.3.3 Average number of sports and cultural events / competitions organised by the institution per year

Response: 11.4

5.3.3.1 Number of sports and cultural events / competitions organised by the institution year - wise during the last five years.

2020-21	2019-20	2018-19	2017-18	2016-17
10	16	13	10	8

File Description	Document
Report of the event	View Document
Number of sports and cultural events / competitions organised per year	View Document

5.4 Alumni Engagement

5.4.1 The Alumni Association / Chapters (registered and functional) contributes significantly to the development of the institution through financial and other support services.

Response:

Dayananda Sagar College of Engineering has an active Alumni association. Over the years the institution has contributed huge number of graduates who are serving society as engineers, bureaucrats, scientists, political leaders, entrepreneurs, defence servicemen etc. Institution regularly interacts with the alumni and tries to involve them in the growth process of the Institution.

Dayananda Sagar Alumni Association is a registered body that is established with a mission to develop relationship between all members of DSCE community. It promotes continuing education and creates opportunities for networking, employment and business for all the members. The alumni association is Registered in 2016-17 with Government of Karnataka Registration No: DRB-2/SOR/03/2016-17 dated: 26/7/2016 with Office Bearers Shri. Galiswamy as its President, Dr. C P S Prakash as its Vice President, Mr. M N Guruvenkatesh as Secretary, Dr. Ramesh Babu as Joint Secretary, Dr. Kiran S as Joint Secretary, Dr. Ravishankar R as Treasurer along with other members.

A Mega Alumni meet of all the alumni across all the departments, is conducted every year. The Annual Meet emphasized on creating a special bond between the passed-out graduates, existing students, faculty and the staff and this was started off with the motto of "Connect, Create and Communicate". We invite 2-3

alumni who have excelled in their field as chief guest, guest of honour and get the other alumni interact with faculty and students with an emphasis on making present students motivated and also making the alumni aware of activities of the college.

Recently, virtual mega Alumni meet was held on 19th December 2020 and Mr. M.B. Rajesh Gowda, I.A.S. (M.D., BESCOM) was invited as chief guest. Alumni from all departments across DSCE attended the Mega Alumni meet. The alumni of the DSCE are an integral part of the extended DSCE family. The alumni actively participate in various departmental activities such as Placement, invited talks and Guest lectures. Alumni are involved in helping students for Industry Visits and Projects.

Whenever Alumni visits college, they would be taken on a campus tour and interact with faculty of the department where they are informed about the recent developmental activities of the college. The staffs discuss recent progress and activities in the department and the college. They also interact with present students and come up with several suggestions to improve the departmental activities and progress of students. Few alumni have sponsored awards to toppers & underprivileged students.

No. of registered Alumni- 5200

File Description	Document
Any additional information	View Document

5.4.2 Alumni financial contribution during the last five years (in INR).

Response: B. 10 Lakhs - 15 Lakhs

File Description	Document
Any additional information	View Document

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1 The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the Institution

Response:

Dayananda Sagar College of Engineering, currently, an autonomous institution, was established in the year 1979 and has widest choice of engineering branches, having 15 Under Graduate Courses & 13 Post Graduate Courses with 20 Research Centres and is affiliated to Visvesvaraya Technological University (VTU), Belagavi, approved by AICTE New Delhi and accredited by NBA, NAAC, also certified by ISO & ranked by NIRF.

Vision of the institution is

- To impart quality technical education with a focus on Research and Innovation, emphasizing on development of Sustainable and Inclusive Technology for the benefit of society.

This is supported with mission statements as

- To provide an environment that enhances creativity and Innovation in pursuit of Excellence.
- To nurture teamwork in order to transform individuals as responsible leaders and entrepreneurs.
- To train the students to the changing technical scenario and make them to understand the importance of Sustainable and Inclusive technologies.

To impart quality technical education the management has created excellent ambiance and infrastructure. It has recruited best, qualified faculties in the all the departments. Most of the faculties are doctorates from various IITs, NITs and reputed institutions. To support research very good lab facilities are created with good equipment and related infrastructure. Incentives are being given for research activities. As a result of this, departments are having funded projects. For encouraging innovation, an Institute Entrepreneurship Development Cell is created which benefit not only students but also the alumni. Institute supports various activities to enhance the research culture in the form of guest lectures, Conferences both within and outside the campus.

Committees such as Research Advisory, Ethics Committee for research, and Committee to Monitor Code of Conduct are in place to support the faculty. Senior faculties are members of these committees which make decisions on related activities. In organizing committees of various conferences faculty are involved.

File Description	Document
Any additional information	View Document
Link for additional information	View Document

6.1.2 The effective leadership is reflected in various institutional practices such as decentralization

and participative management.**Response:**

The leadership of the institution has adopted a decentralized and participative style of functioning under which day to day governance is administered through various committees. Representation of teachers in administrative committees and committees of academics, research is encouraged to provide necessary inputs so that the decisions and/or recommendations arrived at such deliberations and meetings are converted into concrete actions and implementations.

Leadership at different levels, starting from Principal along with various personnels makes the college to run smoothly at all levels. Different committees involve all the stakeholders in decision making process to ensure smooth functioning of teaching and management process at different levels. The top management monitors the work done at various levels and makes the appropriate decisions to achieve the vision of the college. Leadership is provided with prime importance at all levels and is encouraged amongst the faculty and students also. Several committees are formulated to take care of all the activities from class monitoring to exam conduction to academics and research.

Some of the committees which look into the day to day activities are Periodical Tests & Performance Analysis, Institution Social Responsibility, Examination, Sports, Timetable, Question papers Review, Result Review, Students Attendance Review, Ragging Prevention, Hostel Advisory, College News Letter / Magazine, Cultural, College transport, Grievances and redressal cell & Women's harassment Cell, Campus Maintenance & Monitoring, Anti-Drug, Alumni committee, SC/ST/OBC/MINORITY committee, RTI, Research Advisory, Ethics Committee for research, Committee to Monitor Code of Conduct.

Case study about syllabus formation:

All the departments identify the needs for their respective programmes in terms of curriculum, syllabi, departmental developments and infrastructure. The departments take some of the leading academic institutions and professional societies as the benchmark. Also Feedback from stakeholders, Interactions with students and from faculty members are considered. The needs of the industries are also identified through engineering industry conclave. Based on these need analysis, the departmental academic developments are being framed by the faculty members along with the heads of departments. The needs are vetted and approved by Board of Studies, Academic Council comprising of faculties, invited members as per the university norms. Through Governing Council, management will ratify the framed syllabus of all the departments.

