



SELF STUDY REPORT

FOR

2nd CYCLE OF ACCREDITATION

**J.C. BOSE UNIVERSITY OF SCIENCE AND
TECHNOLOGY, YMCA, FARIDABAD**

J. C. BOSE UNIVERSITY OF SCIENCE AND TECHNOLOGY, YMCA, SECTOR 6

121006

www.jcboseust.ac.in

Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

J. C. Bose University of Science and Technology, YMCA, Faridabad (formerly YMCA University of Science and Technology, Faridabad) is a **State Government University**, notified in 2009, by an act of the Haryana Legislative Assembly. The University is governed by act, statutes, ordinances and Haryana Government rules. As per University act, Governor of Haryana is the Chancellor of the University.

The institution was founded as "YMCA Institute of Engineering" in 1969 as a part of Indo- German project for imparting skill-based engineering education.

Granted **12(B) status** by UGC in 2012 and accredited '**A**' grade by **NAAC** in November, 2016 and with **NBA accreditation** of most of engineering and management programs, the university is preferred choice for admission. The University has community college to produce skilled professionals for small and middle level technical positions. The University has expanded beyond Science and Engineering courses to include more and more faculties such as Business Management and Liberal Arts subjects.

The **ISO 9001 and 14001** certified University extended its domain from a standalone institution to an affiliating university in the year 2017. At present, the University has 9 affiliated colleges. The University teaching departments are running 54 programs (including Ph.D) under **CBCS** under various faculties. The University has an asset of more than 200 faculty members with about **75% of them having PhD degree**.

The University has its own Digital Learning Portal - **DLMS**, to conduct online classes during COVID times catering to more than 5600 students.

The strategically located green campus has the state of art infrastructure and facilities with support from State Government and grants from **UGC, MoE, TEQIP, RUSA** and other agencies.

The University has a strong industry connect that enables placements, internships and exposure of students and faculty. Alumni of the institution are placed at high positions in almost all the major engineering companies and many of them are established industrialists.

The University has an Internal Quality Assurance Cell (IQAC) to oversee quality-improvement activities. As per the **NIRF ranking** 2021, the University is ranked 127th among engineering institutions and is among the top 100 in management institutions.

Vision

The University's core values include a commitment to excellence, development of global competencies in students, promotion and use of cutting-edge technology, instillation of a value system in students, stakeholder satisfaction and a positive attitude toward social and environmental issues.

The University's vision has been designed keeping in view the core values and to be realised through mission statements.

Vision: *“J.C. Bose University of Science and Technology, YMCA, Faridabad aspires to be a nationally and internationally acclaimed leader in technical and higher education in all spheres which transforms the life of students through integration of teaching, research and character building.”*

<https://jcboseust.ac.in/vision-amp-mission>

Mission

- To contribute to the development of science and technology by synthesizing teaching, research and creative activities.
- To provide an enviable research environment and state-of-the art technological exposure to its scholars.
- To develop human potential to its fullest extent and make them emerge as world class leaders in their professions and enthuse them towards their social responsibilities.

The Institution with more than fifty years of existence has been a frontrunner in initiating and implementing strategic measures to achieve excellence for competitiveness and stakeholders' satisfaction.

The vision and the mission of the University is focused on the establishment and effective utilization of a system of holistic learning, with the objective of achieving students' success in terms of professional development and personal development, with a strong foundation and undercurrent of ethics and values.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- Conveniently located in the National Capital Region, on a national highway that is easily accessible.
- Institution that has been around for more than half a century, with graduates working in almost all big national and international engineering companies..
- Grade 'A' Accreditation by NAAC in 2016.
- The majority of the engineering and management programmes are NBA accredited.
- Ranked 127th by NIRF 2021 under Engineering category and under 100 for Management Program.
- Grants have been received through RUSA, TEQIP, UGC-12(B), and other funding agencies/ organisations.
- Offering courses in the versatile domains of Sciences, Engineering, Management, Mass Communication & Multimedia, Environment, Languages, etc.
- Centres of Excellence in varied areas.
- Well qualified faculty (about 75% Ph.D degree holders) with high retention including a fine blend of experienced and young members
- Faculty have received research grants from UGC/ DST/ AICTE and have also got 'Vishvesaria best teacher award' from AICTE and many other such awards/ recognitions.
- Unique cadre of workshop staff for skill based exposure to Engineering students

- Indigenous Digital Learning Management System.
- Well-established labs in all departments.
- World class studio with students of JMC covering all activities of University..
- A large number of functional Memorandums of Understanding (MOUs) with reputed organisations and institutions.
- A large number of graduates are active in entrepreneurship ventures.
- Strong University-Industry Interface through its alumni and placement office.
- Progressive and pro-active Alumni Association (MOB) with more than 10,000 members.
- Extension and outreach services with nearby villages adopted.

Institutional Weakness

- Limited space due to the current campus's land bank of only 20 acres.
- Limited students - pan India as the admissions are made as per State Government policy.
- Lack of Memorandums of Understanding (MOUs) with well-known international universities/ colleges.
- Limited industry-sponsored projects.
- Fund accumulation for SFS programs.

Institutional Opportunity

- With the allotment of more land by the State Government, opportunities are available for expansion.
- With the grant for infrastructure provided by the State Government, opportunities are available for vertical expansion in the present campus.
- With the availability of grant under RUSA opportunity for set up of new laboratories has been created.
- A cell for international affairs has been established to investigate and implement potential international cooperation.
- Potential for more industrial collaboration for applied research.
- Enhanced responsibility and opportunities due to NEP 2020.
- With the availability of faculties such as liberal arts, there is an opportunity to develop competent human resources through interdisciplinary exposure.
- The quality of research has increased over time, with a considerable increase in the number of high-quality publications, opening the path for funded research and initiatives.

Institutional Challenge

- Adapting to a fast-changing technological environment.
- Competing with more resourceful international universities.
- Being a Government Organization, there are restrictions on fee hikes.
- Widening student diversity due to Government admission policy
- Meeting the diverse community needs through innovative ideas.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

The University strives for excellence in all facets and contributes to the development of science and technology by synthesizing teaching, research, and creative activities. The University makes every effort to realize its mission to provide an enviable research environment and state-of-the-art technological exposure to its scholars. The design and development of the curriculum is a democratic process with the entire faculty contributing to the introduction, innovation, and revision of the syllabi. Feedback on Curricula is taken from all the stakeholders of the university with the aim to incorporate the suggestions in designing its curriculum. More than 90% of courses are based on skill development or generate employability/ entrepreneurship. The university is committed to effective curriculum delivery through well-planned and documented process that undergoes scrutiny through various bodies. Board of Studies and Academic Council. These bodies ensure that the curriculum is regularly updated to meet the ongoing continuous evolution in the culture, society, academia, and technology. All programs have been reviewed during the last five years.

The culture of academic freedom and flexibility provides immense scope for introducing innovations in the curriculum to achieve the institutional vision and mission of striving for academic excellence. To meet the ever-changing demands of the industry and academia, the University has adopted Choice Based Credit System (CBCS) since 2016 for flexibility by offering intra-departmental and inter-departmental optional courses.

For the holistic development of the students, the university has introduced courses of foreign languages, yoga and meditation etc. in the form of Open Electives and Audit Courses in most of the programs. To make the teaching and learning more innovative and interactive, the University has organized near to 100 Value Added Courses in the last five years. For the effective curriculum, different pedagogical tools are being followed e.g. PPTs, Case Study analysis, Role Plays, Group Discussion, and discussion on contemporary issues to make the sessions more and more interactive & effective. Moreover, the university invites Industry experts and corporate managers to interact with faculty and students regularly to bridge the industry-academia gap.

Teaching-learning and Evaluation

The University has a well-structured mechanism for the enrolment of students in different programs through national level tests such as JEE-main, CAT, MAT, GATE, UGC-NET etc. or the entrance tests conducted by the university. State Government policies are followed for all kind of reservations during admission process. University observes a high demand ratio, which indicates its much sought-after edifying value in terms of value-based education, quality of teaching-learning, research and all-round development. University has a student-centric learning environment with optimally maintained student-teacher ratio. The mentor-mentee system is in place with logs of interactions and counselling being maintained.

The University has a versatile system to support slow learners and encourage advanced learners. It offers bridge, remedial and buddy programs to support slow learners, whereas, advanced learners are encouraged to engage in research and other activities. Many technical, cultural and value-based programs are conducted to effectively support experiential and participative learning among students.

The University endorses intensive use of ICT enabled tools and pedagogical techniques for effective teaching-learning and to provide better educational content to the students. University has also developed a Digital Learning platform in the form of DLMS to support online teaching-learning process, which has proved to be quite useful in the COVID-19 pandemic. Outcome based methodology is incorporated in all the programs. The curriculum and instructional strategies are reviewed periodically at defined stages to meet the ongoing market demands. Programme Outcomes are assessed to identify educational and operational gaps and strategic action plans are prepared accordingly. Teaching-learning processes are continually improved based on students'

feedback and interactions.

The University has a qualified, experienced, and dedicated faculty with an average experience of more than 9 years and more than 60% have a doctoral degree averaged during last 5 years. University follows the Academic Calendar and results are declared within less than a month. A comprehensive continuous assessment and evaluation system is followed to assess the learning outcomes of students. The evaluation process is absolutely transparent wherein answer scripts are shown to the students. The examination process is completely automated covering all the processes from examination registration till result declaration.

Research, Innovations and Extension

Strong position of the University at the cutting-edge of research is reflected in its impressive list of research papers, projects and patents. University's growth in research may be gauged from the increase in publications in SCI/SCIE reputed journals and increase in PhD registrations in the last 5 years. The University teachers have more than 1200 publications and 3500 citations in Web of Science/ SCOPUS publications during the last five years. Till date, 109 doctorate degrees have been awarded by the University. Further, 50 JRFs/SRFs, Research Associates and Project Fellows have been enrolled in the university. In the last five years about Rs. 2.35 crores have been funded by various government and non-government agencies for research work.

The University offers following facilities to promote Research and innovations: -

- Excellent research facilities, financial support and other incentives including seed money
- Research promotion Board to encourage and streamline the research activities.
- A well-defined “Research Promotion Policy” and “Code of Ethics”
- Award for patents granted and research papers published in high impact factor Journals.

About 300 seminars/ workshops have been conducted in the area of Research Methodology, Intellectual Property Rights (IPR), Entrepreneurship and Skill Development during the last five years.

Faculty and students are involved in outreach innovative activities too, such as ‘Unnat Bharat Abhiyan’, adoption of five villages in the vicinity and welfare activities for the needy. During COVID pandemic, the University joined hands with district administration and other local bodies to combat the crises. The activities included offering part of salary to the relief fund, providing hostels for COVID hospitals, helping in streamlining the distribution of oxygen cylinders, web-based help for connecting the donors and needy during pandemic. Deep Industry-Academia engagements including 74 MoUs with institutions of national, international importance, industries and corporate houses etc. have been signed and activities for mutual benefit have been conducted. University has also developed incubation centre which help new start-ups in terms of necessary guidance, technical support, infrastructure, access to investors etc.

Infrastructure and Learning Resources

The University has a lush green campus area of 20 acres which is lined up with teaching, non-teaching blocks and other amenities. The additional land of 18 acres has also been allotted by the State Govt of Haryana as its additional campus. It is known for its state-of-the-art labs and workshops since its inception and has been continuously striving for expanding and upgrading its physical infrastructure. The vision of the University is to

constantly improve the students learning environment by providing the required infrastructure with modern buildings including technology laden academic infrastructure including:

- State of the art labs and workshops
- Classrooms with ICT facilities
- Library with 83000 books on different disciplines
- E-library with more than 6 lakh e-resources with remote access facility
- 1096 computers (ensuring computer student ratio of 1:5)
- 2 Leased Lines (1GBPS NKN & 100 MBPS BSNL)
- Well-equipped medical centre
- Incubation Centre
- Centres of Excellence in different areas
- Spacious auditorium, playground and multipurpose hall for extracurricular activities

The University has an E-Library Portal that provides 24*7 access to its e-resources (available in the open domain). Mobile App is also available for both Android and iOS users to access e-Library Portal on smartphones. There is a well-formulated IT cell with a dedicated System Analyst in the University which is responsible for campus network services maintenance, updation and expansion. The University has a separate hostel for girls and boys with dedicated lodging arrangement for foreign students. There is also an in-campus guest house for visitors to the University.

The University ensures proper maintenance and effective utilization of its all infrastructural resources. It has a well-established maintenance department headed by an officer of the rank of Superintending Engineer supported by a Sub- Divisional Engineer, Junior Engineer and other staff. The maintenance and utilization are done 24*7 in an environment-friendly manner with due regard to hygiene, safety and sustainability. The University ensures proper maintenance of facilities like library, classrooms, computers, laboratories, transportation etc. through dedicated maintenance teams of different areas and also through Annual Maintenance Contracts.

Student Support and Progression

The University has a very conducive, student-centric, quality education, ragging free and supportive environment where students of diverse sections of the society come to pursue higher education. The students are mentored from the time of admission up to the completion of their program at various levels. University has many financial as well as non-financial student support services under various government and non-government schemes. One of these services is a well-established Scholarship section that helps economically weak/ needy students. Other support services include Training and Placement Opportunities, Career and Counselling support, Capacity Enhancement schemes, Grievance Redressal Mechanism, Equal Opportunities Cell, and Women Welfare policy. Efforts of University have enabled students to fetch good job opportunities in various sectors with handsome packages. Career and Counselling Cell creates awareness on career opportunities in emerging fields and various options available for higher studies available in India and abroad. More than 80% students have been benefited from guidance for competitive examinations and career counseling during the last five years. University has initiated many capacity enhancement schemes and thousands of students have participated in various schemes to enhance soft skills, life skills, and development in various fields. The University has an effective, unbiased grievance redressal system to have a check on unethical, unhealthy, and unprofessional activities on the campus. The Equal Opportunities Cell is there to take measures against discrimination. Girl students can also address their grievances to the Women Welfare Cell through Internal

Complaints Committee (ICC).

University has a Student Welfare office for the holistic development of students by promoting their talent in cultural, technical, and sports activities. Students have shown their eminence by winning top positions, awards, and medals in national and international events. Students' Council also supports DSW office in conducting and managing various activities. University has a strong registered alumni association (MOB). During pandemic time also, University and YMCA MOB Alumni Association provided assistance of approximately Rs. 29 Lakh to needy students who had suffered or lost their near and dear ones due to Covid-19. University's Golden Jubilee Gate is another contribution of Alumni which adds to the glory of our university.

Governance, Leadership and Management

The University is striving to achieve excellence with meticulous planning and innovation in consonance with its Vision and Mission. Being a State Government University, the Hon'ble Governor of Haryana is the ex-officio Chancellor of the University and the Vice-Chancellor has been assigned all the executive powers to be exercised in consultation with the different academic and other bodies/office(s).

Every activity of the University is governed by the Act, Statutes and Ordinances. The University has statutory bodies as per University Act to formulate administrative, financial, and academic decisions. The top leadership of the University plays a role model to make a positive impact on all levels of functionaries by providing academic autonomy to its departments. Decision-making through decentralization and participative management is evident through various other committees and cells where both faculty and students participate.

In tune with the NEP 2020, the University has its own strategic plan & vision document and is striving to promote quality education and open up new vistas in the relevant areas.

The University has various effective welfare measures for its staff. The promotion schemes under CAS have been implemented as per UGC/AICTE guidelines. The University has instituted research awards to promote quality research. Teachers are encouraged and supported to attend the FDPs in eminent institutions like IITs and IIMs. In the last five years, more than 70% of faculty members have been given financial support for professional development. The average number of professional development/ administrative training programmes organized by the University is around 21 per year. In the last five years, 85% of the faculty members have attended various training programs in reputed institutions.

The University gets grants from the State Government and also mobilizes its funds and resources for research facilities. Being a State Government University, the audit mechanism of the University is very effective and controlled by the internal and external audit as per State Government rules. The IQAC of the University is a vibrant body and continuously works on all the quality evolving facets of the University. IQAC in the University meets regularly and prepares AQAR and contributes in accreditation processes.

Institutional Values and Best Practices

The University promotes strong moral, nationalistic, societal & cultural values and creates awareness about constitutional obligations. University actively promotes gender-equity and women safety through multiple initiatives including Internal Complaint Committee to check "Sexual Harassment and Violence against Women and girls", 24*7 CCTV surveillance check, DURGA mobile app, self-defence training and counselling

programs viz. COMFORT and BHAROSA. University provides disable-friendly, barrier-free environment, assistive technologies and facilities to support students with special needs.

Celebrations of Matri-Bhasha Diwas, National Youth day, anniversaries of great Indian personalities, International Yoga day, Science Day, Guru Parv, Swachh Bharat Abhiyan events, Constitution Day, Republic Day, Independence Day, PrakramDiwas, etc. are regularly organized by Dean of Student Welfare (DSW) office.

University is environment conscious and inching towards sustainability through use of Solar energy, Biogas, Power-efficient LEDs, Rainwater harvesting and other green campus initiatives. University ensures holistic waste management through policy framework, source segregation and recycling through eco-friendly practices namely biogas, NADEP composting and empanelment of e-waste collectors. Internal and external quality audits are carried out regularly to ensure consistent quality. NSS and UBA cells undertake environment promotional activities in adopted villages.

The university has in-house developed Digital Learning Management System (DLMS) and 360-degree feedback mechanism for continuous improvement, as best practices. DLMS has played a pivotal role during pandemic to continue online teaching-learning through its features of three-tier interface (administrator, faculty and students), live interactions, customized instructions, assignments, evaluation and regular communications. The 360-degree feedback system has strengthened continuous assessment with increased adequacy of curricula; laboratory, water and sanitation facilities; teaching pedagogy and overall performance.

YMCA MOB (Alumni Association) connects alumni with students and build strong industry network which is helping in campus recruitment, development of Incubation centre, Centre of excellence, MoUs, scholarships to needy students and other infrastructure development. The strong connection with industry is evident from its lab related interactions/ MoUs with Danfoss Industries, Daikin Industries, Bosch, Royal Enfield, Godrej Industries to name a few. The interaction through Placement office in particular has generated enormous internship, training and placement opportunities for students.

