REPORT

OF

THE EXTERNAL PEER REVIEW TEAM

(IQAC)

Shri Vile Parle Kelavani Mandal's

DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING

(Autonomous College Affiliated to the University of Mumbai)
NAAC Accredited with "A" Grade (CGPA: 3.18)

Report on

Performance of the Institution for the
Academic Year 2019 - 2020
by
External Peer Team of IQAC

IQAC-EXTERNAL PEER TEAM REPORT ON PERFORMANCE OF THE COLLEGE FOR THE ACADEMIC YEAR 2019-20

The External Peer review meeting of the Internal Quality Assurance Cell (IQAC) at DJSCE was held on 29th December 2020 (Tuesday), from 10.00 a.m. onwards, where the following members were present to assess the performance of the college during the academic year 2019-20.
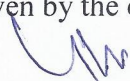
Members of External Peer Team:

1. Dr. G. T. Thampi   Principal, Thadomal Shahani Engineering College, Mumbai

2. Dr. Srija Unnikrishnan   Principal, Fr. Conceicao Rodrigues College of Engineering, Mumbai

3. Dr. V. M. Phalle   Associate Professor, Department of Mechanical Engineering, VJTI, Mumbai

Members of the External Peer review team held detailed discussions with the following members of the college:

1. Dr. Hari Vasudevan, Principal & Chairman

2. Dr. A.C. Daptardar, VP (Admin.) & Member

3. Dr. M. J. Godse, VP (Acad.) & Member

4. Dr. K. N. Vijaya Kumar, IQAC Coordinator & Head - Mechanical Engg.

5. Dr. R. S. Khavekar, TPO & Member

6. Dr. P. S. Joshi, Head - Electronics Engg. & Member

7. Dr. Amit Deshmukh, Head - EXTC Engg. & Member

8. Dr. Meera Narvekar, Head - Computer Engg. & Member

9. Prof. Vinaya Sawant, Head - IT dept. & Member

10. Dr. Alpana Mahapatra, Head - Chemical Engg. & Member

The committee also visited various facilities in the college and met with other staff members in different departments as well, especially during the presentations. Detailed presentations were given by the departments as well as various committees.

Introduction and Background of the Institution

Shri Vile Parle Kelavani Mandal's (SVKM) Dwarkadas J. Sanghvi College of Engineering (DJSCE), was established in the year 1994. In a span of 26 years, the college has progressed well and has made a good impact not only in India, but also abroad. DJSCE is an Autonomous Institution, granted autonomy by the University Grants Commission (UGC) for a period of 10 years, starting from the A.Y. 2019-20 till 2028-29. National Assessment and Accreditation Council (NAAC) has accredited DJSCE with a CGPA of 3.18 out of 4, i.e., with an "A" Grade for a period of 5 years with effect from 18th of October 2019.

The college conducts 8 undergraduate programmes, 3 post graduate programmes and 3 Ph.D. programmes, affiliated to the University of Mumbai. All the undergraduate programs are accredited by National Board of Accreditation (NBA). Students of the college have been performing exceedingly well in national and global companies and also in the universities in India and abroad, where they pursue their higher studies.

The Internal Quality Assurance Cell (IQAC) of the college was established in the year 2015. The IQAC conducts various curricular, co-curricular, extra-curricular, extension activities and implement best practices to improve the academics and administrative performance of the institution. From the date of inception, IQAC team has been making continuous efforts to maintain quality education as well as taking up various quality initiatives for the overall development of the college.

Profile of the Institution

1.	Name of the College	:	Dwarkadas J. Sanghvi College of Engineering, No. U-15, J.V.P.D. Scheme, Bhaktivedanta Swami Rd, Vile Parle (West), Mumbai – 400056.
2.	Name of the Principal	:	Dr. Hari Vasudevan
3.	Telephone/Fax /Email	:	Phone No: 02242335000 Mobile No: 9821464696
4.	Email	:	principal@djsce.ac.in, info@djsce.ac.in
5.	Year of Establishment	:	1994
6.	Whether private or government or University maintained	:	Private - Self Financing
7.	Autonomous Status	:	UGC Conferred Autonomous Status in the year 2019 for a period of 10 years from A.Y. 2019-2020 to 2028-2029.
8.	Name of the Affiliating University	:	University of Mumbai