File Description	Document
Link for strategic plan and deployment documents on the website	View Document

6.2 Strategy Development and Deployment**6.2.1 The institutional Strategic / Perspective plan is effectively deployed**

Response:

To achieve the vision of the institution through missions, DSCE has a perspective plan for various development activities & is deployed at various levels. Through these plans institute try to achieve its goal to become one of the premier institute in the country. Institute identified that it can be achieved through overall improvements in teaching learning through curriculum development, Industry interactions, MoUs, R&D centers, Technology-based Incubation cells, Professional society chapters/clubs, Student Counseling Cells. Therefore it has encouraged the college to set up Centre of Excellences, various MOUs, Derby start-up foundation & Centre for Innovation and Learning (CIL).

Examination and Evaluation

A well established exam section is in place under controller of examination, who is a senior faculty, along 4 deputy controllers drafted from different departments. A separate section for examination is provided on the institute website, where students can view information, circulars about the examination rules, Schedule and other processes. Separate software is availed for examination management and digital evaluation. Students can apply online for exams and see their results also online at the comfort of their homes. For internal marks Tutorials/projects, class-tests, internal assessments, AATs, Quiz, assignments and CIE-SEE comprises of formal evaluative processes.

Library, ICT and Physical Infrastructure/Instrumentation

Department library is having sufficient number of books/CDs/Journals & is made available for students and faculties. Students and staff also have access to college library. College library is having the latest automated RFID technology making library task more user-friendly for students. Majority of the classrooms are equipped with projectors to facilitate interactive and demonstrative teaching-learning process and laboratories with modern equipments & software.

Teaching and Learning

Teaching plans are prepared by faculties ahead of every semester. This plan depicts detailed view of the syllabus coverage. HOD meetings are scheduled with faculties periodically to discuss academic activities & other developmental activities. Faculty members completes syllabus in time. Tutorial/Remedial classes are taken to ensure failed and weaker students get benefitted.

E-Governance/ERP

The e-governance team or ERP team maintains complete student (evaluations) and staff database (profiles)& Continuous Internal Assessment details, attendance and marks of students. Institution has separate examination software for overall conduction and evaluation process. Final exam answer scripts are digitally evaluated online by internal & external evaluators.

Industry Interaction/Collaboration

Engineering conclave is organized annually, where an industry expert will be invited and his/her views on syllabus will be discussed with all faculties. Feedback from the engineering conclave will be considered during the up-gradation of the syllabus to make the syllabi industry tuned. Departments also organizes frequent industrial visits.

File Description	Document
Link for Strategic Plan and deployment documents on the website	View Document
Link for additional information	View Document

6.2.2 The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment and service rules, procedures, etc.

Response:

The vision, mission and the values of DSCE is to strive continuously to improve the existing system with the aim of becoming the best college in the field of education in the country. Commitment, ethics, sincerity and transparency in all sorts of activities is present to treat the stake holders with dignity and respect.

Management: The institute governance is progressing under the strong leadership of the Chairman, the Vice Chairman & the day today affairs supervised by the Secretary. The management officials are great thinkers and planners, with enriched knowledge gained from their vast experience. Under their able leaderships, the institute governs a strong faculty and student friendly administration section which helps in the smooth functioning of the institution at various levels.

Governing Council:

The Governing Body of the College comprises of representatives from management, Industry, Academia and regulating agencies like AICTE, UGC and VTU. Important decisions regarding the policy matters and administration affairs are taken in these meetings and the implementation is reviewed by the governing council.

Academic council:

Academic Council comprising of internal members along with VTU nominee and external experts meets once in a year and scrutinizes the recommendations of the BOS of all the departments and see that the AICTE, UGC and university norms are adhered to.

The day-to-day management of the college is vested with the principal, various committees and IQAC wing of the College. All the HOD's & Staffs interact with the institutional stakeholders - students, industries (placements), parents and alumni to take care of the students' progress.

Appointment: There is recruitment committee comprising of representative from management, Principal, HOD, a senior professor from department, HR and an external subject expert. Based on the need of the department, HR office will call for appointment and conduct the recruitment.

Service Rules: A well defined Service rules is in place to give clear instructions for the staff to work efficiently in the institute. All the working guidelines and facilities available from the management are mentioned in the service booklet. The procedures are maintained and monitored by the HR department.

Code of conduct to staff and students along with guidelines help them to maintain decorum and discipline in the college.

A detailed organogram is attached.

File Description	Document
Link to Organogram of the Institution webpage	View Document
Link for additional information	View Document

6.2.3 Implementation of e-governance in areas of operation

1. Administration
2. Finance and Accounts
3. Student Admission and Support
4. Examination

Response: A. All of the above

File Description	Document
Screen shots of user interfaces	View Document
Institutional data in prescribed format	View Document
ERP (Enterprise Resource Planning) Document	View Document
Any additional information	View Document
Link for additional information	View Document

6.3 Faculty Empowerment Strategies

6.3.1 The institution has effective welfare measures for teaching and non-teaching staff and avenues for career development/ progression

Response:

Being an autonomous institution, DSCE has been providing all types of employee welfare benefits such as ESI & PF facility, Gratuity provision, Vacations, EL, Sick leave, Sports amenities, Gym & Recreation facilities, Creche, Parks, ATM facility, Bank, Canteen, Hostel, Mess, etc.

The college provides due encouragement for various career development activities equally for teaching and non-teaching by permitting them to utilize research facilities, pursue higher studies, undergo training programmes, attend seminars, symposiums, conferences, workshops at National and International levels by providing support. Teachers were granted duty leave or special casual leave to attend intellectual attainment programmes for presenting research papers and take part in conferences as participants,

presenters or resource persons.