2. PROFILE

2.1 BASIC INFORMATION

| Name and Address of the University | |
|------------------------------------|---|
| Name | J.C. Bose University of Science and Technology, YMCA, Faridabad |
| Address | J. C. Bose University of Science and Technology, YMCA, Sector 6 |
| City | Faridabad |
| State | Haryana |
| Pin | 121006 |
| Website | www.jcboseust.ac.in |

| Contacts for Communication | | | | | |
|----------------------------|-----------|-------------------------|------------|--------------|-----------------------|
| Designation | Name | Telephone with STD Code | Mobile | Fax | Email |
| Vice Chancellor | S K Tomar | 0129-2310102 | 9463223629 | 0129-2242143 | vc@jcboseust.ac.in |
| IQAC / CIQA coordinator | Hari Om | 0129-2310130 | 9818219940 | 0129-2242143 | iqac.jcbust@gmail.com |

| Nature of University | |
|----------------------|------------------|
| Nature of University | State University |

| Type of University | |
|--------------------|-------------|
| Type of University | Affiliating |

| Establishment Details | |
|--|--------------------|
| Establishment Date of the University | 16-09-2009 |
| Status Prior to Establishment, If applicable | Autonomous College |
| Establishment Date | 01-07-1969 |

| Recognition Details | | |
|--|-------------|-------------------------------|
| Date of Recognition as a University by UGC or Any Other National Agency : | | |
| Under Section | Date | View Document |
| 2f of UGC | 16-09-2009 | View Document |
| 12B of UGC | 08-08-2012 | View Document |

| University with Potential for Excellence | |
|--|----|
| Is the University Recognised as a University with Potential for Excellence (UPE) by the UGC? | No |

| Location, Area and Activity of Campus | | | | | | | |
|--|---|------------------|-----------------------------|---------------------------------|---------------------------|------------------------------|--|
| Campus Type | Address | Location* | Campus Area in Acres | Built up Area in sq.mts. | Programmes Offered | Date of Establishment | Date of Recognition by UGC/MHRD |
| Main campus | J. C. Bose University of Science and Technology, YMCA, Sector 6 | Urban | 20 | 57638 | UG,PG,P G Diploma,Ph.D | | |

2.2 ACADEMIC INFORMATION

Affiliated Institutions to the University

| Type of Colleges | Permanent | Temporary | Total |
|--|------------------|------------------|--------------|
| Engineering/Technology/Architecture/Design | 0 | 9 | 9 |

Furnish the Details of Colleges of University

| Type Of Colleges | Numbers |
|---|---------|
| Constituent Colleges | 0 |
| Affiliated Colleges | 9 |
| Colleges Under 2(f) | 0 |
| Colleges Under 2(f) and 12B | 0 |
| NAAC Accredited Colleges | 0 |
| Colleges with Potential for Excellence(UGC) | 0 |
| Autonomous Colleges | 0 |
| Colleges with Postgraduate Departments | 7 |
| Colleges with Research Departments | 0 |
| University Recognized Research Institutes/Centers | 0 |

| | | |
|--|--|-------|
| Is the University Offering any Programmes Recognised by any Statutory Regulatory Authority (SRA) | | : Yes |
| SRA program | Document | |
| AICTE | 102499_6884_1_1627881815.pdf | |

Details Of Teaching & Non-Teaching Staff Of University

| Teaching Faculty | | | | | | | | | | | | |
|------------------|-----------|--------|--------|-------|---------------------|--------|--------|-------|---------------------|--------|--------|-------|
| | Professor | | | | Associate Professor | | | | Assistant Professor | | | |
| | Male | Female | Others | Total | Male | Female | Others | Total | Male | Female | Others | Total |
| Sanctioned | 34 | | | | 56 | | | | 144 | | | |
| Recruited | 23 | 4 | 0 | 27 | 9 | 17 | 0 | 26 | 51 | 51 | 0 | 102 |
| Yet to Recruit | 7 | | | | 30 | | | | 42 | | | |
| On Contract | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 29 | 0 | 42 |

| Non-Teaching Staff | | | | |
|---------------------------|-------------|---------------|---------------|--------------|
| | Male | Female | Others | Total |
| Sanctioned | | | | 202 |
| Recruited | 103 | 24 | 0 | 127 |
| Yet to Recruit | | | | 75 |
| On Contract | 2 | 3 | 0 | 5 |

| Technical Staff | | | | |
|------------------------|-------------|---------------|---------------|--------------|
| | Male | Female | Others | Total |
| Sanctioned | | | | 40 |
| Recruited | 31 | 4 | 0 | 35 |
| Yet to Recruit | | | | 5 |
| On Contract | 1 | 2 | 0 | 3 |

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/LLD/DM/MCH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 23 | 4 | 0 | 8 | 16 | 0 | 38 | 40 | 0 | 129 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 0 | 0 | 0 | 1 | 1 | 0 | 13 | 11 | 0 | 26 |
| UG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Temporary Teachers | | | | | | | | | | |
|------------------------------|------------------|--------|--------|----------------------------|--------|--------|----------------------------|--------|--------|--------------|
| Highest Qualification | Professor | | | Associate Professor | | | Assistant Professor | | | Total |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | |
| D.sc/D.Litt/LLD/DM/MCH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 11 | 0 | 17 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 18 | 0 | 25 |
| UG | 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/LLD/DM/MCH | 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 |
| UG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Distinguished Academicians Appointed As

| | Male | Female | Others | Total |
|--------------------|-------------|---------------|---------------|--------------|
| Emeritus Professor | 0 | 0 | 0 | 0 |
| Adjunct Professor | 21 | 1 | 0 | 22 |
| Visiting Professor | 0 | 0 | 0 | 0 |

Chairs Instituted by the University

| Sl.No | Name of the Department | Name of the Chair | Name of the Sponsor Organisation/Agency |
|-------|------------------------|-------------------|---|
| 1 | Nil | Nil | Nil |

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

| Programme | | From the State Where University is Located | From Other States of India | NRI Students | Foreign Students | Total |
|---|--------|--|----------------------------|--------------|------------------|-------|
| UG | Male | 2726 | 305 | 2 | 0 | 3033 |
| | Female | 1088 | 99 | 0 | 0 | 1187 |
| | Others | 0 | 0 | 0 | 0 | 0 |
| PG | Male | 409 | 61 | 0 | 0 | 470 |
| | Female | 750 | 64 | 0 | 0 | 814 |
| | Others | 0 | 0 | 0 | 0 | 0 |
| PG Diploma recognised by statutory authority including university | Male | 13 | 0 | 0 | 0 | 13 |
| | Female | 9 | 0 | 0 | 0 | 9 |
| | Others | 0 | 0 | 0 | 0 | 0 |
| Doctoral (Ph.D) | Male | 19 | 2 | 0 | 0 | 21 |
| | Female | 49 | 9 | 0 | 0 | 58 |
| | Others | 0 | 0 | 0 | 0 | 0 |

| | |
|---|----|
| Does the University offer any Integrated Programmes? | No |
|---|----|

Details of UGC Human Resource Development Centre, If applicable

| | |
|--|-----|
| Year of Establishment | Nil |
| Number of UGC Orientation Programmes | 0 |
| Number of UGC Refresher Course | 0 |
| Number of University's own Programmes | 0 |
| Total Number of Programmes Conducted (last five years) | 0 |

Accreditation Details

| Cycle Info | Accreditation | Grade | CGPA | Upload Peer Team Report |
|------------|---------------|-------|------|--------------------------------------|
| Cycle 1 | Accreditation | A | 3.08 | ymca_naac_report.pdf |

2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

| Department Name | Upload Report |
|--|-------------------------------|
| Chemistry | View Document |
| Civil Engineering | View Document |
| Communication And Media Technology | View Document |
| Community College Of Skill Development | View Document |
| Computer Application | View Document |
| Computer Engineering | View Document |
| Electrical Engineering | View Document |
| Electronics Engineering | View Document |
| Environmental Science And Engineering | View Document |
| Life Sciences | View Document |
| Management Studies | View Document |
| Mathematics | View Document |
| Mechanical Engineering | View Document |
| Physics | View Document |

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 |
|---|---------|---------|-------------------------------|---------|
| 45 | 40 | 34 | 24 | 22 |
| File Description | | | Document | |
| Institutional data in prescribed format | | | View Document | |

1.2

Number of departments offering academic programmes

Response: 14

2 Students

2.1

Number of students year-wise during last five years

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---|---------|---------|-------------------------------|---------|
| 5605 | 4615 | 3564 | 2995 | 2683 |
| 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 |
|---|---------|---------|-------------------------------|---------|
| 1538 | 1056 | 950 | 906 | 770 |
| File Description | | | Document | |
| Institutional data in prescribed format | | | View Document | |

2.3**Number of students appeared in the University examination year-wise during the last five years**

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---|---------|-------------------------------|---------|---------|
| 5424 | 4327 | 3465 | 2888 | 2622 |
| File Description | | Document | | |
| Institutional data in prescribed format | | View Document | | |

2.4**Number of revaluation applications year-wise during the last 5 years**

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 0 | 58 | 88 | 72 | 30 |

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 |
|---|---------|-------------------------------|---------|---------|
| 4462 | 4121 | 3402 | 2161 | 916 |
| 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 |
|---|---------|-------------------------------|---------|---------|
| 204 | 188 | 152 | 135 | 135 |
| 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 |
|---|---------|-------------------------------|---------|---------|
| 234 | 234 | 234 | 178 | 178 |
| 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 |
|---|---------|-------------------------------|---------|---------|
| 73482 | 60438 | 39684 | 43811 | 50860 |
| 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 |
|---|---------|-------------------------------|---------|---------|
| 989 | 929 | 765 | 531 | 516 |
| File Description | | Document | | |
| Institutional data in prescribed format | | View Document | | |

4.3**Total number of classrooms and seminar halls****Response: 75****4.4****Total number of computers in the campus for academic purpose****Response: 1096**

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 |
|----------|---------|---------|---------|---------|
| 10661.24 | 4985.4 | 4446.38 | 2744.77 | 1146.15 |

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:

All academic and research programs are in tune with the vision and mission statements of the University. JCBUST has well-defined procedures to design new curricula and revise/amend the existing curricula. For this purpose, the apex body is the Academic Council well supported by bodies including the Faculty concerned, Board of Studies of the concerned subjects and the Departmental Committees.

The learning activities are designed through Outcome-based approach with an aim to equip the students with knowledge, skill, values and attitude has been implemented. Departmental Committees along with various experts from industry and academia review the feedback obtained from various stakeholders to imply the cross sectional relevance of the curricula ranging from local to global needs. University has developed curriculum along with well-defined POs, PSOs, COs for all programs. The outcomes as stated have been integrated in curriculum and displayed on the University website to facilitate access to various stakeholders, including the teachers and students. The entire effort has been made in line with the broad guidelines of the statutory bodies such as UGC, AICTE, etc. The University has also incorporated courses like Artificial Intelligence (AI), Internet of Things(IoT), blockchain, robotics etc. in the curricula which are in line with the emerging technologies identified by AICTE.

Since we are located in NCR which is the hub of the IT, manufacturing, infrastructure and service industry, we are offering an array of core and advanced courses that fulfill the needs of the industry which include B.Tech. Computer Engineering with specialization in Data Science, Electronics Engineering with specialization in the Internet of Things (IoT), Electronics & Computer Engineering

Keeping in view of 'Skill India', a multi-skill development program for job creation and entrepreneurship for all socio-economic, our University has launched various B.Voc. and PG Diploma programs.

University has made a significant contribution towards national development by imparting value-based quality education for the country's multicultural society, with special emphasis on Natural Resources & Environment, Science and Technology, Social Justice & Women Empowerment,

Our programs are structured to provide a strong foundation in Sciences, Engineering, and Humanities while cultivating cross-disciplinary integrated learning and thinking. Moreover, our programs are offered and operated with strong linkages to the workplace and inculcate a sense of service in our students and create future leaders.

Curricula addresses the following national missions: Digital India (Incorporation of MOOCs & digital pedagogy in the curriculum), Swatch Bharat Abhiyan, Unnat Bharat Abhiyan, Women Empowerment, and Skilling India

The MoUs and research links established with prestigious international universities enable close interaction in the form of mutual visits, joint courses, joint supervision of research, organization of events and collaborative research work. Such initiatives foster global competencies among students. The curriculum promotes students to be successful in national and international appraisals and exams. Students are encouraged to undertake co-operative internships during their courses in reputed institutions and organizations in India and abroad. Through such focused interventions the curricula is more relevant on the lines of the newly introduced National Education Policy.

| File Description | Document |
|---------------------------------|-------------------------------|
| Upload Additional information | View Document |
| Link for Additional information | View Document |

1.1.2 Percentage of Programmes where syllabus revision was carried out during the last five years.

Response: 98.21

1.1.2.1 How many Programmes were revised out of total number of Programmes offered during the last five years

Response: 55

1.1.2.2 Number of all Programmes offered by the institution during the last five years.

Response: 56

| File Description | Document |
|--|-------------------------------|
| Minutes of relevant Academic Council/BOS meeting | View Document |
| Institutional data in prescribed format | View Document |
| Details of Programme syllabus revision in last 5 years | 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: 99.75

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 |
|---------|---------|---------|---------|---------|
| 4453 | 4112 | 3394 | 2155 | 913 |

| 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 |
| Institutional data in prescribed format | View Document |

1.2 Academic Flexibility

| <p>1.2.1 Percentage of new courses introduced of the total number of courses across all programs offered during the last five years.</p> <p>Response: 47.11</p> | |
|--|-------------------------------|
| <p>1.2.1.1 How many new courses were introduced within the last five years.</p> <p>Response: 2102</p> | |
| <p>1.2.1.2 Number of courses offered by the institution across all programmes during the last five years.</p> <p>Response: 4462</p> | |
| File Description | Document |
| Minutes of relevant Academic Council/BOS meeting | View Document |
| Institutional data in prescribed format | View Document |
| <p>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).</p> <p>Response: 100</p> | |
| <p>1.2.2.1 Number of Programmes in which CBCS / Elective course system implemented.</p> <p>Response: 45</p> | |

| 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:

The cross cutting issues relevant to gender, environment & sustainability, human values and professional ethics have been duly incorporated into the curricula of different courses being run in the University for the holistic development of students.

Gender Equality

No one should have poorer life chances because of the way they were born, where they come from, what they believe, or whether they have a disability. Upholding the commitment of JCBOSE UST to provide gender neutral environment, Women Empowerment cell is functioning in the University to empower the female students and staff members and enlighten them with their rights and duties. Also University has many courses related to this as a part of various UG and PG programmes

Human values and ethics

JCBOSE UST, have brought out the fundamental goodness of human beings through the engagement of students in mandatory courses like Human Values & Professional Ethics and Universal Human Values: Understanding Harmony. These courses have been introduced so that students provide sustainable solutions while keeping human. The University is running as many as 99 courses related that aim to inculcate values, ethics and socially responsible qualities in the students. VIVEKANAND MANCH', is the social and cultural club that strives to sensitize the future engineers, scientists, technocrats, entrepreneurs and business leaders from the university towards their social responsibilities as good human beings. Students of the club organize various events like street plays, awareness campaigns, debates, charity for poor etc. at regular intervals.

Environmental Awareness and Sustainability

“The Earth is what we all have in common”. In order to sensitize students about the environment and sustainability issues, a number of activities such as seminars, workshops, guest lectures and industry visits were organized for students of all programmes. Workshops and seminars on various aspects of environment sustainability are organized periodically. A compulsory core course on Environment studies is included in all UG programmes. Environment awareness camps, seminars, workshops, guest lectures, industry visits and field excursions are organized. Environment Day,

Earth Day and Water Day are annually celebrated in which students participate actively. University has started PG and research programmes in environment sciences with a focus on environment. University has also started M.Tech. (Energy and Environment) in 2020. University is also having a well-developed nursery maintained by EVS department. Apart from this many courses related to environment awareness are incorporated in the curriculum at UG and PG level.

The University has imbibed different types of courses in the curriculum, some enhance professional competencies while others aim to inculcate general competencies like climate change, humanitarianism, character-building, holistic development for the students to inculcate strong value system along with social and ethical values, human values, environment sensitivity etc., thereby leading to the graduate attributes with instilled citizen awareness.

| 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: 98

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

Response: 98

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| Brochure or any other document relating to value added courses | View Document |
| Any additional information | View Document |

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

Response: 51.42

1.3.3.1 Number of students enrolled in value-added courses imparting transferable and life skills offered year-wise during the last five years.

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 6770 | 1020 | 938 | 1590 | 934 |

1.3.4 Percentage of students undertaking field projects / research projects / internships (Data for the latest completed academic year).**Response:** 34.11**1.3.4.1 Number of students undertaking field projects or research projects or internships.**

Response: 1912

| File Description | Document |
|---|-------------------------------|
| List of Programmes and number of students undertaking field projects research projects/ / internships (Data Template) | 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 |
|---|-------------------------------|
| URL for stakeholder feedback report | View Document |
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |
| Action taken report of the University on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management (Upload) | View Document |

1.4.2 Feedback processes of the institution may be classified as follows:**Response:** A. Feedback collected, analysed and action taken and feedback available on website

| File Description | Document |
|---|-------------------------------|
| URL for feedback report | View Document |
| Upload any additional information | View Document |
| Institutional data in prescribed format | View Document |

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Demand Ratio (Average of last five years)

Response: 33.3

2.1.1.1 Number of seats available year wise during the last five years

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 2313 | 2188 | 1801 | 1252 | 1016 |

File Description

Document

Demand Ratio (Average of Last five years) based on Data Template upload the document

[View Document](#)

• Any 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 (Excluding Supernumerary Seats)

Response: 67.36

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 |
|---------|---------|---------|---------|---------|
| 588 | 609 | 526 | 386 | 363 |

File Description

Document

Average percentage of seats filled against seats reserved (Data Template)

[View Document](#)

Any 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:

University understands that the enrolled students come from different social and economic backgrounds with some inherent problems that may hamper progressive outcomes. Based on the identified category of the time-based professional approach of learning, students are offered with the requisite educational/professional support system to mitigate the level of disparity effects for better futuristic professional outcomes.

Student Assessment

The initiatives taken by the University for students' overall assessment aim at overall professional development with ethical thinking during decision making/dealing with socio-professional challenges summarized as below:

- Induction and orientation programmes are conducted for newly admitted students, wherein diagnostic tests assist in assessing their learning skills in fundamental/core sciences, communication and computation.
- Mentor-ship/Counselling system has been introduced in the University. Faculty members act as Mentors/Counsellors for approximately 20 students allocated to each mentor(s) for the requisite counselling.
- Each faculty identifies different learning levels of the students by interaction during class hours through the evaluation process, which consists of written tests, assignments, individual/group presentations, quizzes, seminars, project work, practical examinations etc.
- The mentor-mentee mechanism helps in identifying the slow learning issues and subsequently promoting dedicated but effective counselling. The dynamic mentoring process allows the students to have easy access to the teachers through informal contact for professional help and resolution of dilemma(s) through interactions.
- The practice of identification is not person-centric but problem-centric like speaking skills, performing skills, writing skill, MCQ, demonstrations etc. The faculty, while understanding the strengths and weakness of the students, provide impetus to build upon the strength and facilitation to overcome the weakness.

Programs to overcome slow learning issues

- The add-on and remedial courses are conducted through evening/weekend classes. Special assignments and notes are also provided to slow learners.
- Special programmes are being conducted for nurturing/refining the communication skills to bridge the gap with better communication skills of the students making them easier to grab the skill-based professional employment opportunities with equality.
- As a part of the curriculum, credits can also be earned through MOOCs (Massive Open Online Courses) via the SWAYAM platform. Slow learners can pace up their studies by adopting MOOCs of their choice and can study anytime, anywhere.

Programs enabling advanced learnings

- Free coaching and guidance for students, who aim to prepare for civil services examinations (conducted by the State/Central government), is provided.
- For advanced learning needs, efforts are made to provide materials in the library. E-journals and e-

books are available and they have an easy access for advancing/excelling in their studies.

- Advanced learning is encouraged through activities like taking up projects of design of instruments/gadgets for which financial assistance is provided. Such learners are encouraged to participate in institutional level activities such as to participate in ERP/DLMS/Projects etc.
- Bright students generally pursue MOOCs to earn honour's degrees in addition to skill enhancement and credits are transferred in accordance with the credit transfer policy of the University .

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

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

Response: 27:1

| File Description | Document |
|----------------------------|-------------------------------|
| Any 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:

Our Curriculum and pedagogy stem from our belief in Multiple Intelligence pedagogy and diverse teaching & learning methods that are based on Experiential Learning. We believe that both teachers and students are co-learners and follow the banking concept, where one is the receiver and the other is the giver.

Experiential Learning

- Students under the faculty of Engineering are compulsorily made to undergo industrial training/Internship programs as a part of their curriculum.
- Students are encouraged to pursue certificate courses during summer breaks which infuse psychological strength among them to overcome professional challenges in worsened/transition scenarios at the workplace
- Students learn through experiential methods like live field projects, workshops, simulations, prototyping, global immersions, case studies, seminars, industry interface, guest lectures and mentoring etc.
- Full-day workshops are organized by the departments.

Participative Learning

- Events like Digi-Fiesta, Hackathon, Quiz Competitions etc. are organized every year where students get the chance to learn and execute their skills in a healthy competitive atmosphere.
- The Incubation Centre of the University acts as a facilitation centre for the students in realizing their dream projects. The centre is fully equipped with designing, fabrication and manufacturing facilities which are available to the students 24×7.
- Employment and Training Office (ETO) is the training arm of JCBUST-YMCA, which provides coaching not only on basic employability skills and business communication but also on personal productivity skills like Time Management, Problem Solving, Decision Making, Team Building and Managerial Skills which are rated high in the corporate world.
- Students also get a chance to learn dance, meditation, yoga professionally through the designated clubs. Other learning activities such as seminars on soft skills, personality development classes, role-playing scenarios, socio-drama/psychodrama classes, debate and panel discussions, open house sessions, survey-based fieldwork and projects, experience sharing sessions with entrepreneurs, quiz competitions, film screenings and documentary preparation etc. are also organized on regular basis.
- Students get all Information and Communications Technology (ICT) support in their smart classrooms and are encouraged to perform as digital learners, which helps to easily transform conventional teaching processes to student-centric processes.
- The modules are designed to align with the curriculum in an interactive and engaging way. To further facilitate the learning activities, the IQAC (Internal Quality Assurance Cell) of the University is instrumental and is engaged in quality enhancement on a continuous basis to promote the holistic development of students.

Problem-solving methodologies

- Practical sessions are being conducted with the focus to give hands-on practice to the students. Our university has well-equipped labs in all departments.
- ?Special technical Seminars on contemporary topics, group discussions etc., are organized from time to time to develop the ability among the students to solve practical problems.
- Special assignments/projects related to practical problems are given to students.
- Value Added Courses related to Industrial/research problems have been introduced so as to develop problem-solving aptitude among the students across all the departments in the University.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View 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:

The University encourages and promotes intensive use of ICT enabled tools for effective Teaching-Learning processes. All the faculty members are using ICT tools and online resources for effective Teaching-Learning. Among the ICT enabled facilities available in the University are Digital Classrooms,

Interactive boards, LCD Projectors, Video Conferencing facility, Computer labs, Learning Management System, Faculty Information Management System (FIMS), e-library facility and the provision of MOOCs etc. The campus is fully connected with Wi-Fi and LAN via the National Optical Fiber Network (NOFN) available through the National Knowledge Network (NKN) with a capacity of 1 Gbps.