UG Programmes offered by the college:

Sr. No.	Name of the Programme	Sanctioned Intake
1	B.Tech. Chemical Engineering	60
2	B.Tech. Electronics Engineering	60
3	B.Tech. Production Engineering	60
4	B.Tech. Biomedical Engineering	30
5	B.Tech. Computer Engineering	120
6	B.Tech. Electronics and Telecommunication Engineering	120
7	B.Tech. Information Technology	60
8	B.Tech. Mechanical Engineering	120

PG Programmes offered by the college:

Sr. No.	Name of the Programme	Sanctioned Intake
1	M.Tech. Electronics and Telecommunication Engineering	18
2	M.Tech. Computer Engineering	18
3	M.Tech. Mechanical Engineering	18

PhD Programmes offered by the college:

Sr. No.	Name of the Programme	Sanctioned Intake
1	Ph.D. Electronics and Telecommunication Engineering	10
2	Ph.D. Computer Engineering	10
3	Ph.D. Mechanical Engineering	10

Student Strength:

Sr. No.	Course	No of students
1	UG courses	2910
2	PG courses	21
3	PhD	27

Faculty Availability:

Sr. No.	Name of the Programme	Assistant Professor	Associate Professor	Professor
1	Chemical Engineering	7	1	1
2	Electronics Engineering	10	--	1
3	Production Engineering	12	--	3
4	Biomedical Engineering	7	--	1
5	Computer Engineering	16	1	2
6	Electronics and Telecommunication Engineering	18	1	1
7	Information Technology	9	--	1
8	Mechanical Engineering	18	1	2
9	Science and Humanities Section	20	1	--

Detailed report is as follows:

As per the request made by the IQAC of the college to the External peer team members, the peer team visited D. J. Sanghvi College of Engineering, Mumbai, on 29-12-2020 and interacted with the Head of the Institution and other faculty members. The team reviewed the functioning of the mandatory bodies and the documents concerning the unique initiatives and transparent systems developed. The Annual Quality Assurance Report (AQAR), Minutes of the Governing Council, IQAC, Academic Council, various Board of Studies as well as Finance Committee were also verified. The committee noted the following key parameters and made the following observations after its detailed interaction and review of documents:

1. Curricular Aspects

2. Teaching Learning and Evaluation

3. Research, Innovations and Extension

4. Infrastructure and Learning Resources

5. Student Support and Progression

6. Governance, Leadership and Management

7. Institutional Values and Best Practices

1. CURICULAR ASPECTS

- The Board of Studies (BOS) of every department is composed of members from eminent institutions as well as members from industry, alumni and members of faculty of the concerned department. The members of the BOS meet twice annually (i.e. every semester) and helps the department in the evaluation of the goals and objectives of the curriculum.

- The college has a systematic procedure in place for syllabus revision. The latest trends and changes in technology, widely being adopted by the industries are reviewed by the BOS members from time to time and the syllabus is revised by taking inputs and feedback from all stake holders into consideration. The revised syllabus is implemented only after the necessary approval from the academic council. Syllabus and scheme of all UG and PG programmes have been revised with an up-to-date curriculum, rich in interdisciplinary aspects that meets industry standards.

- Workshops and seminars focusing on employability/entrepreneurship/skill development have been organised in each programme. 58 such workshops and seminars were conducted during the academic year.

- 5 value added programmes imparting transferable and life skills have also been organised.

Sr. No	Criterion	Rating		
		Very good	Good	Satisfactory
1	Quality of vision and mission statements.	✓		
2	Implementation of choice- based credit system (CBCS).	✓		
3	Adequacy of courses having focus on employability/ entrepreneurship/ skill development.			✓
4	Evidence of procedures for framing POs, PSOs and their adequacy.		✓	
5	Evidence of attainment of POs, PSOs against set targets.	✓		
6	Evidence for framing of COs and their attainment against set targets.		✓	
7	Adequacy of Value added programmes arranged for students.	✓		

2. TEACHING - LEARNING AND EVALUATION

- The institution adheres to the academic calendar created at the start of the academic year.

- In all courses, effective teaching methodology is used, keeping in focus the outcome-based approach.

- Academic audit is conducted every semester by the IQAC cell and once in a year by external expert recommended by IQAC cell and appointed by the Head of the institute to ensure that the institute regularly improves the quality of its teaching and learning process.