During the last five years, Dayananda Sagar College of Engineering has been very liberal in permitting the teachers to pursue research programmes and a good number of teachers have acquired their PhDs. Staffs were permitted to attend various in-house or external training programmes, faculty development programmes, workshops, training programmes, etc. to enhance their skills and knowledge to achieve career growth and in institutional developments. Following welfare schemes are given to the staffs of DSCE at various levels:

1. ESI & PF facility are given as per the statutory norms.
2. Gratuity provision to all employees
3. Vacations for Teaching Staff
4. EL facilities for non-teaching
5. Sick leave for teaching & non-teaching staffs
6. OOD facility for attending research work, Seminars, Workshops, FDPs, Conferences
7. Paid maternity leaves for 3 months, further it can extend on request without salary
8. Sabbatical Leave for getting higher qualifications (pursuing higher studies)
9. Uniform for Attenders, Housekeeping Staff, Workshop staff & Drivers
10. Creech facility available for Children of Employees
11. Canteen & mess facilities
12. Hospital facility
13. Hostel facility for outsiders who come to the campus

File Description	Document
Link for additional information	View Document

6.3.2 Average percentage of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the last five years.

Response: 1.81

6.3.2.1 Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies year wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
0	12	11	8	9

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document

6.3.3 Average number of professional development / administrative training Programmes organized by the institution for teaching and non-teaching staff during the last five years.**Response:** 58.2**6.3.3.1 Total number of professional development /administrative training Programmes organized by the institution for teaching and non teaching staff year-wise during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
76	72	58	37	48

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centres).	View Document
Institutional data in prescribed format	View Document

6.3.4 Average percentage of teachers undergoing online/ face-to-face Faculty Development Programmes (FDP)during the last five years (Professional Development Programmes, Orientation / Induction Programmes, Refresher Course, Short Term Course).**Response:** 162.27**6.3.4.1 Total number of teachers attending professional development Programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes year wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
2095	690	345	170	94

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centers)	View Document
IQAC report summary	View Document
Institutional data in prescribed format	View Document

6.4 Financial Management and Resource Mobilization**6.4.1 Institution conducts internal and external financial audits regularly**

Response:

DSCE regularly conducts audits. It has a full-fledged Accounts Department since its inception to ensure maintenance of annual accounts and various types of audits.

Departments maintain budgetary information on cash inflow, stock information, expenditure, purchases, consumables, etc. HODs of individual departments provide budgetary informations based on their requirements / inputs from the staff and the requirements from the laboratories. The departments propose their budgetary requirement for the particular year to the management. Then, the Principal puts the proposals regarding the finance related matters to management and seeks approval and ensures its successful implementation for that particular year.

Yearly budget for the institution is prepared at the beginning of financial year, considering potential income and expenditures (recurring and non-recurring) involved for the year. At Institution level, internal audit will be done by the management annually on the revenue generated, revenue being spent and same procedure will be done using external audit also. Finance/Accounts department takes care of overall budget maintenance of the college. The financial records are audited by chartered accountants at the end of each financial year and certified.

The funded projects are also audited by the external auditors in a systematic manner. The financial audits are conducted whenever a funded project is approved by any funding agency (government or a non-government agency). The auditor verifies and approves the utility of funds for every project, as per the norms of the funding agency before the closure of the funded project's research activity. A separate R & D account is maintained by the college and the project amount will be deposited to that account, which could be utilized for various types of research purposes such as procurement of equipments & software, salaries for the JRFs, etc.

File Description	Document
Any additional information	View Document
Link for additional information	View Document

6.4.2 Funds / Grants received from non-government bodies, individuals, philanthropists during the last five years (not covered in Criterion III and V) (INR in Lakhs)

Response: 90.03

6.4.2.1 Total Grants received from non-government bodies, individuals, Philanthropers year-wise during the last five years (INR in Lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
46.43	2.1	34.0	5.0	2.5

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Annual statements of accounts	View Document
Link for additional information	View Document

6.4.3 Institutional strategies for mobilisation of funds and the optimal utilisation of resources

Response:

The institution has a well-planned system for effective and efficient use of available financial resources. The master key for taking financial decision and related matters is vested in the Finance Committee and the management officials, who constantly monitor and encourage for the proper utilization of required funds as per the department for various activities such as recurring and non-recurring expenses. Mobilization of funds in the institute is through several sources. The primary source is through tuition fees of the students. In addition, financial assistance is obtained through external funded research projects and by carrying out consultancy works. The interest generated on corpus also contributes towards income.

Sources of funds are as follows:

1. Fees charged is as per the university and government norms from students of various undergraduate, postgraduate & research scholars.
2. Grants for Research activities from Government and Non-Government Bodies.

Optimum utilization of funds is ensured through the following....

Adequate funds are allocated for effective teaching-learning practices that include Orientation Programmes, Workshops, Guest lectures, Conferences, Seminars, FDPs, Inter-disciplinary activities, Training programmes, Refresher courses, Accreditation process, Enhancement of library facilities, maintenance of infrastructure, social responsibilities through NSS etc. that ensures quality education. In case of any need where financial support is required, proper requisition in writing is made from the concerned department. In case of any immediate requirement, the details of requirement of equipments, maintenance, infrastructures etc. are prepared and proper procedure for purchase is adopted, which is handled by the purchase committee. Institute Budget forms the basis for it. Funds certification and allocation registers acts as the instruments of budgetary control.

Main motto of resource mobilization and optimal utilization of resources is to put the institution on bench mark in tune with quality teaching and enhancing the growth of students at all levels.

Separate accounts are maintained for separate funds received from various sources. For example, a separate R & D account is maintained for every funded project by the college and any amount received for funded projects will be deposited to that account.

The research account is used as per the project norms. For purchase of resources, quotations will be invited and comparative statements will be prepared, purchase order is placed. For recurring expenses like JRF salary, consumables, contingency, travel, secretarial expense will be spent as per the norms and bills will be collected, maintained and audited. Once in a year external auditors are invited to carry out the auditing process. The auditors will review all the bills and carry out auditing and issue No Objection Certificate (NOC) and utilization certificate (UC).

File Description	Document
Any additional information	View Document
Link for additional information	View Document

6.5 Internal Quality Assurance System

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes visible in terms of – Incremental improvements made for the preceding five years with regard to quality (in case of first cycle) Incremental improvements made for the preceding five years with regard to quality and post accreditation quality initiatives (second and subsequent cycles)

Response:

Response: The **Internal Quality Assurance Cell (IQAC)** of DSCE is known for quality sustenance and development measures envisioned at Continuous quality improvement and achieving excellence. IQAC cell is involved in improving the curriculum, protorial system, providing research environment, conducting academic audit of the department and facilitating the seminar/conference/workshops etc in the departments. The Cell ensures coordination among various activities of the institution and commits itself to all good practices.

Two of the best practices:

1. INDUSTRY CONCLAVE: DSCE has distinguishing approach of industry institute interaction that is “Engineering Conclave” for strengthening curriculum, which reduces the gap between academia & industry. The events main objective is updating the syllabus in tune with the industry requirements.

The Engineering Conclave is an activity to strengthen industry and academic cooperation and, in the process, prepare students to be ready for industry and make them employable graduates.

During the Engineering Conclave, experienced industry experts along with the faculty of respective departments will discuss the existing syllabus of various courses of all semesters along with electives and fine tune as per the requirements of the industry. Conclave is held during the month of Feb / March every year.