Another BSNL line of capacity of 100 Mbps is also operational and is being used as a backup line and parallel resource. A separate Lecture Capturing System (LCS) facility to record and disseminate the good quality lectures of faculty members is also established to promote and encourage digital teaching-learning. University has classrooms, labs, seminar halls, auditorium, multimedia centre, smart classrooms and conference rooms, all well equipped with ICT facilities. Following are the initiatives of the University for ensuring ICT enabled and Digital education deliveries:

- University developed its own web-based Digital Learning Management System (DLMS), to facilitate its Teaching-Learning in online mode. It's having the facility to upload study material by the teachers in the form of recorded lectures, study notes, assignments and other teaching material, Additional features are assignment submission, audio-textual group discussion forums, mail broadcasting facility, notice boards, quick access to important e-learning platforms, objective and subjective tests facility, online official meetings and live lectures. The live online classes are also being conducted through G-suite.
- The University has also procured and launched its e-library Portal to provide e-books and study material to all the students in online mode. The e-Library serves over 5 lacs text resources (e-books, e-journals, e-resources) to students.
- More than 50% of the classrooms and all the laboratories of the University have ICT enabled infrastructure. 25 Digital Classrooms have smart Interactive Panels to assist hybrid and flipped learning environments.
- Digital Notice board facility is also available in the departments as well as at central places in the University. Notices are being circulated via the website, digital notice boards and mails.
- Students of the University are earning additional credits through the SWAYAM-NPTEL platform and upgrading their skills.
- More than 75% of faculty members of the University have been trained on Digital Pedagogies and Digital teaching-learning in April 2020 by IIT Bombay on the SWAYAM platform for adopting digital tools of teaching.
- Online webinars, workshops, expert talk series, symposia, quizzes, fests, summits and FDPs have been conducted for additional learning of students and teachers.
- The University also provided free Internet Data packs to students to revive problems of online connectivity during online classes and to utilize the same for online classes and access to e-learning resources.
- The University has also tied up with the Indian Institute of Remote Sensing Dehradun, and EdX for online outreach courses. The University is also the Nodal Centre of Virtual labs by the Ministry of Education.

| File Description | Document |
|--|-------------------------------|
| Upload any additional information | View Document |
| Provide link for webpage describing the " LMS/ Academic management system" | View Document |

2.3.3 Ratio of students to mentor for academic and other related issues (Data for the latest completed academic year)**Response:** 26:1**2.3.3.1 Number of mentors**

Response: 215

| File Description | Document |
|---|-------------------------------|
| Upload year wise, number of students enrolled and full time teachers on roll. | View Document |
| mentor/mentee ratio | View Document |
| Circulars pertaining to assigning mentors to mentees | 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:** 76.83

| File Description | Document |
|---|-------------------------------|
| Year wise full time teachers and sanctioned posts for 5 years | View Document |
| List of the faculty members authenticated by the Head of HEI | View Document |
| Any 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'Lit. year-wise during the last five years**Response:** 60.62**2.4.2.1 Number of full time teachers with *Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt.* year wise during the last five years**

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 148 | 116 | 99 | 73 | 67 |

| File Description | Document |
|--|-------------------------------|
| List of number of full time teachers with Ph D/D M/M Ch/D N B Superspeciality/DSc/D Lit and number of full time teachers for 5 years | View Document |
| Any additional information | 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: 9.34

2.4.3.1 Total experience of full-time teachers

Response: 1905.08

| File Description | Document |
|--|-------------------------------|
| List of Teachers including their PAN, designation, dept and experience details | View Document |
| Any additional information | View Document |

2.4.4 Average percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government/Govt. recognised bodies during the last five years

Response: 25.18

2.4.4.1 Number of full time teachers receiving awards from state /national /international level from Government/Govt. recognized bodies year wise during the last five years

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 25 | 5 | 8 | 2 | 1 |

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of award letters (scanned or soft copy) | 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: 20.8**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 |
|---------|---------|---------|---------|---------|
| 24 | 30 | 14 | 23 | 13 |

| File Description | Document |
|---|-------------------------------|
| List of Programmes and date of last semester and date of declaration of results | View Document |
| Any 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:** 1.76**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 |
|---------|---------|---------|---------|---------|
| 70 | 58 | 88 | 72 | 30 |

| File Description | Document |
|--|-------------------------------|
| Number of complaints and total number of students appeared year wise | View Document |
| Any additional information | View Document |

2.5.3 IT integration and reforms in the examination procedures and processes (continuous internal assessment and end-semester assessment) have brought in considerable improvement in examination management system of the institution**Response:**

The switching from Manual Examination System to e-Governance System (which started effectively in 2017) has proven to be quite effective for entire Student Lifecycle Management. The whole education ecosystem of the University has been significantly impacted due to IT integration in the examination system and continuous efforts in examination reforms. The examination reforms and considerable improvements have been observed as outlined:

- Registration and logins of students on the ERP: Student can access their records /data at any time without the intervention of any office, ensuring transparency also.
- Filling the attendance of students on the ERP: Attendance is recorded online and accessible all the time to various stakeholders in real-time.
- Online uploading of internal awards on ERP: Teachers can directly upload awards as part of the continuous internal assessment on the portal resulting in minimization of errors.
- Online filling of examination and re-evaluation forms by the students on ERP: Students need not visit various offices to fill examination and re-evaluation forms. As per convenience, they can fill forms from anywhere. Physical efforts are minimized.
- Display of Tentative date sheet on University website: Publication of tentative date sheet on University website provides an easy access to all stakeholders and reporting of issues (if any).
- Registration returns and Cut lists preparation through the web portal: Online generation of different lists through the portal reduces manual efforts and promotes paperless work.
- Online generation of admit card/hall tickets through ERP: Students can download admit cards from their login on the portal anytime and from anywhere.
- Processing of answer sheets: Answer sheets being received from various examination centres are marked confidentially. For this purpose, secret/dummy codes are generated through the portal. Being an online process, manual efforts and chances of error are minimized.
- Online display of results: Exam results are easily accessible all the time to the students through their logins. In order to ensure transparency, marks obtained by the student are also displayed along with grades obtained.
- Re-evaluation forms through the web portal: Students may apply re-evaluation through the portal in case they consider that there was the scope of change in marks.
- University/Administrative Logins for management and reporting: Separate logins of staff involved in the examination system enable better management of various procedures.
- Availability of Course Syllabi, Gazettes, Result Branch Contact Information, Examination Notifications: All the contents are available on the University website to all stakeholders.
- National Academic Depository (NAD) implementation: The highly aspirated NAD project of the Ministry of Human Resource Development (MHRD) has been implemented in the University since 2017. NAD enables issuance of Detailed Marks Card (DMCs) and Degrees through the secure digital portal of MHRD, which not only curbs/eliminates the fake degrees but also provides online verification of the authenticity of awards to the prospective employers.
- Online internal and end-semester examination and evaluation of marks: Keeping in view the safety of its stakeholders, the University has conducted examinations and evaluations in online mode using both in-house developed Learning Management System and outsourced platform during COVID-19 situation.

| File Description | Document |
|--|-------------------------------|
| Year wise number of applications, students and revaluation cases | View Document |
| Any additional information | View Document |
| Link for additional information | View Document |

2.5.4 Status of automation of Examination division along with approved Examination Manual

Response: 100% automation of entire division & implementation of Examination Management System (EMS)

| File Description | Document |
|--|-------------------------------|
| Current manual of examination automation system and Annual reports of examination including the present status of automation | View Document |
| Current Manual of examination automation system | View Document |
| Any additional information | View Document |
| Annual reports of examination including the present status of automation | View Document |

2.6 Student Performance and Learning Outcomes

2.6.1 The institution has stated learning outcomes (generic and programme specific)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents

Response:

J. C. Bose University of Science and Technology, YMCA, Faridabad is committed to provide the best knowledge in terms of strong fundamentals and learning by performing. The Program Outcomes (POs) for all the courses offered of the University are mentioned in the respective academic schemes and syllabi, The POs are composed of proficiencies and abilities that students acquire along with the firm elementary concepts.

The University is closely following international standards taking model from leading institutions in the world for developing the Course Outcomes (COs) and POs to realize the vision of the University. The outcomes specific to each of the courses have been stated clearly for all courses as a part of the curriculum. The concept of Blooms Taxonomy is applied in all programmes for developing the COs as well as POs. The outcomes are developed by keeping in mind that these should be measurable, comprehensible and state clearly about the skill and knowledge that would be acquired by the students after completing the respective course or program.

The departments have formulated the Program Educational Objectives (PEOs) by taking the interests of all their stakeholders into consideration. The PEOs are having comprehensive statements stating the professional and career objective for the student for the specific program.

POs and PSOs are also prepared in synchronization with PEOs keeping in mind the main objective that what a learner should know or can do after completing the specific program.

The Teaching-Learning methodologies, adopted to impart the knowledge, are planned out for ensuring the fulfilment of these outcomes. The continuous monitoring of the performance of each student is carried out through direct and indirect methods of assessment at every level of learning. Two sessional examinations

and one end semester examination are conducted every semester to assess students' performance. End semester practical examinations & viva-voce are also conducted and included to evaluate their performance. The performance is measured and analyzed to find out to what extent outcomes have been achieved. The detailed analysis of the COs ensures the actions to be taken in future to improve upon inadequate outcomes. Multiple direct and indirect methods are used to evaluate the outcomes of the students.

Program Outcomes, Program Specific Outcomes and Course Outcomes for all the Choice Based Credit System (CBCS) courses are stated clearly in the preamble of the course curricula, and these are compiled in the form of syllabi booklets available to every stakeholder through the departmental library and University website. The PEOs of the courses are also made visible at the prominent places/classrooms in the specific department.

| File Description | Document |
|--|-------------------------------|
| Upload COs for all courses (exemplars from Glossary) | View Document |
| Upload any additional information | View Document |
| Paste link for Additional Information | View Document |

2.6.2 Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution

Response:

J. C. Bose University of Science and Technology, YMCA follows the standard process of developing and evaluating the Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (COs). The attainment process of POs, PSOs and COs takes into consideration of the proper COs for each course.

The outcomes defined by different departments are approved by the respective BOS. There is a well-defined and documented process in place to assess the attainment of POs and PSOs through the curriculum delivery. The POs are achieved through a curriculum that offers a number of mandatory courses as well as elective courses. Each course has defined COs that are mapped with the POs based on their mutual relevance.

According to the appropriateness of each CO with respect to each PO, the correlation between COs and POs is established in the form of a matrix. This matrix is prepared for each course under a specific program. To ensure the attainment of the POs and PSOs, various direct and indirect assessment methods like assignments, exams, interviews of stakeholders and surveys are followed. The direct assessment method includes an internal and external examination. The standard process of evaluation is composed of two sessional examinations, assignments and end-term examination is taken for evaluating the COs. The continuous assessments have a weightage of 25% while the weightage of end term examination is 75%. Indirect methods such as surveys, i.e., student exit survey, alumni survey, and interviews are used to gather the opinion of all the stakeholders so as to gauge the level of students learning.

The process of assessment of POs starts with the analysis of level of attainment of COs using direct assessment compared with predefined parameters and targets. The average attainment of COs covering all the courses in a semester, which are mapped with particular POs and PSOs, gives direct attainment of PO and PSO which are then compared with a predefined attainment targets of POs and PSOs. The indirect assessments are carried out by taking various survey questionnaires from students, parents, alumni, and employers. The survey information so received is assessed and evaluated to determine the strength of attainment level of POs & PSOs. Overall POs' attainment is calculated as 80% of direct assessment added with 20% of the indirect assessment.

As these POs are clearly defined and available to all students and faculty, they all feel motivated and put in their best efforts towards the attainment of outcomes in a sustained manner.

Based on the results of the outcome assessment, the deviations in the desired and stipulated objective and the results actually achieved for each course are identified. The Academic Audit of the faculty members ensures that these assessments become the part of a continuous process. The inputs from the experts help formulation of action plans so to improve upon the result of assessment for these outcomes.

| File Description | Document |
|---------------------------------------|-------------------------------|
| Upload any additional information | View Document |
| Paste link for Additional Information | View Document |

2.6.3 Pass Percentage of students(Data for the latest completed academic year)

Response: 95.06

2.6.3.1 Total number of final year students who passed the examination conducted by Institution.

Response: 1462

2.6.3.2 Total number of final year students who appeared for the examination conducted by the Institution.

Response: 1538

| File Description | Document |
|--|-------------------------------|
| Upload list of Programmes and number of students passed and appeared in the final year examination | View Document |
| Upload any additional information | View Document |
| Paste link for the annual report | View Document |
| Link fo any additional information | View Document |

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response: 3.06

| File Description | Document |
|--|-------------------------------|
| Upload database of all currently enrolled students | View Document |

NAAC

Criterion 3 - Research, Innovations and Extension

3.1 Promotion of Research and Facilities

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

Response:

The University has well defined Research Policy and the same is uploaded on the University Website.

PREAMBLE

JCBUST, YMCA Faridabad has inclination towards research and development of innovative technologies, and committed to provide best research environment and state-of-the-art technological exposure to its scholars.

To foster research culture, JCBUST has been updating its Research Policy from time to time. With the aim in pursuit of excellence the existing research policy has been framed in 2020 duly passed through 20th meeting of Academic Council dated 31/8/2020.

OBJECTIVES OF THE POLICY

- (i) To explore technological development opportunities in common application areas for the welfare of the people of our country.
- (ii) To encourage and incentivize faculty members of the university for research publications in SCI and Scopus Index or other equivalent peer-reviewed /reputed journals
- (iii) To organize research promotion events like summits, conferences, seminars, workshops, expert lectures and panel discussion through talks with eminent personalities from reputed institutions and industries etc.
- (iv) To motivate faculty members, research scholars, staff and students to apply for a patent and also encourage to present research papers in national and international conferences/workshops.
- (v) To provide appropriate facilities and infrastructure for the advancement of research.
- (vi) To take initiatives for signing with reputed national/international institutions and industries for collaborative consultancy and research projects, etc.
- (vii) To identify the technical problems faced by the industry and find effective solutions for the same through research projects and consultancy work, etc.

RESEARCH SUPPORTING SCHEMES

JCBUST has introduced the following support schemes for UG/PG, PhD scholars and faculty members for enhancing research

- University Research Scholarship
- Contingency Grant for study material, photocopying of documents, travel to conference, workshop and other educational trips etc.
- Provide seed money to carry out pilot studies and encourage faculty members / researchers to identify funding sources for further research.
- University provides academic leaves to carry out the fieldwork or collaborative work in another Laboratory relating to research work of the Project (In India or Abroad) on the approval of the competent authority.
- Research Award policy for facilitating the faculty/students for outstanding research
- MoUs with International Institutions

UPDATION OF RESEARCH FACILITIES

The University focuses on research infrastructure and support faculty /research scholars.

- Around 80 laboratories loaded with modern equipment/machines supported with regular maintenance to upkeep the items.
- IT facilities including 1100 Computers, 150 Printers, 41 Projectors, 5 Smart TVs, 16 Smart Boards

CENTRAL INSTRUMENTATION FACILITY

Central Instrumentation lab is established with an aim to provide characterization techniques for futuristic advanced research in various fields.

The facilities include high-end equipment like

- (i) Atomic Force Microscope
- (ii) Scanning Electron Microscope
- (iii) UV-Vis-NIR Spectrophotometer
- (iv) Fourier Transform Infrared Spectrophotometer
- (v) Ellipsometer
- (vi) Digital Microscope
- (vii) Microwave Plasma Atomic Emission Spectrophotometer (MPAES)

DEPARTMENTAL RESEARCH SUPPORT FACILITY

Each department has research supporting facility, mainly equipped with state-of-the-art equipment and software for excellence in research like CMM, 3D printer, ANSYS, WITNESS, LabVIEW, MATLAB, SPSS, D-Space, DSO, Power Analyzers, Vector Network Analyzer, Industrial IOT, PLCs, Hot Air Oven, Two Port System, Compression testing machine, Rebound Hammer, UV visible Spectrophotometer.

| 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: 8.73

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 |
|---------|---------|---------|---------|---------|
| 18 | 7.95 | 5.35 | 4.58 | 7.79 |

| File Description | Document |
|---|-------------------------------|
| Minutes of the relevant bodies of the University | View Document |
| Institutional data in prescribed format | View Document |
| Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized | View Document |
| Any additional information | View Document |

3.1.3 Percentage of teachers receiving national / international fellowship / financial support by various agencies for advanced studies / research during the last five years.

Response: 0.12

3.1.3.1 The number of teachers who received national / international fellowship / financial support by various agencies for advanced studies / research year-wise during the last five years.

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

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of the award letters of the teachers | View Document |
| Any additional information | View Document |

3.1.4 Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other research fellows enrolled in the institution during the last five years.

Response: 51

3.1.4.1 The Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other research fellows enrolled in the institution year-wise during the last five years.

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 11 | 26 | 5 | 8 | 1 |

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

3.1.5 Institution has the following facilities to support research

1. Central Instrumentation Centre
2. Animal House/Green House
3. Museum
4. Media laboratory/Studios
5. Business Lab
6. Research/Statistical Databases
7. Mootcourt
8. Theatre
9. Art Gallery
10. Any other facility to support research

Response: A. 4 or more of the above

| File Description | Document |
|--|-------------------------------|
| Upload the list of facilities provided by the university and their year of establishment | View Document |
| Upload any additional information | View Document |
| Paste link of videos and geotagged photographs | View Document |

3.1.6 Percentage of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other recognitions by national and international agencies (Data for the latest completed academic year)

Response: 64.29

3.1.6.1 The Number of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other similar recognitions by national and international agencies.

Response: 9

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-version of departmental recognition award letters | View Document |
| Any additional information | View Document |

3.2 Resource Mobilization for Research

3.2.1 Extramural funding for Research (Grants sponsored by the non-government sources such as industry, corporate houses, international bodies for research projects) endowments, Chairs in the University during the last five years (INR in Lakhs).

Response: 40.58

3.2.1.1 Total Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years (INR in Lakhs).

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 40.28 | 0 | 0 | 0.3 | 0 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of the grant award letters for research projects sponsored by non-government | View Document |

3.2.2 Grants for research projects sponsored by the government agencies during the last five years (INR in Lakhs).

Response: 140.36

3.2.2.1 Total Grants for research projects sponsored by the government agencies year-wise during the last five years (INR in Lakhs).

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|----------|---------|----------|---------|
| 61.93 | 10.04564 | 0 | 18.83258 | 49.554 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of the grant award letters for research projects sponsored by government | View Document |

3.2.3 Number of research projects per teacher funded by government and non-government agencies during the last five years

Response: 0.3

3.2.3.1 Number of research projects funded by government and non-government agencies during the last five years.

Response: 14

3.2.3.2 Number of full time teachers worked in the institution year-wise during the last five years..

Response: 232

| File Description | Document |
|---|-------------------------------|
| Supporting document from Funding Agency | View Document |
| Institutional data in prescribed format | View Document |
| Paste Link for the funding agency website | View Document |

3.3 Innovation Ecosystem

3.3.1 Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge.

Response:

Incubation Centre:

Our Honourable Prime Minister Sh. Narendra Modi said “There’s so much happening with the youth looking at local or national problems and solving them with innovation and technology. This is what start-up success means.” In the same spirit of providing a supportive platform to young students to realise their start-up dreams, J. C. Bose University of Science and Technology, YMCA, Faridabad has established J. C. Bose Technology Business Incubator (JCB-TBI) with the support of The Department of Information Technology Electronics & Communication, Haryana (DITECH) and one of our own alumni Mr. Mohit Vohra, Founder and MD, MV Electrosystems Pvt Ltd.

The university has created an ecosystem for innovation including JCB-TBI, supported by other initiatives including IoT Lab, Coworking Space, 3D printing setup for prototyping and testing, for creation and transfer of knowledge. At JCB-TBI, we offer a wide range of Technical, Strategic Management and Business mentoring support by the expert faculty and experts from various industries. We regularly organize activities like seminars, start-up events, motivational and technical lectures, workshops and symposiums on Ideation, Start-up and Entrepreneurship, Intellectual Property Rights (IPR) and Industry-Academia Innovative practices etc. to kindle the entrepreneurial spirit of our students and participants. JCB-TBI also supports our budding entrepreneurs with fundraising assistance through various activities.