- To evaluate the teaching delivery process, both online and offline feedback mechanisms are used.

- To create awareness about the role of educational videos for effective content delivery and for making the teaching learning experience more interesting, a one week FDP on 'Improving Teaching Learning Experience using Best Practice' was organized from 15th to 20th June 2020.

- Teachers have been effectively using various ICT tools and Learning management systems, like Blackboard. The institute also has a M.S. student portal for the same.

- An expert lecture on 'Effective pedagogy in class room teaching for engineering education' was organized in the college on the 8th Jan 2020. Dr. Ram Rajendran from IIT Bombay was the speaker.

- The institute has organised industrial visits for students in the odd semester. However, it could not arrange visits in the even semester due to the Covid 19 pandemic.

- Result analysis report is prepared after each internal assessment test to evaluate the overall student performance.

- The Institution has an effective student mentoring system. Each faculty is assigned to a batch of maximum 20 students and their various educational, personal and professional issues are discussed personally with the concerned students.

- 13 faculty members have received various awards and other recognitions during the academic year.

- To enhance the quality of students and make them more industry ready, 3 Mock tests were conducted between 30th March to 10th April 2020. These tests were helpful in performing the adaptive assessments, personality tests and simulation based assessments.

ENGAGEMENT OF STUDENTS DURING COVID-19 LOCKDOWN:

- During the initial months of the pandemic situation i.e., from 17th March 2020 till the end of academic year, the pending syllabus for all semesters of UG & PG programmes for the academic year 2019-2020 was completed using the online mode.

- Examinations (Apr/May 2020) & projects for the final year students were conducted through the online mode as per the guidelines of the University of Mumbai. End Semester Examinations for the Semester VIII students were also conducted online.

- The institution utilized the lockdown period effectively by engaging both the faculty and students for their value addition through the SWAYAM-NPTEL online mode.

- The institute had an understanding with Coursera on the basis of which students were offered free access to Coursera courses under the Covid 19 scheme.

Sr. No.	Criterion	Rating		
		Very good	Good	Satisfactory
1	Faculty : Student Ratio	✓		
2	Preparation and adherence to academic calendar by the institution.	✓		
3	Evidence of academic audits bring conducted.	✓		
4	Evidence for structured feedback system.	✓		
5	Utilization of ICT for teaching – learning.	✓		
6	Adequacy of guest/technical lectures arranged for students.	✓		
7	Adequacy of industrial visits arranged for students.			✓
8	Quality of ESE question papers.		✓	
9	Student's progression without backlog in any semester.	✓		
10	Effectiveness of student mentoring system.		✓	
11	Evidence for students completing NPTEL courses	✓		
12	Evidence for students completing Coursera courses	✓		
13	Learning beyond class room.		✓	

29/12/20   29/12/20   29/12/20

3. RESEARCH, INNOVATIONS AND EXTENSION

- Students and faculty conduct research projects in specific thrust areas of science and engineering. The institute has 13 ongoing research projects that are funded by government and non-government agencies.

- A session on research grant, such as financial grant from AICTE, UoM, DST, CSIR, ICMR was conducted on 20th July 2019 by Dr. Rajendra Khavekar, Dr. Narendra Shekokar, Dr. Vinayak Khatawate and Dr. Mrunal Rane.

- Four teachers of the institute were also provided seed money by the parent trust SVKM to carry out research activities.

- The institute received a total grant of 5.85 lakhs from the Science and Engineering Research Board (SERB) to carry out research activities. The remaining amount of 5.70 Lakhs will be made available as part of second installment.

- An amount of 2.8 lakhs was received from AICTE for research activities.

- The institute successfully hosted the 2nd 'International conference on Wireless Communication' on 11th and 12th October 2019. The Conference proceedings were published by Springer in the book series, 'Lecture Notes on Data Engineering and Communication Technologies'.

- The institute successfully hosted the 2nd 'International Conference on Advanced Computing Technologies and Applications' on 28th and 29th February 2020. The Conference proceedings were published by Springer in the book series, 'Algorithms for Intelligent Computing'.

- The institute successfully hosted the 2nd 'International conference on Intelligent Manufacturing and Automation' on 27th and 28th March 2020. The conference was held through the online mode due to the Covid 19 pandemic. The Conference proceedings were published by Springer in the book series, 'Lecture Notes in Mechanical Engineering'.