2. SWOT analysis :IQAC insists the SWOC analysis of all the department to know the status of the program. Each department will prepare the SWOC based on varies parameters like TLP, research, Industry

institute interaction, Students activities etc. Based on these certain higher goals are set for each item and the departments work to achieve these goals and at the end of the academic year the set goals are reviewed and the target is analyzed. Depending on the analysis the corrective actions for the activities whose goals are not attained are taken. For attained goals the higher targets are set.

File Description	Document
Any additional information	View Document
Link for additional information	View Document

6.5.2 The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms and recorded the incremental improvement in various activities (For first cycle - Incremental improvements made for the preceding five years with regard to quality For second and subsequent cycles - Incremental improvements made for the preceding five years with regard to quality and post accreditation quality initiatives)

Response:

The IQAC has meaningfully contributed towards improving Academic Environment, Teaching and Learning Process, Curriculum, Evaluation Methods and Research environment in the institute.

Syllabus design: As per IQAC procedures, syllabus is designed by taking the feedback from the industry experts through engineering conclave, Alumni, students and Board of Studies.

Seminar/Workshop/Webinars by industrial experts: IQAC encourages the departments to invite industry personnel as resource persons in Faculty development Programmes, Workshops, Seminars and Technical Talks. Many training programmes have been conducted in collaboration with the industry in the past 5 years.

Internships: IQAC encourage, industry internship/Industrial visits for the students for a period 1 to 2 weeks for internship and 2 to 3 industry visits during their program.

Apart from these the two important contributions are

- **Academic Audit of Departments:** The institutional academic audit offers an opportunity to improve the quality in teaching-learning process in the institute. Academic Audit is done by Department, college level and by externals like experts from other college, BOS, ISO, NBA. The academic audit is done for all the courses of various semester of both under graduates and post graduate Programmes. The audit is conducted at two levels namely at the department level and at the institute level. In the department level head of the department will conduct audit course wise, and assess mode of teaching, completion of portion as per the lesson plan, student's attendance and proctorial system. At the end of each semester institutional level audit will be conducted as per the

guidelines of IQAC by senior level faculty appointed by IQAC. During this audit Individual course file, personnel files checked and suggestion will be given for any improvements. The audit comprises of following parameters, namely the course outcomes defined for each course, the CO-PO mapping, and CO attainment. The attainment of COs and POs are calculated based on both Direct and Indirect Assessment Methods. The attainment levels of COs and POs are compared with set values and analysed for their attainment. Finally, a summary of the audit is prepared and is placed for outlining an action plan to improve the quality of academic activities.

- **Question Paper Audit:** In order to maintain quality, standard and make uniform assessment of internal and semester end examinations, question papers are audited periodically. Question papers of **internal tests** are audited at the respective department level. A senior faculty member of the department scrutinizes the internal question paper for quality, percentage of numerical in the relevant course, grammar, BT level, CO's and for uniformity. Corrections are suggested and incorporated before finalizing. **Semester end examination (SEE)** question papers are audited by experts who are invited from other institutions. Board of examiners list is set by the department and approved by BOS for SEE. The external subject expert along with internal BOE members will scrutinize correctness of the question paper, for each course, set by both internal and external, identified paper setters and corrections are incorporated before SEE.

File Description	Document
Any additional information	View Document

6.5.3 Quality assurance initiatives of the institution include:

1. **Regular meeting of Internal Quality Assurance Cell (IQAC); Feedback collected, analysed and used for improvements**
2. **Collaborative quality initiatives with other institution(s)**
3. **Participation in NIRF**
4. **Any other quality audit recognized by state, national or international agencies (ISO Certification)**

Response: All of the above

File Description	Document
Upload e-copies of the accreditations and certifications	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Paste web link of Annual reports of Institution	View Document
Link for additional information	View Document

NAAC

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Measures initiated by the Institution for the promotion of gender equity during the last five years.

Response:

Gender equality in education strengthens the quality of education and provides an appropriate learning environment for both girls and boys. The focus on gender equity supports and encourages the students to optimize their educational progress and to become courageous and brave enough to face the competitive world. Dayananda Sagar College of Engineering sensitizes students and employees regarding gender equity and takes the social responsibility of reacting to the events happened in the society by various activities. The institute promotes gender equity in admissions, recruitment, administrative functionality and academic activities. Equality of access to and attainment of educational qualifications is necessary and empowering women to participate in various initiatives will bring drastic improvement in the society. Women's empowerment and achieving gender equality helps society to ensure the sustainable development of a country. Skill is the bridge between job and workforce. Skill development is a key to improve employability and income-earning opportunities for women and for enhancing sustainable development. With this thought, Dr. Chandramma Sagar Centre for Women Empowerment and Skills Training (DC - WEST) was established and aims at empowering women and helps to make them independent in all aspects from mind, thought, rights and decisions. Our Institution has the practice of appreciating faculty without gender bias. Women faculty are nominated, based on their ability, as heads of the departments, conveners of various committees, conferences, seminars and workshops and thereby supporting them in discharging their duties efficiently. Our Institution also encourages Women faculty to visit foreign destinations for their academic/research purpose.

The Facilities provided for women in the campus are:

1. Girls waiting halls are provided in the campus with required facilities
2. Setting up of Sanitary napkins vending machine
3. Separate space is provided for girls in the central library, DSCE
4. The girl students are nominated as members of various committees at department, institute levels and the institute encourages their participation in co-curricular and extra-curricular activities.
5. The Institute celebrates Women's day in a grand manner and presents success stories of famous women to inspire the girl students and to make them understand their potential.
6. Programs on creating awareness on legal rights of women, self defense workshops, Scholarship initiative in the memory of our student Late Ms. Shubha Phutela as Shubha Phutela Memorial scholarship, Counselling sessions for girl's students, ACM Women student chapter were conducted.

File Description	Document
Specific facilities provided for women in terms of: a.Safety and security b.Counselling c.Common Rooms d. Day care center for young children e. Any other relevant information	View Document
Annual gender sensitization action plan	View Document

7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures

- 1.Solar energy
- 2.Biogas plant
- 3.Wheeling to the Grid
- 4.Sensor-based energy conservation
5. Use of LED bulbs/ power efficient equipment

Response: C. 2 of the above

File Description	Document
Geotagged Photographs	View Document
Any other relevant information	View Document

7.1.3 Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 500 words)

- Solid waste management
- Liquid waste management
- Biomedical waste management
- E-waste management
- Waste recycling system
- Hazardous chemicals and radioactive waste management

Response:

Campus is eco friendly with well maintained lush green lawns, trees and flowering plants. There is an organized procedure for waste segregation and its disposal. The institution promotes Green and Clean India Awareness program through NSS activities to maintain hygiene and cleanliness in the campus. The lush green campus provides the facilities such as Rain Water Harvesting, Well Grown Trees, Water Reuse Treatment Plant and Waste management. Institution has put in place environmental management system and is certified with ISO 14001:2015, indicating systematic approach is adopted for wastes disposal.

