



SELF STUDY REPORT

FOR

3rd CYCLE OF ACCREDITATION

B.M.S.COLLEGE OF ENGINEERING

P.O. BOX NO. 1908, BULL TEMPLE ROAD, BENGALURU 560019

560019

www.bmsce.ac.in

Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

May 2024

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

B.M.S. College of Engineering has the unique distinction of being the first private engineering college established in the country. Started in the year 1946, the institution owes its existence to the foresight and vision of beloved founders, Late Sri. B. M. Sreenivasaiah and his illustrious son Late Sri. B. S. Narayan. Over the past 76 years of its illustrious existence, BMSCE has produced more than 40,000 graduates who have enriched the world through their contributions as leaders for mankind. The Institution is approved by AICTE and permanently affiliated to VTU, Belagavi. The college is aided by Government of Karnataka. The College became autonomous, UGC approved, in 2008 and has been effectively practicing OBE. During the year 2022, the UGC extended the autonomous status from the session 2022-2023 to 2031-2032. BMSCE is approved as QIP Centre in Engineering & Technology by AICTE. The College has been awarded best performance rating in all three Phases of TEQIP (World bank project). The institution is a Beneficiary of Global Initiative Academic Network (GIAN). BMSCE is the only Partner institution in the country of the Melton Foundation, USA along with five other countries. The College is accredited by NAAC with the highest grade of A++ in the Second Cycle and a CGPA of 3.83 on a scale of four. Currently all the eligible UG and PG Programs hold the status of Accreditation from NBA in tier I Format. AICTE has recognized the college under NDF Scheme during 2018-19. BMSCE has been sanctioned with 5G Use-Case Lab from Government of India. BMSCE has attained the prestigious ISO 14001:2015 certification for its Environmental Management System which has evidenced the institutional commitment towards sustainability and environmental responsibility. The College offers 18 UG & 13 PG courses both in conventional and emerging areas. 344 research scholars are pursuing their PhD Degree in 15 research centres of the college. 244 PhDs and 22 M.Sc. (by research) have been produced through these research centres. The college has well qualified and dedicated faculty. The college is being ranked consistently among the top engineering colleges in the country by various media sources.

Vision

VISION OF THE COLLEGE

Promoting prosperity of mankind by augmenting human resource capital through quality technical education & training

The founders have envisaged the vision of providing skilled and competent workforce to society by imparting quality education and training. The founders strongly believed that creation of skilled technical manpower would promote nation building. This vision is relevant even today looking at the young demographic nature of India and the challenges they encounter to meet the changing global market needs. The vision of BMSCE is to nurture excellence and its mission to instil in students the desire and ability to make excellence a way of life.

For realization of the vision, emphasis is laid on creating an environment that promotes excellence. This takes the form of various initiatives to energize the different factors that impact the quality of education. The curriculum is designed such that the students acquire domain knowledge, skills and right attitude. The curriculum is developed by involving all the stakeholders. Through Student-centred learning processes the institution puts the authentic knowledge needs on priority. Teaching-Learning-Practices (T-L-P) are streamlined for the improvement of academic performance and holistic development of the students. The employability factor is one of the prime considerations in the design and development of outcome-based curriculum. In tune with the national and global needs, the institute has introduced new programs of study. in the emerging areas The labs are also regularly upgraded in order to stay advanced. The institution has a well-laid strategic plan. The implementation of the vision and plan is executed with the support and involvement of all the stakeholders. The BOG approves the Vision & Mission, Short Term and Long-Term goals and the Budget based on the Strategic Plan. The BOG ensures that all decisions on the matters such as admission quality, new programmes, infrastructure, Teaching Learning Process and Placements are arrived based on the vision of the Institution. The institution strongly believes in decentralization, participative management and delegation of power at various levels

Mission

Accomplish excellence in the field of technical education through education, research and service the needs of society

The management firmly believes that a strong vision and mission statements will help stakeholders to attain their respective goals. The mission is achieved through the process of education, training and research. The following measures are implemented to accomplish the institutional mission:

- Involvement of all stakeholders to ensure that the curriculum is robust and relevant. Practicing Outcome based education (OBE). Effective Feedback mechanism on Curricular and other aspects.
- Introduction of new programs of study in emerging areas in tune with the national and global needs.
- Encouraging innovation in Teaching and Learning and best practices in TLP
- Collaborative efforts with the industry for enhancing the learning levels of the students through Industry Supported labs and other activities.
- Promoting Research, Innovation & entrepreneurship through dedicated R&D cell, centres of excellence and incubation. Initiatives/research promotion measures in Sensitizing/Promoting Research Climate in the institution
- The continuous augmentation of infrastructure and learning resources
- Use of technology for enhancing the learnability coefficient of the students.
- Active participation of BOG members in all the institutional development activities.
- Strategic plan with Long Term and Short-Term perspectives and periodic review on the status of its implementation.
- Budgetary provisions based on the requirements/inputs provided by the Departments
- Academic Audits at the departmental/Institution levels for monitoring the continuous improvement. Departmental Advisory Board (DAB) created for advising in academic matters.
- IQAC facilitates internal and external Academic Audit and deriving policies towards quality culture at the institution level in academics, research and administration.
- Alumni Network: A vibrant alumni network with 29000 active members. Contributing to curriculum design, Participation in events and services to enhance the quality of education, training and research. providing inputs and feedback, Promoting the culture and values of BMSCE in the society apart from

supporting the students through scholarships and education loans.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