We have set up a comprehensive Start-up Entrepreneurship Workshop Program to help our students to understand the deep nuances of business and all its components including market research, business planning, pitching to investors for successful implementation of their start-up business ideas. We have already successfully conducted over 50 programs /competitions / workshops for Innovation and Entrepreneurship and half a dozen programs / workshops on Intellectual Property Rights (IPR) alone.

Key Highlights

JCB-TBI has worked in synchronisation with other departments of the university like Department of management Studies, Training and Placement office, Institutional Innovation Council, and Department of Students welfare to organize a wide range of programs including seminars, webinars, expert lectures, industry interactions, panel discussions, and interviews with successful entrepreneurs and achievers such as : **Wisdom Summits, Leadership Talks, J C Bose Global HR Conclave 2020 , AatmaNirbhar Hackathon 2020 , J C Bose National IoT Start-up Challenge 2020 , J C Bose IoT Conference 202, Yuva Prerna Diwas.**

No. of start-up supported by institute: 5

| Sr. No. | Added On | Title of Project | Name of Students | Amount (Rs.) |
|---------|------------|------------------|------------------|--------------|
| 1 | Sept. 2020 | CYNDI | Lalit | 200000 |
| 2 | Dec 2020 | Lumblaze | Mahender | 100000 |

| | | | | |
|---|----------|----------------------------|---------------|--------|
| 3 | Dec 2020 | Smart MFP 3D Printer | Sachin Yadav | 300000 |
| 4 | Dec 2020 | Automated Vertical Planter | Palak Kumari | 200000 |
| 5 | Dec 2020 | Smart parking | Sameer Sharma | 100000 |

The amount mentioned against each start-up is the total rounded up cost of the facilities and services offered to these start-ups totally free. As the subsidized price for single workstation is kept at five thousand rupees per work station. Each of the start-ups are given four workstation to work for six months to eighteen months depending upon their requirements and competitions they participated and their position in the competition.

| | |
|---------------------------------------|-------------------------------|
| 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: 259

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 |
|---------|---------|---------|---------|---------|
| 112 | 68 | 21 | 18 | 40 |

| | |
|---|-------------------------------|
| File Description | Document |
| Report of the event | View Document |
| Institutional data in prescribed format | View Document |

3.3.3 Number of awards / recognitions received for research/innovations by the institution / teachers / research scholars / students during the last five years.

Response: 323

3.3.3.1 Total number of awards / recognitions received for research / innovations won by institution / teachers / research scholars / students year-wise during the last five years.

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 43 | 99 | 109 | 10 | 62 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e- copies of award letters | 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 |
|--|-------------------------------|
| Code of ethics for Research document, Research Advisory committee and ethics committee constitution and list of members on these committees, software used for Plagiarism check, link to Website | View Document |

3.4.2 The institution provides incentives to teachers who receive state, national and international recognitions/awards 1. Commendation and monetary incentive at a University function 2. Commendation and medal at a University function 3. Certificate of honor 4. Announcement in the Newsletter / website

Response: A.. All of the above

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e- copies of the letters of awards | View Document |

3.4.3 Number of Patents published / awarded during the last five years.

Response: 25**3.4.3.1 Total number of Patents published / awarded year-wise during the last five years.**

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 18 | 5 | 2 | 0 | 0 |

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

3.4.4 Number of Ph.D's awarded per teacher during the last five years.**Response: 3.65****3.4.4.1 How many Ph.D's are awarded within last five years.**

Response: 113

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

Response: 31

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| URL to the research page on HEI web site | View Document |

3.4.5 Number of research papers per teachers in the Journals notified on UGC website during the last five years**Response: 7.9****3.4.5.1 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 |
|---------|---------|---------|---------|---------|
| 518 | 182 | 223 | 204 | 159 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

3.4.6 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

Response: 1.57

3.4.6.1 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 |
|---------|---------|---------|---------|---------|
| 99 | 56 | 22 | 27 | 51 |

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

3.4.7 E-content is developed by teachers :

1. For e-PG-Pathshala
2. For CEC (Under Graduate)
3. For SWAYAM
4. For other MOOCs platform
5. Any other Government Initiatives
6. For Institutional LMS

Response: A. Any 5 of the above

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| Give links or upload document of e-content developed | View Document |

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

Response: 5.12

| File Description | Document |
|--|-------------------------------|
| Bibliometrics of the publications during the last five years | View Document |
| Any additional information | View Document |

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

Response: 22

| 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 Institution has a policy on consultancy including revenue sharing between the institution and the individual and encourages its faculty to undertake consultancy.

Response:

The University has a well-defined consultancy Policy and the same is uploaded on the University website.

PREAMBLE

J.C. Bose University of Science and Technology, YMCA, Faridabad has excellent teaching faculties who have in depth knowledge of their fields. More than 100 research scholars are currently doing research on various domains of engineering, technology and sciences. University wants to utilize their resources and highly qualified faculties for solving real life challenges by providing the consultancies services to the industries. With the aim to pursuit of excellence the existing consultancy policy has been framed in 2020 duly passed through 19th meeting of Academic council dated 06/04/2020.

SCOPE OF THE POLICY

University actively encourages its faculty members and other academic staff members to undertake consultancy with industry and other comparable institutions of higher learning in order to create new knowledge and widening the research profile of its faculty and staff members.

OBJECTIVE OF THE POLICY

The primary objective of this policy is to establish a framework to support consultancy activities in University and to promote academic, industry and research interaction and to encourage and facilitate faculty to provide knowledge inputs sought by industry, government agencies or other academic / research organizations.

University Consultancy is the application of existing specialist knowledge to address or resolve industry needs or issues by e.g.:

- offering specialist opinion and/or advice;
- advising on technical issues;
- carrying out some forms of analysis and/or testing;

Industries can provide some real life challenges/ actual shop floor industry problems to work upon them. Our faculties and researcher will consult and guide the industries upon these problems.

All Consultancy works job need to be structured and executed in the spirit of promoting University–Industry Interactions, as a vehicle for augmenting current levels of excellence in teaching and research and in the process of generating funds.

The **benefits** of consultancy in University are enhancing the knowledge, expertise and experience of assisting in maintaining awareness of real work situations, networking with other Institutions, Organizations, Industry, Government agencies and other client organizations. **Some of the types of consultancy services that University offers are** Analytical studies, Calibration, Cause-and -remedy studies, Simulation/ modeling/ optimization, Design of systems/components/processes etc.

Consultancy Categories in University

(a) Category 1: Consultancy without use of Institutional Facilities: Consultancy that is solely based on the expertise of the Consultancy Applicant and does not involve significant use of any institutional facilities.

(b) Category 2: Consultancy with use of Institutional Facilities: Consultancy that requires departmental and/or inter departmental expertise and involves the use of University infrastructure / facilities such as equipment, instrument, laboratory staff, etc.

Distribution of Consultancy Funds

The norms for calculation of various percentages for distribution of the total money received from client will be as follows:

| Categories University | Consultancy Applicant and team members | University |
|--|--|------------|
| Category 1: Consultancy without use of Institutional Facilities. | 80% | 20% |
| Category 2: Consultancy with use of Institutional Facilities. | 70% | 30% |

| File Description | Document |
|--|-------------------------------|
| Upload soft copy of the Consultancy Policy | View Document |
| Upload minutes of the Governing Council/ Syndicate/Board of Management related to consultancy policy | View Document |
| Upload any additional information | View Document |
| Paste URL of the consultancy policy document | View Document |

3.5.2 Revenue generated from consultancy and corporate training during the last five years (INR in Lakhs).

Response: 63.64

3.5.2.1 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 |
|----------|---------|---------|---------|---------|
| 51.87555 | 9.95497 | 1.258 | 0.50000 | 0.05 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Audited statements of accounts indicating the revenue generated through consultancy | View Document |
| Any additional information | View Document |

3.6 Extension Activities

3.6.1 Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the last five years.

Response:

In University, there are many clubs/societies which are organizing different type of activities or events at the adopted villages so that the people residing in these villages may take benefit of the same. The teams working on this are NSS(National Service Scheme), NCC(National Cadet Corps), UBA(Unnat Bharat Abhiyan), Eco Club etc. These clubs also organizes some of the activities/events in association with other departments of University for overall development of villages. Along with University deputed a Director-Social Responsibilities under DSW office to work towards social responsibilities of the University. Each and every club/team of University is consisting of number volunteer students of University working under

guidance of faculty members who are In-charge/Coordinator of that particular club. Student participates in all activities considering their social responsibility towards community. Following activities have been organized by University in the community;

List of Initiatives in 2016-2017

- Basic Computer Training on 5 Sep 2016 to 16 Sep 2016
- Blood Donation Camp on 14 March 2017
- Swatch Bharat Abhiyan on 2 Oct 2016
- The Joy of Giving week on 15 Oct 2016 to 18 Oct 2016

List of Initiatives in 2017-2018

- 30th International Day for the Preservation of Ozone layer on 15 Sep 2017
- Rashriya Ekta Divas on 30 Oct 2017
- Visit in Nuh Engineering college for "Samrasta utsav " to donate the cloths for needy people on 13 Jan 2018
- Distribution of cloths and useful goods in Pranab kanya Sangha, Tigaon, Faridabad on 31 Jan 2018
- Water Day Celebration on 22 March 2018

List of Initiatives in 2018-2019

- Gram Sabha on 14 Aug 2018
- Village Survey on Jan-March 2019
- Household Survey on Jan-March 2019
- Medical Camp on 16 April 2019
- Environment Day celebration on 5 June 2018

List of Initiatives in 2019-2020

- Awareness Program on Sanitization and women Empowerment on 24 July 2019
- Swachhta hi seva-awareness program on 09 Sep 2019
- Student solar ambassador workshop on 02 Oct 2019
- Awareness Program on various Govt. Scheme on 06 Feb 2020
- One Week for Nation on 15-22 Aug 2020

University Received Rs 50,000/- from IIT Delhi under UBA. The funds are mainly meant for assistance for

awareness, Gram Panchayat Development Plan (GPDP) study need assessment) and expense to visit the cluster and formulation of project.

List of Initiatives in 2020-2021

- Installation of Web camera in schools of adopted villages on 28 Jan 2021
- Share & Care on 28 Jan 2021
- Volunteering on Vrindavan Candrodya Mandir on 28 Aug 2019
- Stand up against street harassment on 24 July 2021
- Webinar on healthy lifestyle and cancer prevention 26 June 2021
- Tree Plantation Drive in villages on 17 July 2021 & 18 July 2021

Apart from cleanliness drive, the following activities are proposed to be undertaken by the University in the adopted villages:

- Organizing Health Check-up Camps.
- Organizing NSS Camps.
- Inducting interested students of villages in Community College run in the University.
- Donating revamped computers to village Panchayat.

An orphanage "Aanchal Chayya" at Village Bhagola near Palwal has been adopted by JCBUST, YMCA, Faridabad.

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

3.6.2 Number of awards received by the Institution, its teachers and students from Government /Government recognised bodies in recognition of the extension activities carried out during the last five years

Response: 46

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 |
|---------|---------|---------|---------|---------|
| 27 | 13 | 1 | 3 | 2 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copy of the award letters | View Document |
| Any additional information | 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: 166

3.6.3.1 Number of extension and outreach programs conducted by the institution those through NSS/NCC, Government and Government recognised bodies during the last five years

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 84 | 46 | 18 | 09 | 09 |

| File Description | Document |
|---|-------------------------------|
| Reports of the event organized | View Document |
| Institutional data in prescribed format | 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: 75.08

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 |
|---------|---------|---------|---------|---------|
| 7427 | 3803 | 2241 | 1561 | 1220 |

| File Description | Document |
|---|-------------------------------|
| Report of the event | View Document |
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |

3.7 Collaboration

3.7.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship per year

Response: 15

3.7.1.1 Total number of Collaborative activities with other institutions / research establishment / industry for research and academic development of faculty and students year-wise during the last five years.

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 33 | 20 | 12 | 4 | 6 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Copies of collaboration | View Document |

3.7.2 Number of functional MoUs with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research during the last five years.

Response: 74

3.7.2.1 Number of functional MoUs with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research year-wise during the last five years.

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 47 | 9 | 4 | 9 | 5 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of the MoUs with institution/ industry | View Document |

NAAC

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc.

Response:

Adequate infrastructure facilities along with teaching and learning amenities form the backbone of any university. J.C. Bose University of Science and Technology, YMCA, Faridabad is known for its state-of-the-art labs and workshops since its inception and has been continuously striving to expand and upgrade its physical infrastructure.

The University is spread over a lush green campus area of 20 acres which is lined up with teaching , non-teaching blocks and other amenities. It has a total of 75 class rooms all of which are equipped with Wi-Fi to provide a technology-laden classroom experience to both teachers and students. There are 09 ICT enabled seminar halls which help the teachers and students to deliver and share their budding ideas in groups. There are as many as 80 laboratories in the University enabled with modern equipment/devices/machines to provide a hands-on experience to students. The Language Lab is another important asset, which helps in the learning of language through technology. Each department has an exclusive well-furnished conference hall for conducting seminars/meetings.

The University has been constantly putting efforts to work in the domain of digitization. The computing facilities of the University cater to the needs of faculty and students to foster an effective teaching learning process. There is a fully furnished computer center and media center. The University has designed and developed indigenous Digital Learning Management System (DLMS) which proved to be a boon for both the students and teachers especially in this pandemic time. The University has a total of 20 Computer labs. There is a seamless service of internet connectivity University wide which is via 2 Leased Lines (1GBPS NKN & 100 MBPS BSNL). The computing facility consists of licensed software (system software and applications software) and also a good number of open source softwares are also being used by the faculty as per the curricular requirements. Adequate administrative and support facilities are also available to foster an academic requirement. There are sophisticated IT facilities like 1096 Computers, 70 laptops, 150 Printers, 41 Projectors, 91 UPSs, 5 Smart TVs, 16 Smart Boards, 15 Wi-Fi Routers with 45 access points and 8 scanners. A healthy computing ratio of 1:5 computer to students against the prescribed ratio of 1:6 is being maintained. The University has a well-furnished library with 83000 books on different disciplines to provide effective learning resources to the students. Digital Library used by students and faculty to access the required e-content (e-books, e-journals etc.). Each department has a well-stocked departmental library consisting of subject specific books. All the facilities specified are compatible with national and international standards as prescribed by regulatory bodies like AICTE and UGC.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

4.1.2 The institution has adequate facilities for cultural activities, yoga, games and sports (indoor &

outdoor); (gymnasium, yoga centre, auditorium, etc.,)

Response:

J.C. Bose University of Science and Technology, YMCA, Faridabad is committed to the overall development of every individual. It believes that qualities like leadership, team spirit and competitive spirit can be inculcated amongst the students through extracurricular and sports activities. Students of the University are encouraged to participate in different sports/games and cultural activities which are conducted from time to time at state and national levels.

All the extracurricular, cultural and technical activities are conducted under the domain of the office of Dean Student Welfare (DSW) that serves as an interface between students and administration. DSW works for the all-round personality growth of the students and tries to nurture students' mental, physical, cultural growth with various activities to improve their overall personality development and to make them civilized Indian citizens to compete in the globalized world.

Sports & Games

It has a well-developed infrastructure for conducting physical activities and competitions. The University has a large playing field and numerous sports equipment to support a wide variety of games, such as Cricket, Football, Volleyball, Handball, Hockey and Kho-Kho. There are also dedicated spaces for Indoor sport, including Table Tennis, Badminton, Chess and Carrom. A Multi-Purpose Hall (Shakultalam) has been developed to conduct cultural and sports activities at regular intervals. Separate gymnasium facilities in both boys' and girls' hostels which are well equipped with numerous modern machines for these exercises. In line with the vision of the honorable Prime Minister of India, Sh. Narendra Modi, the University celebrates International Yoga Day (21st June) every year in which both students and staff members participate in huge numbers.

Cultural Activities

The University has as many as 18 technical and cultural clubs each of which is headed by two teacher coordinators and is run by a student committee consisting of secretaries and joint secretaries. The students are encouraged/motivated to join these clubs during their first year depending upon their interest where they can then showcase and enhance their skills by participating in various inter and intra college competitions conducted at regular intervals.

The University has a spacious, majestic, fully air-conditioned auditorium equipped with all modern gadgetry and amenities. The University has dedicated practice rooms, green rooms etc. and it also motivates its students for participation in cultural events by providing them financial assistance for renting dresses, instruments etc. The University also has a stage (near basketball court) with serene aura where in addition to carrying out the celebrations of various National festivals, an annual ritual of yajna is performed to mark the beginning of University's annual fest CULMYCA.

Students from across the nation participate in the 3 day long annual fest of the University which includes numerous on-stage and off-stage events like solo dance, group dance, solo singing, group singing, mime, essay writing, etc. Through healthy competition, incredible performance of the students from various disciplines is recognized on that special occasion. The winners are honored and motivated by the head of the University.

| File Description | Document |
|---------------------------------------|-------------------------------|
| Upload any additional information | View Document |
| Geotagged pictures | View Document |
| Paste link for additional information | View Document |

4.1.3 Availability of general campus facilities and overall ambience

Response:

The University is connected to the national capital city both via road as well as rail. The Metro train is very easily accessible as the Metro station is at a distance of 100 meters from the University. There is a transport facility for day scholars from Palwal, Ballabgarh in cooperation with the State Transportation Department. The University administration is committed to provide a healthy and safe environment to all its stakeholders. The University has RO plant facility, ATM facility, Banking facility, post-office etc. The security of students is carried through CCTV cameras installed at different locations in the campus. There are numerous fully functional fire extinguishers installed in the University. The guards are available at both the gates and in the University campus 24*7. All the departments of the University have well-furnished cabins for the faculty members.

Various other important facilities include:

- Smart class rooms in all departments: There are smart classrooms in all the departments of the University.
- Wi-Fi facility: The University is well equipped with Wi-Fi facility in all its classrooms, faculty rooms, hostel areas etc.
- Incubation Center: The University has an Incubation Center under the name of J.C.Bose Technology Business Incubation Center (JCBTBIC) which offers a wide range of Technical, Strategic Management and Business mentoring support by the expert faculty and experts from various industries.
- Center of Excellence: The University has the following centers of Excellence:
 - DAIKIN CENTER OF EXCELLENCE
 - DANFOSS CENTER OF EXCELLENCE
 - ROYAL ENFIELD SERVICE TRAINING CELL
 - BLOCKCHAIN TECHNOLOGY CENTER OF EXCELLENCE
 - BOSCH CENTER OF EXCELLENCE
- Medical Center: The University has a well-equipped medical center to cater the medical emergency situations of both students and staff members. There are 3 doctors available in the university campus who also provide teleconsultation during covid times. Ambulance facility is also available in the University.
- Parking Space for both staff and students: The University has a spacious and well managed parking space both in its front and back entrance.

- Auditorium: The University has a spacious auditorium which has adequate facilities to conduct various cultural activities.
- Playground : The University has a dedicated playground which is exhaustively used by both students as well as staff members.
- Canteen: The University has a well-maintained cafeteria which is enormously used by the students and staff members of the University.
- Hostels: There is a separate hostel for both boys and girls in the University. The hostels have basic amenities like sanitary pad vending machine, induction cook top etc. to name a few in girls hostel.
- Stationary Shop: The University has an in campus stationary shop well equipped with the stationary materials for meeting the needs of students.
- Milk Parlour : There is a mother dairy booth near the front parking area. It is well stocked with all the diary products needed by the students.
- Lift Facility (for handicap students): The University has fully functional lift for handicaps in main building, mechanical engineering department and Science Block

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

4.1.4 Average percentage of expenditure for infrastructure augmentation excluding salary during the last five years (INR in Lakhs)

Response: 55.75

4.1.4.1 Expenditure for infrastructure augmentation, excluding salary during the last five years (INR in lakhs)

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 8103.86 | 3436.66 | 3251.42 | 1155.7 | 212.79 |

| File Description | Document |
|---|-------------------------------|
| Upload audited utilization statements | View Document |
| Institutional data in prescribed format | View Document |

4.2 Library as a Learning Resource

4.2.1 Library is automated using Integrated Library Management System (ILMS) and has digitisation facility

Response:

Pt. Deen Dayal Upadhyay Central Library of the University has automated its routine activities using Web Based LSEase Integrated Library Management System from LibSys. The library is well equipped with modern technologies like Bar Code Technology, Remote Access facility, Federated Search, use of Artificial Intelligence for searching through voice command, Mobile Apps for both Android as well as iOS users etc.

Web OPAC (Online Public Access Catalogue) facility is available to know the availability of books in the library. It can be accessed within campus and from outside of the campus (through e-Library Portal). Link to access for Web OPAC is available on University Website and e-Library portal.