Solid waste management: The solid waste generated from the institution is segregated at the source itself as dry or non degradable and wet or bio-degradable waste by placing colored bins at various places in the campus and are dumped separately. Dry waste and wet waste are collected and disposed separately.

Majority of wet waste is generated from hostels and canteens. Dry wastes such as plastics, metals are disposed to the scrap vendors for recycling purpose, wet wastes collected from hostels, canteens and other places are disposed to city corporation (BBMP) lorries.

Liquid Waste Management: The liquid wastes from laboratories, toilets and other sources are treated in a wastewater treatment plant and the treated water is used for flushing the toilets and gardening purpose in the campus. The hostel canteen is used by students and staff during working hours. The liquid waste is generated at hostel and canteen. This waste (water) is taken to Sewage Treatment Plant (STP) for tertiary treatment (Extended Aeration-Activated Sludge Process). The recycled water is used for gardening /horticulture.

Biomedical waste management: Generally these wastes are generated from Biotechnology, Chemical & Medical electronics department and are relatively very less. These wastes are disposed through Sagar Hospitals ,belonging to our trust located attached to the campus.

E waste management: Old and obsolete computers, printers and other equipments which are non functional are sent to the central store (Electronic Data Processing Department - EDP). After inspection and verification by the EDP, salvageable parts are reused in other defective systems and are restored to working condition. These computers and equipment are sent to schools of DSCE and other organizations for re-use. Remaining parts of the equipment are outsourced through vendors as scrap material for further e-waste management.

Waste recycling: the liquid waste is treated and reused for flushing the toilets and gardening purpose in the campus. The waste water (about 80,000 litres) generated from hostel and canteen and is taken to Sewage Treatment Plant (STP) for tertiary treatment (Extended Aeration-Activated Sludge Process). The rainwater/runoff water is collected in harvesting pond constructed near parking area. The collected rain water is used for lawns and garden in the campus. Water quality will be tested before reuse.

Hazardous chemicals and radioactive waste management: As we deal with very dilute solutions, the chemical wastes generated are minimal and these dilute solutions are further diluted before letting into the sink.

File Description	Document
Relevant documents like agreements/MoUs with Government and other approved agencies	View Document
Geotagged photographs of the facilities	View Document

7.1.4 Water conservation facilities available in the Institution:

1. Rain water harvesting
2. Borewell /Open well recharge
3. Construction of tanks and bunds
4. Waste water recycling
5. Maintenance of water bodies and distribution system in the campus

Response: A. Any 4 or all of the above

File Description	Document
Geotagged photographs / videos of the facilities	View Document
Any other relevant information	View Document

7.1.5 Green campus initiatives include:

- 1. Restricted entry of automobiles**
- 2. Use of Bicycles/ Battery powered vehicles**
- 3. Pedestrian Friendly pathways**
- 4. Ban on use of Plastic**
- 5. Landscaping with trees and plants**

Response: Any 4 or All of the above

File Description	Document
Various policy documents / decisions circulated for implementation	View Document
Geotagged photos / videos of the facilities	View Document

7.1.6 Quality audits on environment and energy regularly undertaken by the Institution and any awards received for such green campus initiatives:

- 1. Green audit**
- 2. Energy audit**
- 3. Environment audit**
- 4. Clean and green campus recognitions / awards**
- 5. Beyond the campus environmental promotion activities**

Response: A. Any 4 or all of the above

File Description	Document
Reports on environment and energy audits submitted by the auditing agency	View Document
Certification by the auditing agency	View Document
Any other relevant information	View Document

7.1.7 The Institution has disabled-friendly, barrier free environment

- 1. Built environment with ramps/lifts for easy access to classrooms.**
- 2. Divyangjan friendly washrooms**

3. Signage including tactile path, lights, display boards and signposts
4. Assistive technology and facilities for Divyangjan accessible website, screen-reading software, mechanized equipment
5. Provision for enquiry and information : Human assistance, reader, scribe, soft copies of reading material, screen reading

Response: C. 2 of the above

File Description	Document
Policy documents and information brochures on the support to be provided	View Document
Geotagged photographs / videos of the facilities	View Document

7.1.8 Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities (within 500 words).

Response:

Dayananda Sagar College of Engineering(DSCE) brings harmony continuously, is in the forefront in building inclusive environment among staff & students towards cultural, regional and linguistic capabilities. DSCE provides immense support to co-curricular activities and the performing arts. Different activities are conducted with specific themes in order to develop inclusive environment in the campus. Majority of these activities are conducted through Centre for Performing Arts (CPA)-a cultural wing of the college and National Service Scheme (NSS) unit of the college. Through these divisions different activities are organised to build communal socio economic harmony among the society.

DSCE has been successful in bringing talented students and faculty members together to celebrate cultural events. We at DSCE constantly focus on promoting the performing arts and nurture the enthusiasm of students. People of different culture are oriented to work in harmony to build socio communal relations.

Over the course of the last five years, the annual cultural fests: 'VIBRATIONS' and 'FUORE' have been a major part of the college's cultural journey, along with many other celebrations, including festivities for Kannada Rajyotsava, Ganesh Chaturthi, Women's day, Founder's Day, and many more. Various activities were conducted under NSS wing to serve the community through a sustained interaction.

Academic year begins with the Induction Program for the freshmen, which helps them to know their strengths, work on improving inter-personal relations amongst fellow classmates and introduces them to the various cultural teams. This is followed by Talent's Day, a stage to showcase their flair for the Performing Arts.

'VIBRATIONS' is the annual intra-college fest that brings together the various departments within the DSCE campus. The three-day fest is a witness to numerous talents and competitions. Eminent Celebrities in the field of culture are invited to grace the occasion every year. Various festivals such as Ganesh Chaturthi, Ayudha Pooja, Kannada Rajyotsava are celebrated to imbibe tradition and culture amongst its students, and keep them grounded to their roots.

'FURORE' is one of Bangalore's most popular inter-college fests, where participants are from colleges and universities around the country. DSCE also organizes 'INSIGNIA', a annual tech-fest for the freshmen facilitating them for proper orientation and networking.

The college organized an online fest during the pandemic to keep morale high among the students and faculty. 'UPLINK' , DSCE's online cultural fest was organised. Students participated with great enthusiasm in various competitions.