- The IQAC cell has played a critical role in the setting up and process improvement of all the 8 automotive teams of the college under the SAE student chapter. IQAC cell helped the teams to streamline their research and development process. Teams were also made to participate in various quizzes organized by different international bodies.

- 7 workshops and 2 seminars on Intellectual property rights (IPR) and Industry-Academia innovative practices were also conducted during the year.

- A seminar cum workshop for preparation of research proposals was conducted by Dr. Amit Deshmukh, Professor & Head of EXTC Engineering.

- The college IQAC cell encourages its students to participate in Avishkar, a research convention organised by the University of Mumbai. Training sessions were held to boost their confidence and to provide them with adequate guidance and support.

- 3 start-ups were incubated by the institute's incubation centre during the year.

- A total of 15 awards for innovation were won by the teachers during the year.

- Every 6 months annual progress seminars are held for research scholars. The Research Assessment Committee (RAC) ensures the quality of the reports and synopsis that are prepared by the students.

- 2 faculty members completed their Ph.D. during the academic year from the Mechanical Engineering Research Centre of the college.

- Faculty members have actively participated in various Seminars/Conferences and have presented various papers.

- 81 research papers were published by faculty members in various UGC notified journals during the academic year.

- 1 innovation patent and 2 design patents were awarded to the institute during the year 2019-2020.

- 32 extension and outreach programmes were carried out by the institute in collaboration with NSS, Lion's club, etc.

- The institute entered into a total of 39 Memorandum of Understanding with institutes and corporate houses of national importance.

Sr. No	Criterion	Rating		
		Very Good	Good	Satisfactory
1	Faculty profile and the adequacy of Faculty members as per the norms of AICTE.	✓		
2	Faculty members recognized as research guides.		✓	
3	Faculty members with PhD.		✓	
4	Quality of Faculty Publications.		✓	
5	Quality of research projects.		✓	
6	Evidence for research grants received from various agencies.		✓	
7	Evidence for patents / published/ awarded.		✓	
8	Adequacy of faculty training programs (FDP/STTP).		✓	
9	Adequacy of number of conferences and workshops attended by the faculty members.	✓		
10	Adequacy of number of workshops /FDPs/ STTPs/Conferences conducted by the department.	✓		
11	Provision of seed money to teachers for research.			✓
12	Awards for faculty members.			✓
13	Number of start-ups incubated on campus.			✓

4. INFRASTRUCTURE AND LEARNING RESOURCES

- The college has state-of-the-art infrastructure facilities that conform to AICTE requirements.

- The college central library has a collection of about 81,267 Engineering books (e-books & printed books) and more than 93,000 e-books, covering all the disciplines, offered by the college.

- The faculty members have developed e-content to enhance student learning and understanding. They were developed using YouTube and Zoom platforms.

- The institute has 33 fully ICT enabled classrooms with advanced facilities.

- The research center (Ph.D.) in Mechanical Engineering, submitted a MODROB proposal to the AICTE for the purchase of 3D printing machines and different mechatronic equipments and was awarded the same.

Sr. No.	Criterion	Rating		
		Very good	**Good**	**Satisfactory**
1	Evidence for rise of ICT in teaching learning process.		✓	
2	Adequacy of facilities for teaching learning. viz., classrooms, laboratories.	✓		
3	Adequacy of modern equipment in the laboratories.	✓		
4	Improvements in the library services.		✓	
5	Adequacy of books and journals available in library.	✓		
6	Computer and internet access and Training to teachers, non-teaching staff and students.	✓		

5. STUDENT SUPPORT AND PROGRESSION

- The institution has organized various activities/events and other Value added programs under the ambit of 10 student chapters of professional bodies, across all the 8 engineering programmes.

- The softs skills development team has designed a placement "employment training package" for semester VII students to help them with resume building, GD skills, interview skills and other corporate ready skills.

- A series of lectures are organized periodically for the students to instill moral and ethical values.

- The Institution has appreciated and encouraged the students by awarding cash prize for the winners of the project exhibitions, International conferences and workshops.

- Scholarship and Financial support of Rs.21798832.5/- was organized from various government and private agencies and given to 499 students during the year 2019-20.