LSEase provides an enhanced user experience through value-added feature and services. It covers Acquisition, Cataloguing, and Circulation along with an enriched OPAC. Its seamless work-flow enables library staff to manage library operations efficiently. LSEase has adopted a new approach with its latest releases/editions incorporating advanced features like:

- MARC 21 Cataloguing
- Barcode enabled with option for RFID integration
- Integration with barcode readers
- More interactive and enhanced Web OPAC
- Full Unicode support

About 3400 e-journals are being subscribed by the library from the reputed publishers e.g. Elsevier's ScienceDirect, Taylor & Francis, IEEE, Springer Link and Nature to promote the research activities in the University. More than 7000 titles of e-books from McGraw-Hill, Pearson Education, Elsevier, Trittech and EBSCO are accessible to the users. Library also has access to millions of e-books from the World eBook Library and South Asian Archive provided by INFLIBNET. The library is also a member of DELNET and EShodh Sindhu consortia. Access to the JGatePlus e-journal gateway has also been provided by e-ShodhSindhu.

Central Library provides access of variety of e-resources e.g. e-journals, e-books, expert lectures, video tutorials, e-newspapers, e-magazines, e-theses, e-dissertations etc. through its e-Library portal named as JC Bose UST e-Library.

E-Library Portal of the University Library has following features:

- It Provides 24*7 access to more than 6 lakh e-resources (subscribed by the university as well as relevant e-resources available in open domain) from anywhere through Remote Access facility.

- Single window search facility (through federated search) was introduced to search relevant documents out of all e-resources in single click.
- Artificial Intelligence based chatbot called ILA search has also been introduced for searching through voice command.
- Mobile App is also available for both Android as well as iOS users to access e-Library Portal on smart phones/ tablets.
- News alert facility is also available for the users to get relevant news alerts from various newspapers.
- SocioLib feature allows the users to follow their peers or group to know what they are reading etc.
- “Request an item” feature allows users to request the document which is not available within the Library collection. It is arranged within 48 hours after putting request through the InterLibrary Loan facility.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any 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 |

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: 68.62

4.2.3.1 Annual expenditure for the purchase of books and journals including e-journals year-wise during last five years (INR in Lakhs)

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 64.62 | 101.96 | 59.67 | 61.38 | 55.46 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | 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 latest completed academic year**Response:** 17.56**4.2.4.1 Number of teachers and students using library per day over last one year****Response:** 1020

| File Description | Document |
|---|-------------------------------|
| Details of library usage by teachers and students (Library accession register, online accession details to be provided as supporting documents) | View Document |

4.3 IT Infrastructure**4.3.1 Percentage of classrooms and seminar halls with ICT - enabled facilities such as LCD, smart board, Wi-Fi/LAN, audio video recording facilities. (Data for the latest completed academic year)****Response:** 100**4.3.1.1 Number of classrooms and seminar halls with ICT facilities****Response:** 75

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

4.3.2 Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility**Response:**

The University has an IT policy for ensuring: proper use of IT resources and bandwidth; effective control on the activities taking place on the university's network, whether related to university or not; and security of university's IT-based resources. Following are the objectives of IT policy:

- **IT for Teaching-Learning Process and research & Development Activities**
- **IT for Governance Process**
- IT for Resource Sharing, Collaboration & Communication

All the computers owned by the University, whether purchased out of University's own resources or out of

research projects funds and their users will be covered by the Policy. Further, the faculty, the students, the staff, the authorised visitors/visiting faculty and others who may be granted permission to use the University's IT infrastructure, shall comply with the guidelines enshrined in the University' IT Policy. Offenders of University' IT policy/Laws and bye-laws enacted by State Government and Central Government shall invite action against them as per laws and byelaws of the University/State/Country. There is a well formulated IT cell which is responsible for all the tasks in accordance with the IT policy. The major ones are listed below:

- a. Campus Network Backbone Maintenance
- b. Network Services Maintenance
- c. Physical Connection of Campus Buildings to Campus Network
- d. Network Updation and Expansion
 - i. IT-CELL will review the existing network facilities every 2-3 years and take necessary action for its updation/expansion.
 - ii. Following procedures should be followed for network expansion:
 - a) Cat 6 UTP or latest cables should be used for the internal network cabling.
 - b) Structured cabling standards should be followed. No loose and dangling UTP cables be drawn to connect to the network.
 - c)The cables should be properly terminated at both ends following the structured cabling standards.
 - d) Only managed switches should be used i.e. management module should be web-enabled using unmanaged switches of more than 16 ports is prohibited.
 - e) Wireless Local Area Networks
 - i. Where access through Fiber Optic/UTP cables is not feasible, network connectivity has been provided through wireless technology.
 - ii. IT-CELL will decide the use of radio spectrum by the departments/ institutes/ centres/ offices prior to implementation of wireless local area networks after due consultation with them.
 - iii. IT-CELL will be responsible for controlling network access to the departments/ institutes/ centres/offices through wireless local area networks either via authentication or MAC/IP address restrictions.
 - iv. The users (Staff or students) shall make a written request to the IT-CELL for providing access to the internet through wifi. Such a request should have the recommendation of the respective Head of the Department/Office. Subsequently, IT-CELL will assign a password to the applicant.
 - v. IT-CELL shall maintain a proper record of the wi-fi users.

f). Filing of Complaints by the Users

- i. All network-related complaints will be filed with the IT-CELL.
- ii. IT-CELL will attend such complaints as early as possible.
- iii. IT-CELL will maintain a log of the complaints received and complaints attended.

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

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

Response: 5:1

| File Description | Document |
|--------------------------|-------------------------------|
| Student – computer ratio | View Document |

4.3.4 Available bandwidth of internet connection in the Institution (Leased line)

Response: A. ?1 GBPS

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

4.3.5 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: A. All of the above

| File Description | Document |
|---|-------------------------------|
| Upload any additional information | View Document |
| Institutional data in prescribed format | View Document |
| Links of photographs | 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: 13.06

4.4.1.1 Expenditure incurred on maintenance of infrastructure (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 |
|---------|---------|---------|---------|---------|
| 1255.30 | 1253.04 | 639.20 | 91.70 | 122.24 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | 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:

The University ensures proper maintenance and effective utilization of all of its infrastructural resources. The maintenance and utilization is done 24x7 in an environment-friendly manner with due regard to hygiene, safety greening and sustainability.

Academic Support Facilities

- Library : The central library of the University has a good collection of print and digital information resources which are well maintained. Physical information resources can be utilised by consulting within the library and getting them issued. Digital information resources can be utilised from the links provided on the University's website, can be accessed remotely 24*7 through its e-library portal , mobile app etc.
- Infrastructure facilities & Computers : All the scientific equipment, computers, servers etc. are

maintained by the manufacturer till the warranty period and later by technicians, qualified System Administrators and System Engineers.

- ClassRooms : The University has a sufficient number of classrooms which are adequate in relation to academic requirements and have all modern audio-visual aids for effective teaching-learning.
- Laboratories : All labs of the University adequately meet the academic requirements including teaching, research, innovation and entrepreneurship and are kept updated from time to time in the interest of best standards of education. Each lab is adequately staffed and has proper lab manuals to be followed. Devices/equipments requiring calibration are calibrated by qualified experts as per norms duly approved by the university. A lab audit is conducted at the beginning of each academic year to ensure that the new equipment requirements are in place, existing equipments are in proper working order and all consumables and non-consumables are available with right quality and quantity

Physical Support Facilities

- Maintenance of Campus: Regular maintenance of electrical, plumbing, housekeeping and infrastructure in the entire University is supervised by the Superintending Engineer, SDE and J.E. (Civil) who is responsible for getting building inspection conducted from time to time as per prescribed regulatory norms. On completion, the inspection observations and actions are initiated and duly recorded. In addition, a complaint-cum-suggestions register is maintained and acted upon by the Maintenance Section. To improve the physical ambience of the campus, several following initiatives are taken from time to time.
- Periodic painting and white washing of building and labs
- Ground-men for maintaining grounds and lawns
- Tree plantation drives
- Adequate Housekeeping staff for general cleaning
- Dustbins at every 100 meters
- Fire Fighting/Resisting Kits : Fire safety equipment are installed at all locations as per government norms. The equipments are of good quality and are kept in good working condition 24x7.
- Separate Hostel for Boys and Girls : There are separate hostels for boys and girls with enough facilities and comfort so that the students can put their hundred percent concentration into their academic and extracurricular engagements.
- Transportation : The University has a transport facility for day scholars from Palwal, Ballabgarh in cooperation with the state transportation department.

| File Description | Document |
|-----------------------------------|-------------------------------|
| Upload any additional information | View Document |

NAAC

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 institution, Government and non-government agencies (NGOs) during the last five years (other than the students receiving scholarships under the government schemes for reserved categories).

Response: 19.73

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 |
|---------|---------|---------|---------|---------|
| 1504 | 1076 | 615 | 471 | 416 |

| File Description | Document |
|--|-------------------------------|
| Upload self attested letter with the list of students sanctioned scholarship | View Document |
| Institutional data in prescribed format | View Document |
| Link for additional information | View Document |

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

Response: 80.87

5.1.2.1 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 |
|---------|---------|---------|---------|---------|
| 5100 | 4254 | 3125 | 2309 | 1513 |

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Link for additional information | 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 |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Link to Institutional website | View Document |
| Link for additional information | View Document |

5.1.4 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 |
| Details of student grievances including sexual harassment and ragging cases | View Document |
| Link for additional information | View Document |

5.2 Student Progression

5.2.1 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: 90.75

5.2.1.1 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 |
|---------|---------|---------|---------|---------|
| 93 | 149 | 134 | 127 | 43 |

5.2.1.2 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 |
|---------|---------|---------|---------|---------|
| 110 | 158 | 148 | 134 | 48 |

| File Description | Document |
|---|-------------------------------|
| Upload supporting data for the same | View Document |
| Institutional data in prescribed format | View Document |
| Link for additional information | View Document |

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

Response: 28.84

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

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 367 | 275 | 292 | 284 | 248 |

| File Description | Document |
|---|-------------------------------|
| Upload any additional information | View Document |
| Self attested list of students placed | View Document |
| Institutional data in prescribed format | View Document |

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

Response: 7.41

5.2.3.1 Number of outgoing student progressing to higher education.

Response: 114

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Link for additional information | 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 events (award for a team event should be counted as one) during the last five years.

Response: 302

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 |
|---------|---------|---------|---------|---------|
| 107 | 31 | 30 | 66 | 68 |

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of award letters and certificates | View Document |

5.3.2 Presence of Student Council and its activities for institutional development and student welfare.

Response:

Leaders become great not because of their power but because of their ability to empower others. A successful University experience is equally about what you do in the classroom and what you do out of it, about what you study and the people you meet, and about what you learn and how you apply it. J.C Bose University of Science and Technology, YMCA is the University that does not only graduates good engineers but also good human beings. Our university has grown a lot through many leaps and bounds over the years and has achieved a lot. It is a place of light, liberty, and learning. It is also about hard work, the sincerity of students, and motivating oneself towards continuous improvement.

Student Council was constituted through elections in this University as per the decision of the state government in 2018. Members of the council have always tried to maintain positivity in the University campus by solving out students' problems or by taking their voice to the concerned authorities. The purpose of the student council is to give students an opportunity to develop leadership by organizing and carrying out activities at the university level. In addition to planning events that contribute to university spirit and community welfare, the student council is the voice of the student body. They help share student

ideas, interests, and concerns with the University-wide community.

The student council along with other students are continuously conducting the activities for institutional development such as coordinating in promoting values, ethics, and harmony. Students of this council also coordinate in academics in terms of Time table preparation, coordinates in the examination so that there is no clash with competitive exams. It also coordinates with the student welfare office and faculty coordinators for the smooth conduct of cultural and sports activities. It also puts up requirements of students for welfare in terms of facilities like library books, fee concession, and other legitimate issues. Students of this council also conduct various cultural, technical, sports activities and also perform duties related to social responsibility at the university level as well as participate in various outside University/Institutions activities. They are also part of various cells like Women Cell, Innovation Cell, Digital Cell, Career & Counselling Cell, Unnat Bharat Abhiyan Cell, and SC/ST Cell.

Roles of the Student Council:

1. To officially represent all the students of the University.
2. To identify problems encountered by students in the University.
3. To communicate its opinion to the University administration on any subject that concerns students and on which the council wishes to be consulted.
4. To promote and encourage the involvement of students in organizing University activities.
5. To inform students about any subject that has a concern with them.
6. To organize educational and recreational activities for students.
7. To propose activities to the University administration that would improve the quality of life in the University.
8. To maintain good relations, out of mutual respect, with the University staff (Administration, teaching, and non-teaching staff) and parents.

| File Description | Document |
|---------------------------------|-------------------------------|
| Link for additional information | View Document |

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

Response: 105.4

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 |
| 124 | 132 | 90 | 81 | 100 |

| | |
|---|-------------------------------|
| File Description | Document |
| Institutional data in prescribed format | View Document |
| Link for additional information | 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:

Introduction

Alumni are the emissaries of an academic institution and their contribution and support are very important for the growth of an organization. Keeping this in view, YMCA MOB Alumni Association was established in 1985. It works to connect alumni, support students, and build an unforgettable Institute experience through a diversity of events. MOB, (an acronym for Meet Old Buddies), the Alumni Association is a dynamic, member-focused organization directed towards connecting the University community locally, nationally as well as globally, promoting a spirit of unity and loyalty among graduates, former students, and associates. In brief, its vision is to Connect, Collaborate, Engage, Succeed and Celebrate.

Alumni & Corporate Affairs Cell in collaboration with YMCA MOB has organized a number of Alumni Meets and many events that provided a platform for university alumnus/alumna to reunite with their batchmates, current students, and teaching faculties to share their views, experiences, feedback that played a vibrant role in designing policies, curriculum for betterment of student's progression and placements. Further, they provide a perfect legacy in the corporate sector and other work settings with their knowledge, skills, and values.

The YMCA MOB Alumni Association is contributing their Alma Mater through Financial and non-financial means for the development of the university.

Non- Financial Contribution:

- 1.Designing and refining the academic curricula as per the industrial needs either through their feedback or as members of the Board of Studies of different disciplines.
- 2.Experiential knowledge sharing for preparing outgoing students as employees in various companies/institutions.
- 3.Participation as resource persons/ speakers in the conferences, workshops, expert lectures, and seminars to spread awareness of the latest industrial trends among the students.
- 4.Involvement in various student-related sports, cultural and literary activities.

Financial Contribution:

1. Infrastructure Development and quality enhancement of the University.
2. Supported economically weak and needy students.
3. Construction of Golden Jubilee Gate which adds to the glory of our university.
4. Establishment of Community College
5. Establishment of Incubation center that promotes a culture of innovation, startup, and entrepreneurship.

| S.No. | Area of Contribution | Contribution in Rs |
|--------------|--|------------------------|
| 1 | Incubation Centre | 20,41,988/- |
| 2 | Golden Jubilee Gate | 45,44,171/- |
| 3 | Scholarship to Students (July 2016 – Dec 2020) | 15,33,986/- |
| 4 | Scholarship to Students (Jan 2021 - May 2021) | 9,55,034.75/- |
| 5 | Infrastructure and Research Contribution by Alumni | 1,20,38,000/- |
| Total | | 21,113,179.75/- |

YMCA MOB Alumni Association has the following national and international active chapters:

YMCA MOB Alumni Association Active Chapters

1. Faridabad Chapter
2. Delhi Chapter
3. Gurugram Chapter
4. Ghaziabad & Noida Chapter
5. Maharashtra & Gujarat Chapter
6. Bengaluru Chapter
7. Hyderabad Chapter
8. Chandigarh & Punjab Chapter
9. Rajasthan Chapter

International Chapters

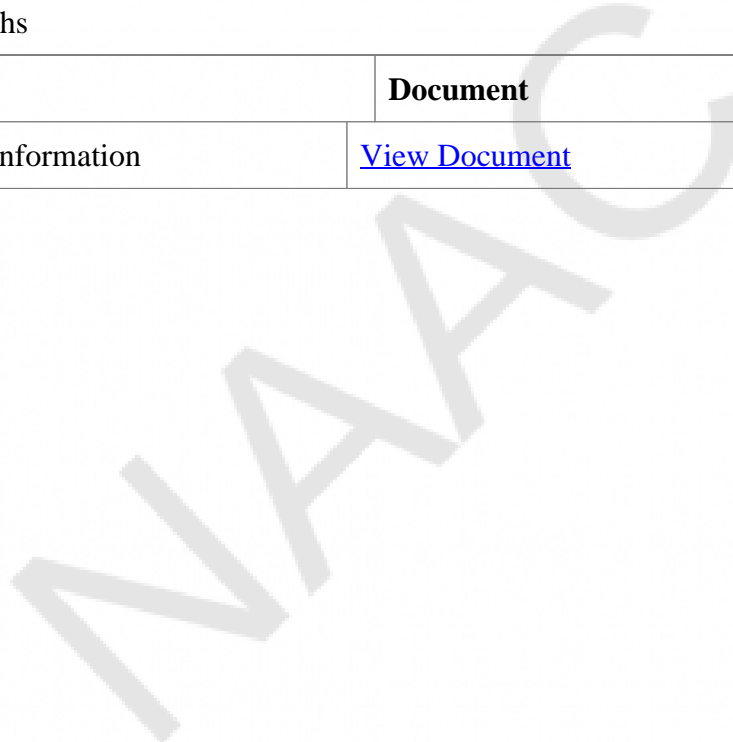
1. Dubai for the Gulf region
2. Singapore Chapter
3. Toronto for Canada region
4. North America Chapter

| | |
|---------------------------------|-------------------------------|
| File Description | Document |
| Any additional information | View Document |
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5.4.2 Alumni contribution during the last five years (INR in Lakhs)

Response: A. ? 100 Lakhs

| | |
|-------------------------------------|-------------------------------|
| File Description | Document |
| Link for any additional information | View Document |



Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1 The institution has a clearly stated vision and mission which are reflected in its academic and administrative governance.

Response:

VISION

“J. C. Bose University of Science & Technology, YMCA, Faridabad aspires to be a nationally and internationally acclaimed leader in technical and higher education in all spheres which transforms the lives of students through the integration of teaching, research, and character-building”.

MISSION

- To contribute to the development of science and technology by synthesizing teaching, research, and creative activities.
- To provide an enviable research environment and state-of-the-art technological exposure to its scholars.
- To develop human potential to its fullest extent and make them emerge as world-class leaders in their professions and enthuse them towards their social responsibilities.

The vision and the mission of the University are focused on the establishment and effective utilization of a system of wholesome and holistic learning, with the objective of achieving student success in terms of professional development and personal development, with a strong foundation and undercurrent of ethics and values. In tune with the Vision and Mission, the University is running its various courses. In fact, the institution has come a long way since its inception in 1969 and what was envisioned as an institution primarily dedicated to teaching, learning, and skill-based hands-on training in the field of engineering and technology. The Institute has been upgraded to University status by Haryana State Legislature Act No. 21 of 2009. J.C. Bose University of Science and Technology, YMCA has been established to facilitate and promote studies and research in emerging areas of Science, Technology, Management, etc. The Vision and Mission is defined keeping in view the objectives of the University enshrined in its Act. The Act enables Governance and Leadership in the University to its best. Administrative governance is enabled through bodies constituted as per the University Act and their meetings that are held from time to time. The minutes of the same are available on the University website for upholding public self-disclosures and transparency. The details of such bodies are attached along with.

As per the provisions in the University Act, academic governance is carried out through various Deans, Chairpersons, and other officers to fulfill the Vision and Mission of the University. The University has taken a number of steps to promote quality education and strives to open up new vistas in the relevant areas. The University is planning and implementing developmental initiatives in tune with NEP 2020. The University endeavors to provide good governance and leadership with honesty and transparency by optimally utilizing its resources to stand with sustaining principles of ethical standards, mutual respect,

student-centric interdisciplinary, multidisciplinary, collaborative, and innovative environment, and responsiveness to the society through community care and outreach services. Highly qualified and competent leaders at different levels of the University in the light of a well-defined system and organizational structure consistent with the Act, Statutes, and Ordinances of the University improve the academic and administrative effectiveness.

| 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 constitution of various statutory bodies speaks evidently of the participative decentralized nature of management even at the highest levels. The system provides for the continuous involvement of all important functionaries and the faculty in the decision-making and policy formulation, as also in the formulation of academic, research, and extension programs. The top leadership of the University plays a role model to make a positive impact on all levels of functionaries by providing academic autonomy to its departments. Faculty representation on all the important decision-making bodies - the Court, the Executive Council, Academic Council, and Finance Committee– has been provided for.