'CULTURA' is DSCE's Weekly Saturday Stage Show, which aims to deliver a spotlight to all the students and faculties of the college to showcase their talents. Throughout the lockdown, the CPA kept the zest of Cultura going through Instagram TV (IGTV) feature. Every week, the audience witnessed amazing performances from the comfort and safety of their homes.

Every year ethnic day is celebrated in the college, students and staff showcase their cultural heritage by coming in ethnic dresses to promote cultural and linguistic integrity. . It helps to nurture the young creative minds and understand the importance of teamwork.

File Description	Document
Supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution)	View Document
Any other relevant information	View Document

7.1.9 Sensitization of students and employees of the Institution to the constitutional obligations: values, rights, duties and responsibilities of citizens (within 500 words).

Response:

The autonomous engineering curriculum includes a course on the Constitution of India and Professional Ethics, taught in the 2nd year of the BE degree program. This course helps to create awareness among students about rights, duties, responsibilities, values, and professional ethics.

Universal Human Values program is conducted for first-year students as part of an Induction program to inculcate values and ethics in students to be a responsible citizen. Student clubs are also involved in various activities such as planting of trees for greener campus, working in association with government and private organizations for the betterment of nature. All the student project reports and publications are compulsorily subjected to plagiarism check as part of institute's ethical practice.

Blood donation Camps are conducted regularly to support the needy in association with the Indian Red Cross Society and National Service Scheme (NSS), which makes the students be socially responsible citizens. Visits to rural government schools, orphanages, and old age homes are arranged so that the students understand social issues and problems and help the needy by providing the necessary things such as food, clothes, books, bags, and furniture, and stationery items.

Charity events are organized regularly to support poor and needy sections of the society. The institution also arranged social activities such as Flood Relief Drive, Shrama Dhana Shibira, World Water Day, Swacha Bharat, International Yoga Day, Earth Day, Voting awareness campaign, and Tree Planting.

- Induction programs were organized in August 2018, August 2019, and August 2020.
- Talks on Universal Human Values for 1st year Students were organized from 5th to 9th May 2018.
- Blood donation Camp was organized in the campus on 11th November 2019, 9th October 2018 and 9th November 2017.
- On 6th August 2018 NSS Team of DSCE visited the Government primary school, Tippur to distribute bags, books, pouches, stationeries to the needy school kids.
- NSS Team of DSCE assembled on 6th October 2018 at BBMP Park, Kumaraswamy Layout to support the cleaning mission under swachabharath abhiyaan in association with NagarikaSeva Samithi (R).
- Dayananda Sagar College of Engineering NSS – Unit in association with Adamyachetana organized Tree plantation event at DSCE campus on 26th November 2017.
- Mission Compassion 2018 a one week program, was organized with a motive of charity. Campaigning for the event started from 8th of March till 15th of March and the collection drive happened from 12th March to 15th March.
- Police department of South Bangalore organized a Marathon to give awareness on not to use Drugs, in Lalbhag Bangalore on 30-9-2018. DSCE NSS Volunteers participated in the event.
- DSCE NSS organized a special camp from 24th Feb 2020 to 29th Feb 2020 at DevarakaggalaHalligovernmentSchool. The school premise was painted and saplings were planted. NSS student volunteers interacted with other students and taught them various aspects of learning.

Electoral awareness campaign to create awareness among students about the importance of voting, before the Indian general elections and Constitution day is conducted and awareness on constitution is propagated to the students.

File Description	Document
• Details of activities that inculcate values; necessary to render students in to responsible citizens	View Document
Any other relevant information	View Document

7.1.10 The Institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic programmes in this regard.

- 1. The Code of Conduct is displayed on the website**
- 2. There is a committee to monitor adherence to the Code of Conduct**
- 3. Institution organizes professional ethics programmes for students, teachers, administrators and other staff**
- 4. Annual awareness programmes on Code of Conduct are organized**

Response: A. All of the above

File Description	Document
Code of ethics policy document	View Document
Any other relevant information	View Document

7.1.11 Institution celebrates / organizes national and international commemorative days, events and festivals (within 500 words).

Response:

DSCE celebrates days and events of regional, national, international importance regularly.

Republic and Independence day are celebrated every year in the college. Flag hosting is followed with talks by eminent guests. NSS unit of the institution is also involved in coordinating the celebration.

Youth Day is celebrated in commemoration of the birth anniversary of Swamy Vivekananda. Eminent speakers are invited preferably from Vivekananda Ashrama to deliver inspiring speeches on teachings of Swamy Vivekanda.

Founder's Day is celebrated at Dayananda Sagar Institutions every year during the month of July to pay homage to the great visionary founder Late. Sri Dayananda Sagar, Chairman Dr. Hemachandra Sagar, Vice-Chairman Dr. Premachandra Sagar will grace the occasion and deliver inspiring speeches to keep the staff motivated. The highlight of the celebration is the cultural performance – Sagara Sangama. The function will be witnessed by the secretary Sri. Galiswamy, principal Dr. C P S Prakash and all the staff.

Kannada Rajyotsava is celebrated every year in the month of November in the college. The program starts with procession within the campus. Kannada literary figures are invited on the occasion. Flag hoisting is followed by various events such as debate, quiz, singing and various cultural activities are conducted.

VTU Fest is an annual intercollegiate youth festival for all the VTU affiliated Colleges across the state. DSCE students take part in music, art and dance performances.

Ethnic Day Students from different cultural, regional, linguistic, communal, and socioeconomic backgrounds, actively participate in the college level Ethnic Day. Staff and students wear ethnic dress to represent diversified rich culture of India to promote integrity, unity in diversity.

International Women's day is celebrated under the aegis of Dr. Chandramma Sagar Center for Women Empowerment and Skills Training (DCWEST) to honor womanhood and acknowledge all women in the world for making this world a better place for everyone to live in.

Yoga day celebrated every year to spread the message about the importance of Yoga for better health and to encourage students and faculty to practice Yoga for stress free life. Expert yoga teachers are invited on the occasion for Yoga Sessions.

Teachers Day is celebrated in the institution in memory of Dr. Sarvapally Radhakrishnan. On this occasion students invite the teachers with greeting cards and honor them with wishes. Teachers take part in

competitions and cultural activities as part of the celebration.

Ganesh Chaturthi is celebrated annually. Secretary, Principal, staff and students take part in the worship program to seek the blessings of lord Ganesh.

Engineers Day is celebrated every year to pay tributes to Sir Mokshagundam Viswesvaraya. Staff and students remember his achievements as an engineer and draw inspiration from him.

World Food Day is celebrated every year to commemorate the date of founding of the United Nations food and agriculture organization.