- Placement of total 345 students was done out of 363 interested final year students from all programs in various companies for the A.Y. 2019-20.

- DJSCE was rated amongst the top 100 Private Engineering colleges of the country by various ranking institutions in the year 2019-20.

Sr. No	Criterion	Rating		
		Very good	Good	Satisfactory
1	Student's participations in IITs, NITs, government Institutions and private Institutions.		✓	
2	Prize achievements in various events.	✓		
3	Institutional mechanism for students grievances, addressing of sexual harassment and ragging cases.		✓	
4	Participants in social awareness activities.		✓	

29/12/20   29/12/20   29/12/20

5	Student progression to higher Education.		✓	
6	No of awards/ medals for outstanding performance in sports /cultural activities at national and international levels.		✓	
7	Role of alumni in institution development.		✓	

6. GOVERNANCE, LEADERSHIP AND MANAGEMENT

- The institution has fulfilled all the requirements in the constitution of all the mandatory bodies, such as Governing Body, Academic Council, Board of studies, Finance committee, IQAC, etc. The selection process and the meetings of these statutory committees are in tune with the UGC guidelines.

- The institution has been initiating new quality academic activities every year. The IQAC has been proactive in strengthening good practices and ensuring high quality in all the activities.

- The institution has increasingly focused their attention on the pedagogical training programmes for the teaching staff. These programmes have been aiming for an understanding of engineering pedagogy, the purpose of which is the targeted design of technical and technologically specific teaching and learning.

Sr. No	Criterion	Rating		
		Very good	Good	Satisfactory
1	Functioning of the academic bodies as per UGC guidelines (Governing Body, Academic Council, Finance Committee and Board of Studies etc.).	✓		
2	Evidence of Minutes of the Boards of Studies/Academic Council meetings etc.	✓		

29/12/20   29/12/20   29/12/20   29/12/20

3	Functioning of IQAC		✓	
4	Institution has performance Appraisal system for faculty members.		✓	

7. INSTITUTIONAL VALUES AND BEST PRACTICES

- The institution has separate manuals of best practices, teaching methodologies, manual of professional ethics and clearly stated and integrated pro-development policies.

- The institution has separate exam section with a strong room and the unique initiatives of this section include online exam, coding system, double valuation, provision for re-totaling, personal seeing and mechanism to challenge valuation as well as announcement of results within 15 days after the completion of examinations. Exams are conducted under CCTV surveillance.

Sr. No.	Criterion	Rating		
		Very good	Good	Satisfactory
1	Adequacy of MoUs signed with institutions /industries.		✓	
2	Adequacy of gender equality promotion programs organized by the institution.		✓	
3	Differently abled Friendliness Resources in the institution.	✓		
4	Industry Institute interaction		✓	
5	Institutional best practices	✓		

CONCLUSION AND REMARKS

- Internal Quality Assurance Cell (IQAC) of the college has contributed significantly for institutionalizing the quality assurance strategies and polices.

- The Institution reviews its teaching-learning process structures, methodologies of operation and learning outcomes through the IQAC setup.

- The committees, amounting to more than 25, are very well organized to look after the overall growth of students.

- Best practices of bridging the gap, soft skill training and improvement in engineering pedagogy through FDPs are very good initiatives and these are encouraged and appreciated.

- The student's involvement in various co-curricular and extracurricular activities is encouraged and they are of very high standard.

SUGGESTIONS FOR FURTHER IMPROVEMENT

- Course Outcomes (CO) are to be prepared based on the depth of the course and not the number of units.

- Development of e-content modules for the Academic Courses can be strengthened.

- The number of Value-Added Courses based on industry requirement is highly expected and is to be encouraged further.

- More attention is required in faculty research activities for the publication in High indexed journals.

- Faculty attention is needed in funded research projects. More efforts are to be put in by the faculty in that direction.

The committee appreciates the efforts of the IQAC team and wishes the college all well in the future.

29/12/20	29/12/20	29/12/2020
Dr. G. T. Thampi	**Dr. Srija Unnikrishnan**	**Dr. V. M. Phalle**
Principal, Thadomal Shahani Engineering College, Mumbai	Principal, Fr. Conceicao Rodrigues College of Engineering, Mumbai	Associate Professor, Mechanical Engineering, VJTI, Mumbai