Further, most of the academic and administrative powers in a large measure are delegated to the respective Deans of Faculties, and the Heads of the Teaching/ Administrative Departments/ Offices, including Research and Development. An effective internal coordination monitoring system is practiced through the Deans of various Faculties, Dean Academic Affairs, Dean Student Welfare, Chief Hostel Warden, Heads of the Teaching/ Administrative Departments, and other functionaries. Special committees are constituted to deal with special situations. In addition, different committees are constituted/nominated by the Vice-Chancellor from time to time to guide and administer the University functioning both at the academic and administrative levels. At the departmental level, faculty are actively involved in academic decision-making and in other decisions taken by the Boards of Studies, Departmental Research Committee, and other Departmental Committees. The teachers and heads of administrative units are motivated to develop interdepartmental linkages for creating a congenial work environment. Periodic meetings with the staff are held to discuss and resolve important issues of time-bound nature. The decision-making processes are democratic and decentralized which ensures continuous interaction between the teachers, other staff and the administration. This work approach promotes healthy coordination among various academic and administrative units of the University.

Decision-making through decentralization and participative management is also evident through faculties and students being well represented in various other committees and cells. The decision-making in such committees is through various discussions and meetings keeping in view the rules and regulations of the

University. The outcomes of such committees through participative process further reinforce effective leadership. Some of such committees and Cells are Central Purchase Committees, Building and Works Committee, Research Promotion Board, Library Committee, SC/ST Cell, etc.

The University has created a governance plan that embodies its values of transparency, accountability, and efficiency. By introducing decentralization and participative management, University is committed to continuous improvement of its procedures and functioning. University, through its Governing Bodies, makes sure that there is a centralized, coordinated system that will enable the University to be transparent in all its actions. It is important for the University's Governing Bodies to be accountable to one another in order to ensure institutional good governance. University acknowledges the importance of being efficient in its use of resources and its functioning. The Governing Bodies take steps throughout to make sure that the University is being as efficient and effective as possible in its day-to-day functioning.

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

6.2 Strategy Development and Deployment

6.2.1 The institutional Strategic plan is effectively deployed.

Response:

The true laboratory is the mind, where behind illusions we uncover the laws of truth.

— Sir Jagadish Chandra Bose

In line with the vision of the University, the growth strategy envisages transformation that can be benchmarked with the highest levels of international standards. The research-focused transform addresses rapidly changing industry scenarios and urges to have a skill development teaching perspective. Strategic planning is a continual process and can't be treated as a "one-and-done" event. It involves recurring planning strategies, its implementation, continuous assessment of outcomes and then further maneuvering the results and lessons learned for further planning and revision or modification of strategies.

As a start to this endeavor, Vision 2020 with myriad target frames to achieve was set.

The targets were chosen to align with the standards set up by NAAC, NIRF and as per NEP. Further, the strategic plan was formulated after considering the experiences and expectations of the stakeholders that further also aligns with the department objectives. The combined efforts towards a goal were key to achieve the feat, with the focus on promoting research culture and innovation.

The University agenda is to ensure excellence not only in academics but also in research as said in NEP "teaching driven by research". With that goal, the University has made way for global presence by signing MoUs with premier institutes. This helps faculty and stakeholders to encourage collaboration on a global

scale. This also helps in developing a new research outlook of the University.

Strategic Development Plan is focused on continuous evaluation with the help of the monitoring team and several measures put in place in case of any anomaly. The evaluation period and evaluation components for each member are precisely defined.

ACADEMIC DEVELOPMENT

There is no doubt that the University represents 50 years of long legacy in the field of technical education. In the year 2015, there were only 6 Departments, broadly representing the Engineering disciplines and only 2 Science Courses at PG level out of the total 18 Courses at UG and PG level. Considering the need to introduce more courses from Science and other disciplines to promote diversity in courses, the University prepared and implemented plans in a phased manner by introducing new courses.

- As many as 36 new programs have been introduced at UG and PG levels in the last five years.
- The University has not only introduced new programs but also upgraded the ongoing programs in line with the skill requirement of the Industries like Data Science and IoT.
- Inter-disciplinary programs have been introduced at PG Level and stress is being given on Inter-disciplinary research in Science and Technology.
- The total intake of students has been increased to more than 2300 seats which were 714 in the year 2015. The total strength of students studying in various courses is 5605 which was 2589 in the year 2015.
- More than 540 students have qualified in GATE, CAT and other competitive exams in the last five years.

| File Description | Document |
|--|-------------------------------|
| Any additional information | View Document |
| 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, service rules and procedures, etc.

Response:

The University has a well-designed and efficient institutional mechanism to achieve the organizational objectives. The administrative setup is robust and well organized. Each and every activity of the University is governed by the Act, Statute, and rules/regulations/ordinances. As per the University Act the various authorities of the University are involved in decision making for implementation of its vision and mission. The Court reviews the broad policies and programmes of the University and suggests measures for the improvement and development of the University. The Executive Council is the principal executive body of the University. It holds controls and administers revenue, property, and funds of the University. It creates, upgrades and transfers the posts from one Unit/Section to another and makes appointments and/or

promotes thereto. It appoints/promotes Professors, Associate Professors, Assistant Professors, and other academic staff. The Academic Council exercises general supervision over the academic policies of the University and gives directions regarding improvements in academic standards, besides many other academic powers. The Finance Committee examines the accounts and scrutinizes the proposals for expenditure and submits the annual budget to the Executive Council for approval. There are 7 faculties in the University comprising 14 Departments. Faculties coordinate the teaching and research work of the University and recommend courses and syllabi to the Academic Council. Every department has two boards of studies, namely: 'Board of UG Studies' and 'Board of PG Studies'. The boards recommend courses, schemes, and syllabi of studies and the appointment of paper setters/examiners. The Academic Planning Board of the University examines and suggests measures for raising the standard of education and research and develops ideas and schemes on improving corporate life and cultural activities on the campus.

In addition to the statutory offices, academic and functional units, University has instituted newer responsibility centers to meet the emerging operational commitments. The University has well-formulated policies to govern and guide its day-to-day work. The main policies include Policy on Training and Placement, Policy on Waste Management and Green Initiatives, Policy on Startup and Incubation, Research Policy, Policy on Consultancy, IT Policy, Policy on Grievance Redressal Mechanism, Policy on Mobilization of Funds and Utilization, Policy on women Welfare.

The University promptly attends to the general grievances and women's grievances through Grievance Redressal Cells. Committees are formed to check Menace of Sexual Harassment and Violence against Women. Any complaints of the students particularly pertaining to the results, registration and scholarship branches, Colleges, and Hostels are quickly redressed.

Recruitment and promotions are made following an established and transparent process as per UGC/Haryana Government norms. For fresh recruitments, applications are invited through an advertisement in the reputed newspapers. The same is also announced on the University website. It is followed by written tests and interviews in front of the Selection Panel as per the Government norms. Regular promotions in a time-phased manner are also assured through Career Advancement Scheme (CAS). Service rules, procedures, recruitment, and promotion policies are well defined and are available on the Website of the University.

| File Description | Document |
|--|-------------------------------|
| Any additional information | View Document |
| Link to Organogram of the University webpage | View Document |
| Link for Additional Information | View Document |

6.2.3 Institution Implements e-governance covering following 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 |
| Screen shots of user interfaces | View Document |
| ERP (Enterprise Resource Planning) Document | View Document |
| Details of implementation of e-governance in areas of operation, Administration etc (Data Template) | View Document |
| Any additional information | View Document |
| Link for additional information | View Document |

6.3 Faculty Empowerment Strategies

6.3.1 The institution has a performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff .

Response:

Yes, the University has a performance appraisal system, promotional avenues, and various welfare schemes for teaching and non-teaching staff. It follows Haryana Government rules for various welfare schemes. Apart from this, the University also has instituted its own schemes for welfare.

Performance Appraisal System:

The University has put in place a well-designed and convenient self-appraisal system for its faculty. Each faculty member is required to submit a self-appraisal report (SAR) annually on the basis of parameters such as teaching hours, the number of subjects taught, research papers/articles/books published, conferences attended, papers presented in the conferences, new curricula designed/developed, participation in extra-curricular/co-curricular activities, extra responsibilities assigned by the University, and other contributions made towards the society. The self-appraisal report of the teaching staff is duly verified by the Heads of the respective Teaching Departments.

The performance appraisal of the non-teaching staff is equally important for the efficient running of an institution. The University has Annual Confidential Report (ACR) system for the workshop staff and administrative staff. The chairpersons/heads of their respective departments critically study the SAR /ACR submitted by them and advise them on the areas in which they require guidance.

Promotional Avenues:

The University provisions promotional avenues for its teaching and nonteaching staff as it has a direct impact on the other functional areas of the system. The teaching faculty is promoted through Career Advancement Scheme (CAS) in tune with the State government/ UGC and AICTE guidelines. To create a

motivating and positive work environment, the non-teaching staff is also promoted from time to time as per the promotion policy of the University.

Welfare Measures for the Teaching & Non-teaching staff:

1. Advance from GPF for the construction/purchase of houses and vehicles.
2. Interest-free loan to employees for the purchase of wheat.
3. Marriage loan at concessional interest rates.
4. Reimbursement of expenditure of school education of two children @ 1125/- p.m. per child.
5. Pension scheme and defined pension scheme for employees in the service of the University before and after 2006.
6. Leave Travel Concession (LTC) benefit.
7. Six months maternity leave to female employees.
8. Child Care Leave for female employees for two surviving children up to the age of 18 years.
9. Several other types of leaves such as special casual leave, hospital leave, anti-rabies treatment leave, Quarantine Leave, Half pay leave, etc. to meet exigencies and emergencies.
10. University health center for free medical treatment
11. Full medical reimbursement for indoor treatment of employees/dependents of employees in the University impaneled hospitals.
12. Paternity leave.

Other facilities:

1. Laptop facility to faculty.
2. 24x7 wi-fi facility
3. Staff Residence on Campus.
4. Bank, Post-office, Mother Dairy booth, and canteen facilities available on the campus.
5. Staff development fund.
6. Academic Leave
7. MoU with a local hospital

8. Half tuition fee concession to the employee and their children for getting an education in the courses offered by the University.

| File Description | Document |
|---------------------------------|-------------------------------|
| Any additional information | View 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: 70.34

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 |
|---------|---------|---------|---------|---------|
| 197 | 171 | 84 | 77 | 70 |

| File Description | Document |
|--|-------------------------------|
| Details of teachers provided with financial support to attend conferences, workshops etc. during the last five years (Data Template) | View Document |

Other Upload Files

1

[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: 21.4

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 |
|---------|---------|---------|---------|---------|
| 39 | 34 | 16 | 11 | 7 |

| File Description | Document |
|--|-------------------------------|
| Details of professional development / administrative training Programmes organized by the University for teaching and non teaching staff (Data Template) | View Document |
| Any additional information | 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: 85.58

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 |
|---------|---------|---------|---------|---------|
| 194 | 159 | 133 | 117 | 100 |

| File Description | Document |
|--|-------------------------------|
| IQAC report summary | View Document |
| Details of teachers attending professional development Programmes during the last five years (Data Template) | View Document |
| Any additional information | View Document |

6.4 Financial Management and Resource Mobilization

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

Response:

The University is poised to grow and make its mark in the global scenario by providing requisite funds and optimal use of resources. Since it is State Government University, the main sources of funds are student fees and Grant- in- aid from the State Government as per budgetary allocations. However for meeting the upcoming requirements for research and teaching-learning resources, the University also mobilizes its resources through Grant under section 12 B of UGC, Funded projects from AICTE, Research projects from BARC Mumbai, DST Government of India and DST Haryana, Funds from RUSA, Funds TEQIP III, Funds generated through consultancy offered, Industry linked laboratories and through the Alumni, who provide financial and non-financial support for various activities in the University.

Apart from the above, the funds are also mobilized through:

1. Fee collected through the conduct of FDPs, conferences, workshops, etc.
2. Leasing out the infrastructure facilities to various commercial utility facilities(for students, faculty members, and officials of the University) such as banks (Indian Overseas Bank branch), Post Office, Mother Dairy Counter, Canteen etc.
3. Funds generated through the use of the University Auditorium and the playground by the corporate houses and external agencies.
4. The University also mobilizes its resources from funds generated from self-financing and vocational courses run by the University.

Funds received from the State government are spent on the payment of salary of teaching and non-teaching staff of the University and other activities. The budget is prepared to keep in mind the developmental criteria of the University; accordingly, provisions are made in the budget, which is prepared by a team of experts under the supervision of the Controller of Finance of the University and then approved by the Finance Committee before the fund is sanctioned. It is then deployed on different Heads of Expenditures in accordance with the approval.

Funds are also generated as a result of interest on corpus funds, overhead charges from the research grants received from various government/non-government agencies, and funding from alumni donors. Fund generated from these resources is principally used for the maintenance and development of the University.

Optimum utilization of funds is ensured through:

- Adequate funds are allocated for effective teaching-learning practices that include induction and orientation programs, workshops, inter-disciplinary activities, training programs, Refresher Courses, Faculty Development Programs, Conferences, Industry-Academia interactions that ensure quality education.
- Adequate funds are utilized for the development and maintenance of the infrastructure of the University
- Enhancement of library facilities needs to augment learning practices and accordingly, requisite funds are utilized every year.
- State- of-the- Art improvement through up-gradation of lab facilities in various departments: Centre of Excellence is being set up in each department to promote and provide research facilities in the university and to its affiliated institutes.
- Some funds are allocated for social service activities as part of social responsibilities through NSS and NCC.

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

6.4.2 Funds / Grants received from government bodies during the last five years for development and maintenance of infrastructure (not covered under Criteria III and V) (INR in Lakhs).**Response:** 16238.67**6.4.2.1 Total Funds / Grants received from government bodies for development and maintenance of infrastructure (not covered under Criteria III and V) year wise during the last five years (INR in Lakhs).**

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 8315.83 | 2523.74 | 2849.1 | 2300 | 250 |

| File Description | Document |
|--|-------------------------------|
| Details of Funds / Grants received from government bodies during the last five years (Data Template) | View Document |
| Annual statements of accounts | View Document |
| Link for Additional Information | View Document |

6.4.3 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:** 125.66**6.4.3.1 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 |
|---------|---------|---------|---------|---------|
| 36.29 | 69.11 | 4.52 | 15.74 | 0 |

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

6.4.4 Institution conducts internal and external financial audits regularly**Response:**

Yes, the University has an audit department namely the local audit department, Haryana, under the

administrative control of the finance department, Government of Haryana which conducts pre-audit as well as post-audit on day- to-day basis through a resident audit scheme headed by the Deputy Director (Audit) and other subordinate staff under the statutory provision of the act of the University.

Internal Audit: Internal audit of accounts of the University was introduced w.e.f. 01.04.11 vide govt. of Haryana, FD memo no. 14/100/2010-3FA dated 03.04.2010 and Director Local Audit, Haryana Chandigarh vide memo no. 14/100/2010-3FA dated 14.10.2010.

The charge of the resident audit scheme of the University was held by Shri Mohit Jain, a Resident senior auditor from 04.04.11, and Shri Yadram as RSA from 08.08.11. After that Mr. Vivek Suri and Shri Sanjay were introduced as auditors by the Local Audit Department, Chandigarh, Haryana.

At present, Shri Rajeev Sharma as DD (Audit), Vivek Suri as Resident Senior Audit, and Shri Sanjay as Auditor are working in the internal audit team. University paid approx 25 lacs to Local Audit department on yearly basis, which is within Haryana Government rules.

Pre-audit and post-audit both are done by the Internal audit team. They audited University records from 2011 and submitted their yearly report to the Local Audit Department, Chandigarh, Haryana, and University authorities. The last audit report was submitted for 2019-20. The internal audit team also gives their guidance to accounts staff as per the finance department, Haryana. The annual audit report on a yearly basis is submitted through Director local audit, Haryana, besides making all checks on implementation of various government compliances on day- to -day basis for the smooth financial administration of the University.

External Audit: Further, external audit is being conducted by AG Haryana on annual basis under the provision of Comptroller and Auditor General (CAG) of Indian guidelines in the form of a post-audit and also submit its reports through Principal Accountant General (PAG) Haryana.

External Audit is held within a period of 2-3 years. The First AG audit was held for the financial year April, 2011 to March, 2014. The last AG audit was held for the period April '16 to March'19. AG audit team submit their report to AG, Haryana, DGTE, and University authorities

The external audit is also done by Chartered Accountant appointed by University authorities. CA post-audit all expenses and income part and prepare Balance Sheet on that basis. CA also submits University TDS and GST returns. The last Balance Sheet was prepared by CA Mr. Sunil Gupta from GSN & Company for the financial year 2018-19.

| 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 by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals.

Response:

The Internal Quality Assurance Cell (IQAC) of the University contributes significantly in coordination with other departments/branches by carrying out activities such as the conduct of AAA and analysis of responses for improvement, providing inputs for best practices in administration, collecting taking online/offline feedback from stakeholders that encompass all aspects of the university's functioning.

The IQAC composition is as per the guidelines of the NAAC and it meets regularly. IQAC prepares Annual Quality Assurance Report (AQAR), verifies API score for CAS cases, and contributes to accreditation processes. As an initiative of IQAC, various policies have been prepared and implemented in the university in order to channelize the various university functions.

Two of the practices institutionalized as a result of IQAC initiatives are academic and administrative audit (AAA) and Curriculum Feedback. Brief of these practices is as follows;

1. ACADEMIC AND ADMINISTRATIVE AUDIT (AAA)

The objective of AAA is to assess the performance of the university academic departments/offices/cells and highlight their accomplishments and convey suggestions if any so that they can improve further in terms of the quality of their work domain i.e., teaching-learning, research, administration, and maintenance of records along with curricular and extra-curricular activities.

The practice of AAA was started in order to address:

- Continuous promotion and enhancement of high-quality teaching-learning
- Education standards alignment with the expectations,
- Ensuring planning, resource allocation, and quality management is in line with the vision and mission of the University and the implementing various policies
- Adherence of the academic calendar of the University in terms of timelines,
- Maintaining the records and that is readily retrievable preferably in hard/soft form or through the Enterprise Resource Portal (ERP).

The academic audit of the university teaching departments is done after the end of each semester. To facilitate the Audit Committee, formats have been prepared by IQAC. Administrative Audit of various offices/non-teaching sections/library etc. is done on an annual basis. The expert committee assesses the working of the office based on the information provided in the format designs by IQAC itself

After the visit, the Academic /administrative audit committee records the observations and suggestions and the head of the office is supposed to take action on them in order to improve the working quality if any. External Audit is also done on alternative years.

1. CURRICULUM REVIEW FEEDBACK

The curriculum is one of the crucial aspects of the teaching-learning process, so it requires regular and continuous assessment. Stakeholder feedback plays a remarkable role in Curriculum Design and

Development by providing useful insights into upgrading various aspects of teaching, learning and assessing. IQAC has prepared formats for collecting this feedback based on need-based inputs and in proper consultation with experts. The feedback is collected at the end of the academic year and analysed feedback is shared with academic departments so that required follow up action may be taken by them regarding curriculum improvement. The compiled report is put before IQAC and it recommends it to the Executive council for approval.

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

6.5.2 Institution has adopted the following for Quality assurance 1. Academic Administrative Audit (AAA) and follow up action taken 2.Confernces, Seminars, Workshops on quality conducted 3. Collaborative quality initiatives with other institution(s) 4.Orientation programme on quality issues for teachers and students 5. Participation in NIRF 6.Any other quality audit recognized by state, national or international agencies (ISO Certification, NBA).

Response: A. Any 5 or more of the above

| File Description | Document |
|--|-------------------------------|
| Upload e-copies of the accreditations and certifications | View Document |
| Upload details of Quality assurance initiatives of the institution (Data Template) | View Document |
| Any additional information | View Document |
| Paste web link of Annual reports of University | View Document |
| Link for Additional Information | View Document |

6.5.3 Incremental improvements made for the preceding five years with regard to quality (in case of first cycle), Post accreditation quality initiatives (second and subsequent cycles).

Response:

J. C. Bose University of Science and Technology has taken necessary steps to enhance quality in the academics, research, governance, and administrative domains. The post accreditation quality enhancement initiatives implemented progressively during the last five years in the University include the following:

Quality initiatives in Academics expansion:

- 1.As many as 36 new programs at UG and PG Level have been introduced as a result number of students have increased to 5605 from 2589 in the year 2015.