World water Day is celebrated in the campus to highlight the importance of water and spread the message about sustainable management of water resources. DSCE organizes seminars on water related themes on this day.

File Description	Document
Geotagged photographs of some of the events	View Document
Any other relevant information	View Document
Annual report of the celebrations and commemorative events for the last five years	View Document

7.2 Best Practices

7.2.1 Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.

Response:

Best practices are those which add values to human life and support main cause of an institution. Institution continuously strives towards achieving excellence; hence each year innovative activities are encouraged across all the departments. Best practices are an excellent way to improve the performance and productivity of an organization. Best practices can help organizations to fill the knowledge gaps, improve efficiency, encourage leadership, and more. DSCE is following two best practices which are:

1. Proctor system for students
2. Project open day

BEST PRACTICE 1

1. Title of the Practice

Proctor System for Students

2. Objectives of the Practice

The goal of the proctor system is to implement a system that helps in the overall development of the student during his/her stay in the college. The system also aims to keep the parents/guardians informed about the academic progress of their children on a regular basis helping them to guide their wards in the right direction. This system has been introduced to establish a better and effective student-teacher relationship and guide the students in Academic matters. Each teacher will be allotted with few students and they take care of them as Proctors.

3. The Context

The proctor system requires continuous interaction of the student and the proctor. The proctor and student meet at the beginning of the semester to discuss the goals for the semester and also they analyse the previous semester performance. The meeting between the proctor and the student will be held before and after every internal assessment tests to discuss his/her performance. The proctors are encouraged to help students to participate in co-curricular & extracurricular activities which will help in all-round development of a student. They provide both professional and personal advice during their course at DSCE. They also give constructive feedback on writing, teaching and other elements of career design.

4. The Practice

A faculty member is assigned as a proctor to every student as soon as he/she enters the campus. The proctor's role is to act as a guide, a mentor, a role model and a counsellor for the student during his/her stay in the campus. Proctors will provide a reliable and comprehensive support system to motivate students to excel in both academic and non-academic fields. The proctor will be the first point of contact for the student for any issues within the college that he/she needs guidance or support. Many of the students come to the college from various parts of the country and are staying away from their homes. Proctors can help such students to orient in the campus by acting as a counsellor and guiding them in the right direction. Once the student is oriented he/she will have numerous decisions to take like choosing the right elective, choosing the correct company for the placements, participating in various extracurricular activities during the course and value added programs, for which the proctor can act as a guide. Proctors also conduct regular meetings to check their performance in the academics and also advise them in attending the classes and mentor them in any academic issues and campus life. They proactively try to identify problems of the students and bring them to the notice of the concerned authorities. Proctors also ensures regularity and punctuality of students through counselling sessions. Here are some of the strategies to help the students for better improvement:

- Identify academic strengths and weaknesses in all fields of the student mentees
- Identify hobbies and fields of their interest.
- Guide and motivate to improve their results.
- Know their academic and psychological needs and guide them accordingly
- Conduct regular counselling sessions to building discipline.
- Encouragement and Orientation is provided in developing enthusiasm to participate in multi-skilled activities such as curricular, co-curricular and extra-curricular

5. Evidence of Success

The proctors are meant to guide students in the college and the feedback from stake holders have shown that the guidance by the proctor system has helped them in completing the course successfully. The list of slow learners is identified and focused more to improve the performance. Proctors are also satisfied that their efforts have helped their students to become a better graduate as is visible in the improvement in the academic performance of the students and also in placement activities. Proctors shall meet students of their batches in the first meeting and discuss general matters and make them at ease. Subsequently, they shall meet students after continuous internal assessment and discuss their performance and comfort level. The proctors shall counsel the students who are finding it difficult in adjusting to the environment.

6. Problems Encountered and Resources Required

It requires continuous updates of the performance of the students both academic and non-academic. As per the proctors, the students themselves sometimes refuse to communicate with the proctor at right time about their issues. It sometimes takes a lot of effort from the proctor to encourage such students to open up and communicate. The following are the few challenges faced during proctoring sessions

1. Assessing mentee's background (knowledge and skills)
2. Identifying mentee's motivation.
3. Dealing with mentee's inexperience (knowledge and skills)
4. Addressing mentee's misconceptions related to academics.

This clearly indicates the system as a whole can be improved further to achieve better results by regular interaction of the mentor faculty with the assigned students.

BEST PRACTICE 2

1. Title of The Practice

Project Open day

2. Objectives of The Practice

The goal of project open day is to facilitate students to showcase their technical capabilities and innovation. It also aims at exhibiting student's ability to find solutions for the real world problems. The practice has been introduced to showcase the presentation skills of the students and their flair for research. It also encourages students to participate in inter disciplinary activities such as research, funded and government projects

3. The Context

Projects play a very important role in a technical institution. It gives an opportunity to the students to analyze and give a solution to a problem statement in a more systemic approach. The project gives an opportunity to apply the project management and technical skills together to complete the task. The institution also supports students to work in a collaborative project with companies and government institutions. The event brings together the latest technologies used to solve societal problems in all sectors, such as healthcare, automobiles, construction, food industry, instrumentation.

The Project Open Day showcases our undergraduate final year projects and their outcomes to the academicians, potential employers, examiners and members of the institution and student visitors.

Open day provides a platform for the students to interact with the guests, speakers and public and improves their presentation and interaction skills.

4. The Practice

For our students it is a momentous occasion, the culmination of an entire year's work. It is an opportunity to present and demonstrate their practical knowledge in the form of prototype. The event is organized to showcase student's project both at institute level and department level, where final year students exhibit their projects which will be open for all the students, faculties, public etc. External industry experts will be called as a jury member to identify best projects in various categories.

5. Evidence of Success

As the quote says "The expert in anything was once a beginner", Project Open day encourages all the students to learn the value of networking, by introducing themselves and their project work to the speakers. Project work develops spirit of team work, communication skills and interaction. To enable the students to learn about and adapt to different work environments, the institution permits students to work in collaborative projects with companies and government institutions, research and development sectors. The projects will be awarded across different categories like best project presentation, best innovative project, best project of social relevance, overall best project etc. Students will feel proud for their hard work in completion of the project.

Project open day at department level encourages getting Memorandum of Understanding (MoU)

with the companies, that helps students to know the current scenario in their respective fields. DSCE is in forefront in getting highest number of Karnataka State Council for Science and Technology (KSCST) sponsored projects every year. Also KSCST appreciates the successful completion of student projects in a given time line.