2. More than 60 faculty members have been recruited during last five years to meet the increasing teaching load.
3. Establishment of new classrooms with ICT facilities, laboratories with modern equipment, new Centres of Excellence and media centre has taken place.
4. State of the art Central Instrumentation Facility has been developed under RUSA grant.
5. Number of research papers published in high quality SCI/WoS/Scopus Journals has increased significantly.
6. Many teachers have been awarded DST projects and one teacher has received AICTE Visvesvaraya Best Teacher Award 2021.
7. Secured NIRF Ranking of 120 in A.Y. 2020 and 127 in A.Y. 2021 under Engineering Category.
8. Benefitted by TEQIP-III Grant of Rs. 7.5 crore and RUSA Grant of Rs. 20 crore.
9. All eligible programmes are NBA accredited.
10. Community College and Skill Developments program has been started to impart basic technological skills for the underprivileged section of the society.
11. More than 540 students have qualified in Competitive Examinations during the last five years. In the Year 2020, one of the University students has secured the perfect 100 in Common Admission Test (CAT -2020).
12. Digital Learning Management System (DLMS) has been developed indigenously. E-library facility is available to faculty members and students.
13. The Institution's Innovation Council (IIC) has been established as per the mandate of the Ministry of Education (MoE), Govt. of India.

Quality initiatives in Governance and Administration:

1. E-governance has been implemented many University processes.
2. Efforts have been made to improve the working of various cells like Industrial Relations, Career and Counselling, Women Welfare, Alumni Affair, International Affair, Grievance Redressal, etc.
3. Registered Alumni Association is actively engaged in activities that are mutually benefitting each other significantly.
4. The university has ensured effective implementation of its new and existing policies.
5. The university has got affiliating status since the year 2017.
6. Vertical expansion of infrastructure is done in terms of Science Block, Residential Block, Controller of Examinations office, Community College, New office spaces.
7. Expansion of Girls' hostel and a new boys' hostel mess is under construction.
8. The State Government has allotted an 18-acre piece of land to University on Gurugram-Faridabad Road for campus expansion.
9. Facilities like spacious university auditorium, multimedia conference hall, Shakuntalam (a multipurpose hall with indoor sports facilities) and University boardroom have been constructed
10. Students' admission, registration, and examinations are managed through an online portal. The University has its internally developed ERP system.
11. More than Sixty MoUs have been signed with other government/non-government institutions/industries.
12. Uploading of students' academic records on National Academic Depository (NAD).

| File Description | Document |
|---------------------------------|-------------------------------|
| Any additional information | 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:

Safety and Security

The University has a campus of 20 acres with a boundary wall all around its perimeter and 18 acres of more land near Bhankri village has been allotted for further extension. Two gates are manned by security guards at all times. Various blocks and hostels also have round the clock security arrangement which ensures safe and secure surroundings. All hostels and academic areas have CCTV installed to check any untoward incidents. In the girl's hostel there are three female security guards. For girl's safety there are female sweepers for girl's restrooms. During the past several decades, no lapse in terms of safety or security has been reported. The girls in the hostel are required to report back to the hostel by 5.30 PM in winters and 7.00 PM in summers. A fully functional Health Centre with doctors along with nursing assistants is in place to offer medical care for minor issues and first aid. Further, there is availability of ambulance and University vehicles to transport sick girl-students to nearby hospitals.

Every girl student installed the DURGA Mobile app by the Internal Complaint Committee (ICC) of the University. This application enables any girl to seek immediate help from the police in case of any emergency.

In order to provide Self Defence Training to girl students in a proper and more structured manner, University has signed an MoU with Haryana Kickboxing Association (HKA). The Association conducts a certification 'Self Defence Training Program' for girl students.

In order to support and provide a tension free working environment for faculty and staff members, the University is having a Day Care centre for taking care of their kids during working hours.

Counselling

The University is an active promoter of gender-equity initiatives with multiple activities related to gender sensitivity in the campus. The University promotes sustainable goal 5 that concerns to achieve "gender equality and empower all women and girls", established by the United Nations in 2015. In support of this, the university has an Internal Complaint Committee (ICC) to check the menace of sexual harassment and violence against women and girls. The committee also looks into the matters related to gender based violence and conducts gender sensitisation programs to have a policy of zero tolerance on campus for violence and harassment.

University has provided the facility of counselling from psychologists, counsellor and psychiatrist through the platform of COMFORT. BHAROSA is an initiative from the Dean Student welfare office for resolving queries of students during this Pandemic COVID-19. The University has also engaged two doctors (Counsellor/ Psychiatrist and lady doctor) to facilitate and provide consultancy services to the students and staff members.

Departments have established a mentor- mentee concept involving students, faculty to address their academic and behavioural patterns of the students through faculty mentorship.

The Dean of Student welfare is having a Career Counselling cell with an objective to set up educational counselling services with the aim to help students to redefine their passion in their career, develop essential employability skills.

| 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: A. 4 or All 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:

University ensures that the campus wastes are disposed off through proper waste segregation at source and wherever possible, converting it into value added products through suitable eco-friendly practices.

University policy on Waste Management and Green Initiatives revolves around 4Rs (Reduce, Reuse, Recycle and Recover) approach and helps in maintaining healthy environment at campus by holistic waste management and supports Sustainable Development Goals SDG -3 'Good Health and Well-being' and SDG - 6 'Clean Water and Sanitation to All'.

Solid Waste Management

University follows 'Waste Hierarchical Approach' to manage its waste responsibly in a decentralized manner. The stakeholders including students and staff are encouraged to dispose off dry (non-biodegradable) and wet (biodegradable) waste separately in color-coded dustbins placed at various locations at campus.

The University has done an MoU with the authorized waste collection agency Ecogreen Energy Faridabad - Gurgaon Pvt Ltd., Faridabad for collection and disposal of garbage from the university premises in line with Solid Waste Management Rules 2016. The approved waste collection agency gets the segregated garbage/waste removed from campus.

University has installed a Biogas Plant with 0.75 cubic meter capacity to process the biodegradable waste, viz., leftover food, fruit-vegetable peel off, etc. from hostels. The capacity of the unit is 15 kg/day. The end-product, i.e., biogas is used as fuel and liquid fertilizer is used in horticulture activities inside the campus.

The Department of Environmental Science and Engineering has taken initiative to develop an in-house composting unit. The unit converts the green waste, viz., leaf litter, twigs, weeds, etc. generated throughout the year into compost. This compost is utilized for gardening and horticulture purposes within the campus. The horticulture team of the university is trained to manage the entire process full time.

Liquid Waste Management

University has established a sewage treatment plant of 50KLD capacity based on MBBR Technology to treat the sewage generated in campus.

Biomedical Waste Management

Biomedical waste generated is collected in color-coded dustbins in University Health Centre as per the Biomedical Waste Management Rule, 2016. Golden Eagle Waste Management Company, Faridabad authorized by Haryana State Pollution Control Board collects the waste for final treatment and disposal under the contract done with the university.

E-waste Management

University follows the guidelines of E-waste Management Rules 2016 and policy and procedure for management and disposal of old and obsolete tele-communications and computing/IT products, electronics items, etc. rules of Govt. of Haryana. The agency Koscov E-waste Pvt. Ltd., Noida is being empaneled for E-waste Management and Handling inside university's premises.

Waste Recycling System

University emphasizes sustainable efforts to recycle the waste wherever possible. The biodegradable

wastes are processed, treated and recycled through composting and biogas plants within the premises by converting them into compost, biogas and liquid fertilizer. The non-biodegradable wastes are disposed off through authorized vendors as per the government norms.

Hazardous Chemicals and Radioactive Waste Management

There is no radioactive waste generation in the premises. Further, the university has developed an effluent treatment plant to treat wastewater containing chemicals coming from laboratories.

| 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 |
| Any other relevant documents | View Document |

7.1.6 Quality audits on environment and energy are 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 |
| Certificates of the awards received | 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: A. Any 4 or all 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 |
| Details of the Software procured for providing the assistance | View Document |
| Any other relevant information | 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:

The University promotes various activities to inculcate tolerance and harmony towards cultural, regional, linguistic and communal socioeconomic diversities among students and staff members. University celebrates Elements CULMYCA - the Annual festival for enhancing cultural and technical values at campus through various activities, events and cultural functions.

The university celebrates Makar Sankranti festival every year which is considered auspicious for good work like Charity. The University fraternity contributes towards the upliftment of underprivileged children of construction labours engaged in various development projects of the University. The university students are arranging special classes for them and donating books. Clothes or other utility items can make a big difference in their lives. Guru Parav is celebrated at the university on the birthday of Guru Nanak Dev Ji. He was one of India's greatest philosophers, teachers, and social reformers. His teachings of love, peace, equality and brotherhood have eternal values and we need to imbibe the teachings of Guru Nanak Dev Ji. The Gurbani Kirtan Darbar was also organized with the support provided by Gurudwara, NIT-1, Faridabad, at the Shakuntlam Multipurpose Hall.

Matri Bhasha Diwas celebrated by Vivekanand Manch in the university. It was celebrated to commemorate the language diversity of India and to spread the word about the importance of mother tongue to the youth. A declamation competition was held in the university in which many students participated on the topic "Need of preserving India's Linguistic Heritage". Chief guest and other speakers guided the students about the role of mother tongue in the development of an all-rounder youth. They also shared some astonishing facts and features of Indian languages like Sanskrit and Hindi.

Every year university celebrates Diwali festival on which some cultural events and activities are held. Many students clubs of the university namely Nataraja, Srijan, Niramayam, Jhalak, Ananya, Vividha and Tarannum have participated in this event. Students of these clubs have given 2-3 performances from their respective Clubs. DSW also organized some other activities like cultural dance, REIZO, Yuva Sammelan, Hindu Nav Varsh, Gender Championship, a song on eve.

University also celebrates Gandhi Jayanti every year, the university organized an Awareness Rally on the harmful effects of single-use plastics in which around 200 NSS volunteers along with university students

participated. Nukkad Naatak is also played to bring awareness in common public to take pledges not to use single-use plastics.

Members of the Vivekananda Manch visited the “Janak Sewa Samiti Old Age Home” for healthy interaction was made with the old citizens and various games were played in order to bring smiles on their faces. They shared their life experiences with us and were quite happy to see the faces like those of their grandchildren.

Apart from the above initiatives, various other significant days, including Chhat Puja, Pongal, Christmas Day, Id, Balmiki Jayanti, Ravidas Jayanti, etc. are also celebrated to inculcate the belongingness among students and staff and celebrate diverse culture of India.

| File Description | Document |
|--|-------------------------------|
| Supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution) | 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 J.C. Bose University of Sciences and Technology, YMCA, undertakes different initiatives by organizing various activities to sensitize students and employees to the constitutional obligation: Values, Rights, Duties and responsibilities of the citizen. On 26th November **Constitution Day** is celebrated at the university campus to sensitize about fundamental rights, duties, values and responsibilities of the citizens as stated in the Constitution of India. This is also an occasion to remember the struggle for freedom and emotions behind the National Flag and National Anthem. Our constitution puts great emphasis on human dignity, equality, social justice, human rights and freedom, rule of law, equity and respect for law of land. The whole country is united by the rights and duties enshrined in the Constitution of India.

The University has introduced a **Subject** on the **Constitution of India** at the UG level across all engineering disciplines to create awareness and sensitize the students and employees towards constitutional obligation.

Every year **Republic day** is Celebrated on 26th Jan by organizing activities highlighting the importance of the Indian Constitution. Flag hoisting is done by the Chief Guest of the programme and organized culture event in the university campus. Eminent highlights the importance of the day and recalls the contributions of the national leaders like **Mahatma Gandhi, Sardar Vallabhbhai Patel, Dr. B. R. Ambedhkar, and others** who worked extensively in framing the Constitution of India. Everyone needs to participate in the attainment of the goals laid down by the constitution. Students and staff are encouraged to follow the path kindled by the great leaders of the nation.

The Student Induction Program is organized for newly admitted students of **UG and PG** students every year. This program comprised of presentations from Deans, Chairpersons of various departments. There are also lectures on Universal **Human Values, Gita, Career Readiness, Role of Youth in community and self-management**. Speakers are also roped in to deliver talks on human values, rights, and duties towards the nation and to emphasize how students are the most important assets to build a nation.

University also organizes Blood Donation Camps **in the University Campus every year through YRC and NSS**. Speakers also sensitize students about the importance of donating blood for the cause of saving valuable human lives. Blood donation is a life-giving act that saves many lives and students are told about facts and myths related to blood donation and regarding blood groups.

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 |
|--|-------------------------------|
| Details of the monitoring committee composition and minutes of the committee meeting, number of programmes organized, reports on the various programs etc., in support of the claims | View Document |
| Code of ethics policy document | View Document |

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

Response:

The J.C. Bose University of Sciences and Technology, YMCA has aimed to inculcate values and nationalism in the students and staff by celebrating the **national and international commemorative days and birth anniversaries of great Indian personalities** in the university campus every year. The university has also organized some activities, events, and festivals including flag-hoisting, Project Exhibitions, tree plantations, Poster Presentations, Walks, declamation contests, Essay Writing, and Elocution on commemorative days.

Every year, DSW office at the university celebrates **Republic Day and Independence Day**, hoisting the national flag with the Chief Guest of the program and organize cultural events in the university campus.

Chief Guest presents medals and certificates to the NCC cadets for their best performance. Students and staff saluted the flag and then sang the National Anthem. “**Gandhi Jayanthi**” is celebrated in memory of the Father of the Nation, who devoted his whole life preaching Truth and following Ahimsa. The NSS unit organizes the mass pledge in accordance with the Prime Minister's urge for 'Swachh Bharat Abhiyaan'. **Netaji Subhas Chandra Bose Birth Anniversary** is celebrated on 23rd January as **Parkarm Diwas** to pay tributes to Netaji Subhas Chandra Bose.

NSS and DSW office of university celebrates **National Youth Day** on 12th January at the university campus with the aim of motivating the youth through the way of life and ideas of Swami Vivekananda to generate a positive attitude towards the people to provide them with every knowledge about how to behave in a proper way in the society. Also celebrated are some other days like the **Foundation day, National Youth Day, Constitution day, Guru Parv Celebration**, etc and organized some events on those days each year on the the university campus.

Mahatma Gandhi Death Day is celebrated as a **Martyr's day** on January 30th. On this day all Students and Staff pay homage to the victims who fought for the freedom, welfare, and progress of India and sacrificed their lives. University women's cell and DSW organized **Women's Day** on 8th March for the girl students and lady staff members in the university and conducts various events and competitions. The International Yoga day is celebrated on June 21st every year on the university campus. The sessions include orientation on Yoga, its mental and physical benefits, and the actual performance of some yoga asanas.

The various departments of the university each year celebrate **Teacher's Day**, commemorating the birthday of Dr. Sarvepalli Radha Krishnan, a great teacher. On that day the Institution felicitates eminent personalities from the educational field. Faculty of sciences and celebrated “**National Science Day**” every year on 28 February and on this occasion organized expert lectures and some student activity like quiz and poster making competitions in the university campus. The Department of Environmental Sciences celebrates **World Environmental Day, World Water Day, Ozone Week**, etc. each year in the university campus and organizes several activities and events including declamation, quiz, poster making competition, expert lectures, and tree plantation.

| File Description | Document |
|--|-------------------------------|
| Geotagged photographs of some of the events | 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 Practice-I

1. Title of the Practice

Unleashing the Learning Avenues through indigenous Digital LMS

2. Objectives of the Practice

What are the objectives/intended outcomes of this “best practice” and what are the underlying principles or concepts of this practice (in about 100 words)?

University has a dedicated web-based Learning Management system named “Digital Learning Management System (DLMS)” which is in-house developed. The key objective of this practice is to host and track online learning. Providing a virtual hub where learners can access course materials, DLMS aims to make contents accessible to remote learners, support blended and flipped learning environments; and provide a central location for learning across the university. This system provides a full suite of modules that supports a range of users, acts as a platform for online content creation and delivery in both asynchronous and synchronous modes. It offers classroom management, where teachers may curate and integrate course materials, articulate learning goals, align content and assessments, track studying progress, and create customized tests for students. It is used to manage all types of study material including lecture contents in the form of Power Point Presentations (PPTs), Portable Document Format (PDFs), assignments and video lectures.

At the student end, the system provides facilities to view the shared content, submit due assignments & tests, track their studying progress and interact with their teachers. On the other hand, teachers can manage courses, schedule their time table, bind students with their classes, assess the assignments & tests, make announcements, interact with the students and schedule online classes.

Amid this time of social distancing, the DLMS has strengthened the connection between teachers and students; and fostered their engagement via online classes.

3. The Context

What were the contextual features or challenging issues that needed to be addressed in designing and implementing this practice (in about 150 words)?

The purpose of the practice is to combine the traditional instructor-led approach with online learning to enable learners to have control over their training. Even during pandemic conditions of COVID-19, when universities were suddenly shutdown due to Covid 19 pandemic, this system helped to continue teaching-learning processes of the university in the online mode including online sessional exams and online proctored exams.

The practice of DLMS was started in order to address the followings:

1. the standards of higher education align with the expectations.
2. the departments are able to promote and enhance high quality teaching and learning.
3. the academic calendar of the University is strictly adhered with, in terms of timelines.
4. the faculty members keep their academic records, which are readily retrievable, in soft form through in-house developed Enterprise Resource portal (ERP) linked with DLMS.
5. enable faculty members to create customized study material and examinations for students, which

are accessible and submitted online.

6. support blended mode of learning and flipped classroom teaching-learning in the university to cater more efficient classroom training.
7. the students are fully supported in their academic and personal development during pandemic conditions.

4. The Practice

DLMS is an e-learning platform (<https://digitalllearning.jcboseustymca.co.in/>) to meet the requirements of teaching-learning process through online mode. DLMS ensures that anybody with a computer/online device can teach-learn from any place and at any time.

DLMS is enabled with features like facility of uploading study material and assignments, live chat, live classes, test facility, continuous assessment, discussion forums etc. and students can access it with their login. The quick links of important platforms like university's Library e-portal, National Digital Library, SWAYAM, Spoken tutorial, ZOOM, Google Classrooms and other e-platforms have also been integrated in this system.

DLMS is an online platform that enables the delivery of materials, resources, tools, and activities to students both in and out of the classroom environment. It allows teachers to offer customized instruction that can be accessed by students anytime, anywhere without geographic constraints. The system is used to support learning by providing a space where materials can be stored and organized, assessments can be given, and students and teachers can interact using live chat and discussion forums. Teachers can share case studies, application oriented real-world problems, take open book tests, give open ended questions in present scenario for assessing lower and higher order learning performance of students and for assessment purpose.

The advantages of DLMS are interoperability, accessibility, reusability, durability, maintenance ability and adaptability. The salient features of DLMS are as follows:

1. DLMS supports content in various formats: text, video, PPTs, PDFs etc.
2. One can access course material anytime and from anywhere.
3. The evaluation of students is easier and fair, based on student attendance and online examination, both in objective and subjective mode.
4. Students and teachers can reuse the material every time they need.

The system is developed keeping in view the standards of higher education and academic requirements of the university. Looking at the focus of government of India on inventions and innovations, the effort is a unique one in the sense to maintain academic standards comparable to various other online platforms.

5. Evidence of Success

Provide evidence of success such as performance against targets and benchmarks, review/results. What do these results indicate? Describe in about 200 words.

The DLMS has emerged as a significant feature in the academic functioning of the University. It has resulted towards the transformation from the teacher being a mere figurehead to the teacher creating more structured and meaningful contents for teaching their students and focused towards outcome-based

teaching-learning. DLMS also enabled to continue teaching-learning during the period of lockdown due to Corona pandemic without any hinderance. It mainly provides functionality in the following three dimensions to cater the academic needs of various stakeholders:

- An administrator level interface from where the administrators can validate time-table, various courses undertaken and the progress of the students can be checked.
- A faculty level interface wherein teachers can input their time-table, manage course contents, take examinations, analyze reports, automate notifications and schedule live lectures with automated attendance compilation.
- A student interface where the students can see their enrollment, attend the classes, scroll the notifications and attempt the internal examinations.

6. Problems Encountered and Resources Required

Please identify the problems encountered and resources required to implement the practice (in about 150 words).

The following Problems were encountered during the development of DLMS:

1. Development of resources and expertise: The team of skilled expertise and availability of resources were the first phase challenges in implementing the practice.
2. Limited initial acceptability: Faculty members and students were initially reluctant for ICT usage and online teaching-learning.
3. Overriding perceived digital divide: Some of the students got some problems in context of internet infrastructure due to demography.

Resources Required:

1. Hosting and Server Space
2. Programming Skills
3. Training Capabilities
4. Online video conferencing APIs

Best Practice-II

1. Title of the Practice

QUALITY ENHANCEMENT THROUGH STAKEHOLDERS' PERSPECTIVE: 360° FEEDBACK

2. Objectives of the Practice

With the fast-changing scenario of teaching learning process it becomes necessary to identify the expectation and aspirations of the students, teachers, alumni, parents, employers and other stakeholders in a university. It is only possible through sharing of ideas from stakeholders for the scope of improvement in the system. Following are the objectives of the 360° feedback.

1. To adjust and improve current and future actions and behaviours and ensuring balanced learning environment.

2. To choose the best strategies by monitoring the teaching and learning process.
3. Getting feedback on learning objective and course outcomes and make course modifications
4. To improve the performance of staff and faculty members and students as well so as to increase their future potential and thus providing value addition to the university.

3. The Context

360° feedback may be explained as a performance evaluation survey that collects confidential, anonymous, and candid feedback from various stakeholders of the University that are very closely related to the teaching learning process. Different stakeholders may have their own views on the education process imparted in the university. So, the questionnaire for the feedback should address the issues related to teaching-learning process and related facilities available to students and teachers. On the other hand, the feedback from the parents must address the issues related the fees, hostel and mess facilities and other conveniences available to their wards. Similarly, employers are an important stakeholder of the university system and the feedback is necessary from their perspective. Some of the challenging issue during the process of feedback are as follows;

1. The designing of the questionnaire for different stakeholders is a challenging task so it is considered that the questions are not long and also, they incorporate the intent precisely with which it is designed.
2. Respondents always consider filling of any feedback form as a boring task.

4. The Practice

Quality vs. Quantity has always been a thought-provoking issue. As key stakeholder, students are concerned about the expected outcomes. Since the technical education scenario is drifting from output-based system to outcome-based system, quality in such processes needs to be addressed. It needs to be ensured that the outcome parameters vis a vis the objectives are mapped and the programmes are in tune with the national policies with reference to the global trend.

Satisfaction of stakeholders has always been a challenge and quality are a benchmark on road to success any institution. 360° feedback is a process utilized by this university to solicit information from its stakeholders on different aspects.

The following is the mechanism for feedback collection from various stakeholders:

Teachers: Feedback is collected annually from the teaching fraternity of the university with an intent to collect information regarding various aspects of the curriculum. The information thus keyed in by the teachers is used for improving the syllabi, labs, infrastructure and other facilities of the university.

Students: Form for students' feedback has been prepared wherein they are required to give their feedback on relevance, adequacy and coverage of curricula of each subject along with the performance of teacher in

the class, teaching methodology and teaching pedagogy etc. Such feedback is taken by the Department based upon which remedial action is taken as when required.

Alumni: Feedback of Alumni is taken in structured feedback form, which includes feedback of relevance and adequacy of curricula, specifically, vis-à-vis their capability to adapt to the world of work after having studied in the Institution.

Employers: Feedback on curricula and performance of Alumni is taken from the employers not only when they visit the campus for conducting campus interviews but also involving them during the curricula finalization.

Parents: Feedback of parents is taken in a structured feedback form as and when they visit on various occasions and events. The links for the same are shared with them on their email id.

Peer Group: External Academic Experts are normally called for delivering Expert Lectures, Selection of Teachers, Workshops, Conferences, Symposia, Faculty Development Programmes, examiners etc., whose feedback on institutional aspects is taken in addition to the relevance and adequacy of infrastructure facilities specifically labs, workshops, library and central computing facilities etc.

In the University, 360° feedback is collected from all the stakeholders by using online or offline mechanisms. Online mechanism for collection of feedback uses online forms for which links are sent to the stakeholders while offline mechanism uses a set Performa to be filled by the stakeholders. Table 1 shows Scope of 360 ° Feedback where the details of all the stakeholders and their involvement in the feedback process is presented.

Table 1: Scope of 360° Feedback

| SNo | Stakeholders' feedback | giving Feedback taken on |
|-----|------------------------|---|
| 1 | Teachers | <ul style="list-style-type: none"> ◦ Syllabus ◦ Facilities including Teaching Learning Process |
| 2 | Students | <ul style="list-style-type: none"> ◦ Teaching Learning Process (Classroom Feedback) ◦ Exit Survey ◦ Syllabus ◦ Facilities |
| 3 | Alumni | <ul style="list-style-type: none"> ◦ Syllabus ◦ Facilities |
| 4 | Employers | <ul style="list-style-type: none"> ◦ Syllabus ◦ Placement related issues |
| 5 | Parents | <ul style="list-style-type: none"> ◦ General Feedback upon their visit |
| 6 | Peer group | <ul style="list-style-type: none"> ◦ General feedback |

After collecting data from the stakeholders, the response sheet are being generated and analysed thereof by using predefined parameters. Based upon the report, appropriate actions are taken. The department submits a copy of the report along with the action taken to the Internal Quality Assurance Cell (IQAC) for reporting in the IQAC meetings held at definite interval. The responses of the feedback are collected and analysed at

the Department level.

5. Evidence of Success

The prime aim of 360° feedback is to ensure that every student has access to competent and qualitative teaching which leads to vibrant academic, social and personal growth. This was the reason why IQAC of the university took this initiative since its inception in 2015 as such initiatives always help our system of teaching learning to flourish further on the basis of feedback received and lead to satisfaction of stakeholders. The feedback system has helped in many ways, some of the resulting actions include:

1. Continuous syllabus modification as per latest technological advancements.
2. Introduction of more elective subjects to offer more flexibility to the teaching learning system
3. Based on the feedback received from the students, first of all teachers got a chance to look back into their performance during the classroom teaching and they tried to improve in the areas where they were lacking somehow.
4. Departments were able to improve the class room and laboratory facilities along with teaching methodologies. For example, more than 17 smart boards have been installed in various departments of the university; most of them are internet backed. Most of the classrooms now have the projector facilities.
5. As a result of feedback, construction of additional staircase, installation of lifts, bus facilities, installation additional of water coolers etc. were increased.
6. Better labs and infrastructures have been developed.

6. Problems Encountered and Resources Required

Initially, the practice was started by taking the feedback through putting pdf files on the website and it was expected that the stakeholders would download the form and submit their feedback after penning it down. It was observed that responses were quite less and further hardcopies were very tough to analyse. To overcome this hindrance online feedback forms were developed for data collection as it was easier to analyse the feedback received. Another problem associated with feedback process is that in the wake of anonymity, many of the responders provide feedback in an irresponsive manner and sometimes there is a feeling of prejudice also.

It is difficult to motivate the stakeholders to give their feedback. In some cases, there is a diversity of opinions within the responses and it becomes tough to make a decision on its basis. As far as resources are concerned, analysis is done using computer programs for online feedback. As per the requirements of various regulatory bodies, the questionnaires of various feedback forms have been revised time and again.

| File Description | Document |
|--|-------------------------------|
| Best practices in the Institutional web site | 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:

Institutional Distinctiveness - Strong Industry/Alumni Network

The identity of J.C. Bose University of Science & Technology, YMCA, Faridabad since its inception in 1969, lies in imparting cutting-edge technological education and Institute Industry connect, thus producing an academically sound, employable, competitive and contributor alumni base. This is reflected in the fact, since its inception as a Post Diploma College, JCBUST, YMCA has produced numerous Entrepreneurs. The importance of the Entrepreneurship and JCBUST Alumni network is also visible from the fact that most of the industries in Faridabad region have been set up by the University Alumni.

As a result of the initiatives taken by the University alumni as early as 1985 to set up a registered alumni association by the name of YMCA MOB Alumni Association, the registered University alumni database has already reached 10000 mark. MOB which is the acronym for Meet Old Buddies has its own dedicated portal www.ycamob.com. The MOB contribution embarks the distinctiveness of the University by carrying out the following activities:

- By encouraging interaction with students, alumni, faculty, and industry by holding lectures, seminars, and conferences.
- By becoming recruitment partners for providing Internships as well as full-time employment for pass-out batches.
- By organizing job fairs for hiring the talent pool from the University for their Own Organizations in which they are entrepreneurs.
- By helping to establish a Centre of Excellence in the technical domains.
- By signing MoUs with the University to provide the overall support in terms of Industrial visits, organizing value-added courses, faculty development programs, opening project Webinars etc.
- By financially contributing towards infrastructure growth-university main gate, incubation center; scholarships to needy students; cultural fest; projects etc.
- By generating a 'Brain Bank' from amongst its members or experts from outside and providing its services for the benefit of the members of YMCA MOB, in particular, Alma mater, and the society, in general.
- By promoting B2B transactions and sharing of best practices.

All these initiatives by the Alumni coordinated via the Alumni and Corporate Affairs Cell and Training and Placement Cell of University. Companies like Cadence Design System, Noida, Cognizant Technology Solutions, Noida, Eicher Tractor, Bhopal, ETA Engineering, Tamil Nadu, ETA Engineering, Tamil Nadu, MV Electronics Pvt. Ltd, Palwal, Nagarro Gurgaon, Samsung R&D Gurgaon, ST Microelectronics, Noida, TestingXperts Pvt. Ltd., Chandigarh, Yamaha Motors Pvt. Ltd, Maruti Suzuki Pvt Ltd, Gurgaon are our recruiting partners where our alumni are at senior positions and always help us in securing better numbers of placements.

Alumni as Entrepreneur and our recruiting partners in general.

| Name of the Organization | Name of Alumni | Designation of the Alumni |
|------------------------------|----------------|---------------------------|
| Emtech Foundation, Faridabad | Mr. Naveen | Founder |

| | | | |
|--|--------------------------------|-------------------------|--|
| Lune blaze Faridabad | Mr. Mahender | Founder | |
| MV Electronics Pvt. Ltd | Mr. Mohit Vohra | MD | |
| Suvidha Engineering Pvt. Ltd | Mr. Mohit Vohra | MD | |
| Advanced Silicon Pvt Ltd | Quadrant Cables Pvt. Ltd | MD | |
| Hind Hydraulics | Mr. Sukhdev Singh | MD | |
| Shubham Lifts. Pvt. Ltd. | Mr. Vinod Kumar Rajpal | MD | |
| Fuji Gemco Pvt. Ltd | Mr. Mahesh Sachdeva | MD & CEO | |
| Vee Gee Industries Pvt. Ltd. | Mr. Naveen Sood | MD | |
| Bony Polymers | Mr. Raj Bhatia | MD | |
| Aadhaar Shri Infratech Pvt. Ltd | Mr. Sanjay Arora | VP-Sales and Marketing | |
| Yugasa Software Labs Pvt Ltd | Mr. Manish Pradhan | Chief Marketing Officer | |
| Nirman Advertising Pvt. Ltd | Mr. Arvinder Singh Narang | Director | |
| Skope | Mr. Aseem Hanspal | MD | |
| Kuka India | Mr. Raj Singh Rathee | MD | |
| AV Automation | Mr. Bhushan Diwan | MD | |
| Jastech systems Pvt Ltd | Mr. J. S. Bisla | Director | |
| Amtek Railcar Industries Pvt Ltd | Mr. Anoop Rawat | COO | |
| EGP Sales Corporation | Mr. Mukesh Arora | Proprioter | |
| Advance Panels & Switch gears Pvt. Ltd | Mr. Harish Bansal | AGM | |
| Orient Electric | Mr. Suresh Jangra | Hand R&D | |
| CE Comfon Engineers | Mr. Rajesh Katyal | Founder Director | |
| Zeotel Communications Private Limited | Mr. Mohnish Verma | Founder Director | |
| Encoders India | Mr. Rajesh Nangia, Ravi Nangia | CEO, Director | |
| R.R. Electronics | Mr. Ravi Nangia | Director | |
| Belz Instrument Pvt. Ltd. | Mr. Ashok Kumar Nehra | MD | |
| Business Engineering & Software tech. Ltd. | Mr. Lakhinder Singh | MD | |
| Faridabad Control Electricals | Mr. Anil Khullar | MD | |
| Watershed (India) | Mr. Sunil Chopra | Founder & CEO | |
| Innowave Healthcare Pvt. Ltd, Apex Medical Systems Pvt. Ltd | Mr. Vivek Mehrotra | CO- Founder | |
| S S Technologies | Mr. Shalinder Jain | Founder | |
| Amsted Aikon Rail Ventures Pvt. Ltd. | Mr. Rajesh Sehgal | Supply Chain Incharge | |
| Better Comfort Systems | Mr. Anupam Chauhan | Owner | |
| S. R. Build-Tech | Mr. Jai Prakash | Owner | |
| Aapee Buildcon | Mr. A P Singh | Managing Partner | |
| VRM Digital Systems | Rakesh Goyal | Managing Partner | |
| Pioneer Engineers | Sandeep Arora | Proprioter | |
| Kelley Material Handling Eqpt India Pvt. Ltd. | Mr. Piush Goyal | Managing Director | |
| C&S Electric Ltd. | Mr. Nitin Rastogi | AVP- Sales & Marketing | |
| Elcom Innovations, Mohali | Mr. Rajeev Vats | Director | |
| Outokumpu India Pvt. | Mr. Hirdesh Kalra | Cluster Head | |

Besides, our distinguished alumni Mr. Kanwal Jeet Jawa Managing Director and Chief Executive Officer

of Daikin Air-conditioning India Pvt. Ltd has signed a Memorandum of Understanding (MoU) on behalf of the Daikin Air-Conditioning India Pvt. Ltd (DAIPL) with the University to start a Centre of Excellence (CoE) on HVAC Systems that will impart practical skill training and industrial exposure to the students within the campus.

In addition to the above, the following companies of our alumni have also signed or are in the process of signing MoUs: Advanced Silicon Pvt. Ltd., CE Comfort Pvt. Ltd., Prime Electronics, Quadrant Cables Pvt. Ltd., Business Engg. & Software Tech. Ltd., Faridabad Control Electronics, Mabless Power Engineer Pvt. Ltd., S E AIRCON Pvt. Ltd., Shubham Lifts Pvt. Ltd., Square Yards Pvt. Ltd., Better Comforts System, B P Refcool, Innowave Healthcare Pvt. Ltd., Apex Medical Systems Pvt. Ltd., DR Optical Disc India Pvt. Ltd., Alivesmart India Pvt. Ltd., VRM Digital Systems, V Tech Automation, Ecomate Buildings Systems Pvt. Ltd., A V Automation, Gurugram, Vee Gee Industries Pvt. Ltd., Hind Hydraulics Pvt. Ltd., Encoders India Pvt. Ltd., M V Electro Pvt. Ltd., Bony Polymers Pvt. Ltd. to help in the capacity building process in terms of acquiring skills and calibration training to fetch the consultancy projects in the related fields.

| File Description | Document |
|--|-------------------------------|
| Appropriate web in the Institutional website | View Document |

5. CONCLUSION

Additional Information :

- The University has thoroughly scanned the Peer Team Report of Cycle 1 and with a positive bent of mind, has taken action on all the observations made therein. The Executive Council has monitored the same from time to time and the detailed ATR is available at the following link: <https://jcboseust.ac.in/assets/uploads/media/30df1a9ef979dc73e420b9ad994344b2.pdf>
- The University has envisioned the plans and developments for coming years through VISION 2030 document supported by detailed plan for implementation of NEP 2020.
- With the increase in the intake of existing courses and the launch of new courses, the University has been facing a big space crunch. To overcome this problem, the university has been allocated 18 acres of land for its additional campus. The existing campus is also undergoing expansion with the ongoing construction of many multi-storey buildings.
- In order to stay up with current technologies, the University has formed a partnership with various industries to establish a Centres of Excellence. Currently, Daikin Industries, Danfoss, Bosch, Godrej and Royal Enfield each has centre of excellence/ training centre at the University.

Concluding Remarks :

The University is conscious of its strengths, but isn't overconfident or complacent about them and wants to put them to good use for all of its stakeholders. Exploration of its shortcomings, worries and limits is assisting it in meeting the difficulties. The University has a commendable past, reliable present, and promising future which is backed by the visionary leadership committed to outcome-based and innovative educational and technological initiatives to realize its vision.

NAAC Cycle 2 SSR is a collective document with inputs from IQAC and involvement of all teaching and non teaching staff through their departments, offices and cells.

A thorough introspection, data collection and retrieval of information from University's indigenous developed portal has resulted in the SSR in present form.

Quality is a never ending journey and the University is looking forward for assessment by NAAC as this would instill confidence in stakeholders and pave way for further improvement.

6.ANNEXURE

1.Metrics Level Deviations

| Metric ID | Sub Questions and Answers before and after DVV Verification | | | | | | | | | | | | | | | | | | | | |
|-----------|--|---------|---------|---------|---------|---------|-------|----|----|-----|----|---------|---------|---------|---------|---------|-------|----|----|-----|----|
| 1.2.2 | <p>Percentage of Programmes in which Choice Based Credit System (CBCS) / elective course system has been implemented (Data for the latest completed academic year).</p> <p>1.2.2.1. Number of Programmes in which CBCS / Elective course system implemented. Answer before DVV Verification : 54 Answer after DVV Verification: 45</p> <p>Remark : considering data from extended profile 1.1</p> | | | | | | | | | | | | | | | | | | | | |
| 3.2.1 | <p>Extramural funding for Research (Grants sponsored by the non-government sources such as industry, corporate houses, international bodies for research projects) endowments, Chairs in the University during the last five years (INR in Lakhs).</p> <p>3.2.1.1. Total Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years (INR in Lakhs). Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>94.68</td> <td>0</td> <td>0</td> <td>0.3</td> <td>0</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>40.28</td> <td>0</td> <td>0</td> <td>0.3</td> <td>0</td> </tr> </tbody> </table> <p>Remark : Values after excluding the alumni contribution for the metric 3.2.1</p> | 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 94.68 | 0 | 0 | 0.3 | 0 | 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 40.28 | 0 | 0 | 0.3 | 0 |
| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | | | | | | | | | | | | | | | | | |
| 94.68 | 0 | 0 | 0.3 | 0 | | | | | | | | | | | | | | | | | |
| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | | | | | | | | | | | | | | | | | |
| 40.28 | 0 | 0 | 0.3 | 0 | | | | | | | | | | | | | | | | | |
| 3.3.2 | <p>Number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR),entrepreneurship, skill development during the last five years.</p> <p>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. Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>117</td> <td>92</td> <td>22</td> <td>24</td> <td>45</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>112</td> <td>68</td> <td>21</td> <td>18</td> <td>40</td> </tr> </tbody> </table> | 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 117 | 92 | 22 | 24 | 45 | 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 112 | 68 | 21 | 18 | 40 |
| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | | | | | | | | | | | | | | | | | |
| 117 | 92 | 22 | 24 | 45 | | | | | | | | | | | | | | | | | |
| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | | | | | | | | | | | | | | | | | |
| 112 | 68 | 21 | 18 | 40 | | | | | | | | | | | | | | | | | |

Remark : values as per data provided by HEI

3.3.3 Number of awards / recognitions received for research/innovations by the institution / teachers / research scholars / students during the last five years.

3.3.3.1. Total number of awards / recognitions received for *research* / innovations won by institution / teachers / research scholars / students year-wise during the last five years.

Answer before DVV Verification:

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 145 | 137 | 121 | 17 | 76 |

Answer After DVV Verification :

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 43 | 99 | 109 | 10 | 62 |

Remark : values as per data provided by HEI

3.4.6 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

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

Answer before DVV Verification:

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 95 | 59 | 20 | 27 | 51 |

Answer After DVV Verification :

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 99 | 56 | 22 | 27 | 51 |

Remark : values as per data provided

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

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

Answer before DVV Verification:

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 125 | 139 | 98 | 82 | 111 |

Answer After DVV Verification :

| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 |
|---------|---------|---------|---------|---------|
| 124 | 132 | 90 | 81 | 100 |

Remark : Values as per data provided by HEI

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**

Answer before DVV Verification : A. All of the above

Answer After DVV Verification: A. All of the above

2.Extended Profile Deviations

| ID | Extended Questions | | | | | | | | | | | | | | | | | | | | |
|---------|---|---------|---------|---------|---------|---------|----|----|----|----|----|---------|---------|---------|---------|---------|----|----|----|----|----|
| 1.1 | <p>Number of programs offered year-wise for last five years</p> <p>Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>54</td> <td>48</td> <td>42</td> <td>32</td> <td>27</td> </tr> </tbody> </table> <p>Answer After DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>45</td> <td>40</td> <td>34</td> <td>24</td> <td>22</td> </tr> </tbody> </table> | 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 54 | 48 | 42 | 32 | 27 | 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 45 | 40 | 34 | 24 | 22 |
| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | | | | | | | | | | | | | | | | | |
| 54 | 48 | 42 | 32 | 27 | | | | | | | | | | | | | | | | | |
| 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | | | | | | | | | | | | | | | | | |
| 45 | 40 | 34 | 24 | 22 | | | | | | | | | | | | | | | | | |