6. Problems Encountered and Resources Required

- Preparing projects in a given timeline and to build self confidence in student for presentation
- Providing latest software tools to student projects for the execution
- Providing components and help them to get acquainted with the working of equipment during the project execution
- Discipline and periodic project evaluation contribute significantly in their skill development
- Availability of industry experts as jury for a planned open day

File Description	Document
Best practices in the Institutional web site	View Document
Any other relevant information	View Document

7.3 Institutional Distinctiveness

7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words

Response:

Dayanada Sagar College of Engineering (DSCE) adopts various best practices that will contribute for overall personality development of the students. The college has distinctive unique approach of industry institute interaction that is “Engineering conclave” for self-augmentation, which bridges the gap between academia & industry. The event mainly aims at designing or updating the syllabus and organizing workshops, conferences to meet industries requirements and needs.

About the Engineering Conclave

To become the future skill capital of the world, alignment with ‘new age jobs’ and ‘new age skills’ is a must. Focusing on the industry needs and requirements is an essential step towards the understanding of specifications and skills sought after by companies when recruiting their future employees.

The Engineering Conclave of Dayananda Sagar College of Engineering (DSCE) is an initiative to bolster industry and academic synergy and in the process build an employable workforce and a better India. The industry academia interface has to be harnessed to its full potential to take the mileage out of high volatile technology environment by enhancing the employability of students and make them ‘industry ready’.

Also, the conclave will validate and update the curriculum to meet current industry requirements. It presents an opportunity for academicians, researchers and engineers to come together and provide meaningful solutions to make education more productive for students and helps bridge the skill gap.

The main aim of engineering conclave is to design the syllabus as per the industry requirement.

Objectives

1. To fine tune the syllabus to meet the industry requirements
2. To understand industry expectations and scale up further
3. To understand and update with the changing industry practices
4. To bridge the skill gap

Every year each department will invite an expert in their domain to bring in industry oriented curriculum into practice. Experts from renowned industries and research organizations are involved and give suggestions to fine tune the curriculum.

During the Engineering Conclave, an expert from the industry along with the faculty and Head of the

Department (HOD) will discuss the existing syllabus of different courses and fine tune as per the requirements of the Industry. The main objective of conducting the Engineering Conclave is to discuss the existing syllabus for engineering courses for all semesters, Electives in higher semesters and to take suggestions from the industry experts in the concerned field. Usually the Engineering Conclave is held during the month of Feb / March every year.

First year departments discuss the suggestions with core branches to modify the syllabus accordingly as per their requirement. Syllabus is modified to make it more application oriented so as to be useful for the students to be Industry ready. Modified Scheme and Syllabus along with the suggestions by the Industry Conclave is presented by the HOD in the Board of Studies (BOS) meeting for approval. A systematic approach on syllabus updating through Engineering Conclave can create Industry ready students for good placements.

A course – “Emerging Technology” has been introduced in the syllabus for each department in their third (5th semester) is one of the major outcome of engineering conclave. Emerging technologies are the progressive innovations happening outside the world, as a result of this we upskill the students to be ready for the industries requirement.

In 2018, experts from various industries such as GE Aviation, Volvo & Eicher group, GE Health care Life science, SABIC’s Technology center, STUP consultants Pvt Ltd, Volvo group India Pvt. Limited, Infosys Ltd, GE Global Research, VI solutions, Nouveau Architects, Adobe systems, Rapsri engineering Industries Limited, GE Healthcare South Asia, Robert Bosch, HP Enterprise, DXC Technology, Textron India Pvt Limited, Infosys Limited, EY global delivery service India private Limited etc participated and shared their valuable thoughts, ideas and suggestions for well-tuned curriculum.

Similarly in the year 2019 and 2020 “Engineering Conclave”, experts attended the conclave and provided their valuable inputs to fine tune the curriculum in line with industry needs.

File Description	Document
Any other relevant information	View Document
Appropriate web in the Institutional website	View Document

5. CONCLUSION

Additional Information :

Dayananda Sagar College of Engineering (DSCE) is a self-financed autonomous Institute carrying the Vision and Mission to impart quality technical education by providing right kind of environment to ensure students are trained as per the Industry requirements.

In order to fulfill its Mission, DSCE has a well-built system of Governance that provides leadership and support at all times. The **Governing Council** of the College acts as a true steering Committee in all matters – Academic and non-Academic and sets the right direction for putting forth the progressive steps.

In keeping with the quality policy, the Institute has built excellent infrastructure. The class rooms, Seminar halls, auditoriums, Laboratories, Library, Sports facility and placement & training are all well-equipped. The hostels have all the facilities that create the warmth of a home life. The green zones along with a temple on the campus provide a good ambience for the students.

The evidence of quality is, various recognitions institute received, one such is consistently getting recognition from AICTE-CII annual Survey as the best Industry connected Institute. The college is successively getting reviewed in NIRF. Academic Excellence is achieved under the guidance of a well-structured **Academic Council** that is involved in formulation of course structure with regularly updated and fine-tuned syllabus through a constant interaction with respective **Board of Studies** with its various members. Continuous improvement in curriculum is done by giving importance to project based learning. For improving Teaching-Learning process use of ICT tools, regular feedbacks – formal & informal, training the flow of curricular delivery through monitoring of Lesson plans are employed.

Focus on student centric activities, extracurricular and co-curricular activities resulted in all-round growth of an individual. Value added training, placement and seminars/technical talks, employability enhancement activities will focus on making the students ready to face the placements. Continuous support to the students having Entrepreneurial aptitude is given through **IEDC** Institute Entrepreneurship Development Cell. All these initiatives are given continuous focus in order to improve Academic strength keeping in mind various opportunities available for positioning ourselves as a good Autonomous Institute imparting right kind of skill sets to the students.

Concluding Remarks :

Dayananda Sagar College of Engineering, an autonomous Institute affiliated to Visvesvaraya Technological University, Belagavi, is oriented to meet all statutory requirements in terms of Affiliation, Accreditations and Rankings. We are constantly focusing on providing the best possible Academic exposure to the students with tightly scheduled academic activities. We are also giving priority to Research publications, funded projects and faculty to pursue Ph.D. There is lot of focus on improving the placements, providing students with opportunities to meet their varied expectations in academic, curriculum and co-curriculum activities etc.

Taking the locational advantage, we are regularly interacting with Industry experts to fine tune our syllabus to make it suitable to train our students as per Industry expectations. Regular interactions with professional body, Industry and Research organizations gives exposure to the developments that are happening in various domains,

thereby faculty are given training through Faculty Development Programs (FDP), the required knowledge to make them capable of training the students. The process of improvement in all aspects of Academics will continue by utilizing all available opportunities thereby we reduce our weakness, work on challenges and become qualitatively better.

NAAC