Strengths

- Being the oldest private engineering college in India (Estd 1946), BMSCE has accrued a very strong stakeholder base
- Strategically located in the heart of the Bengaluru City, the Silicon Valley of India
- Autonomous Institute, approved by UGC, New Delhi, Became autonomous in 2008: Current status valid upto 2031-31. The UGC extended the autonomous status for a period of 10 years from the session 2022-23 to 2031-32 during February 2022.
- Achieved highest NAAC Accreditation Grade both in Cycle I and II
- All the eligible UG and PG programmes are accredited by NBA, New Delhi under Tier I Format
- Permanently affiliated programs of Visvesvaraya Technological University (VTU)
- Only partner institution from India to the Melton Foundation, USA
- Attracts meritorious students from across the country. It has the largest student population amongst engineering colleges in Karnataka.
- The institution has played significant role in developing human resource capital to meet the requirement of society in India and abroad
- The College has the distinction of being awarded best performance rating in all three Phases of TEQIP
- Beneficiary of MHRD-Global Initiative of Academic Networks (GIAN) programmes across domains
- AICTE has recognized the college under AICTE Doctoral Fellowship Scheme (ADF) since 2018-19.
- BMSCE is listed as a lead innovator for the year 2020 and 2021 by Clarivate Analytics (Web of Science) based on the Derwent World Patent Index.
- BMSCE is one among 100 colleges in the country awarded 5G Use Case laboratory
- Sound financial position of the trust managing the Institute
- Transparent and good Governance in academics and administration. The college works are delegated to individuals and committees both statutory and non-statutory. The diversity in the composition of the committees helps in making pragmatic decisions.
- Qualified and experienced faculty and staff; Good faculty/staff retention rate
- State-of-the-art infrastructure and laboratory facilities. Strong industry linkage and Industry supported laboratories
- Industry professionals handling regular courses to provide practical and updated know-how to students
- Involvement of stakeholders to ensure curriculum is robust and relevant. Practicing Outcome Based Education (OBE). Effective feedback and internal and external academic and administrative audit process.
- Increased IRG through R&D Projects & consultancy and good number of patents published.
- Introduction of new Programmes of study in emerging technology and multi-disciplinary areas.
- BMSCE boasts of a very strong Alumni Network of over 40,000, most of them occupying coveted positions in various educational, industrial, research organization in India and abroad. International alumni chapters across the globe.

The college is ranked consistently among the top engineering colleges in the country by various media sources.

Institutional Weakness

WEAKNESS

- Inadequate commercialization of intellectual property generated
- Hostel accommodation within the campus is inadequate to meet the current and increasing demand
- Over-reliance on IT industry for placements
- International Placements

Institutional Opportunity

OPPORTUNITIES

- Exploring the ways to offer dual degree programmes
- Student exchange programs with various top tier Institutes across the globe.
- Establishing a dedicated Foreign Language Department
- To increase the number of PhDs and reach 85% in due course of time
- Continuously enhance peer reviewed journal publication with high impact factor
- Being a start-up hub for engineering graduates

Explore the possibility of commercialization of patents

Institutional Challenge

CHALLENGES

- Establish multi campuses in India and Abroad.
- To create an exclusive foreign faculty panel to teach across various domains.
- Resource augmentation for a growing institution
- Attracting core engineering company placements catering to all domains
- Keeping pace with global development in pedagogy and research

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

The college ensures that the curriculum meets the relevant standards and framework to enable students acquire domain knowledge and skills.

The factors influencing curriculum design and development are AICTE model curriculum, NEP framework, VTU curricular structure, program specific criteria of professional bodies, recent technological advances in domain area and suggestions from stakeholders. The Curriculum adheres to OBE principles while implementing course content, instructional methods and assessment strategies. Holistic education, experiential

learning, digital integration and multidisciplinary approach as envisaged by NEP 2020 is adopted.

About eighty percent of the courses in each programme is focused towards employability, entrepreneurship and imparting technical skill. The courses are offered as professional core or elective. The Institute Innovation Council (IIC) and B M Sreenivasaiah Innovators Guild (BIG) Foundation (Section-8 company promoted by BMSET) creates an ecosystem to foster entrepreneurial spirit among faculty and students. The curriculum is well balanced with Humanities, Social Science, Basis Sciences, Engineering Sciences and Professional Core courses.

The Open Elective courses inculcate interdisciplinary approach among UG and PG students. Courses addressing professional ethics, gender, human values and relevant to environment and sustainability are offered in all programs. Mandatory courses such as Yoga, physical education and NSS under NCMC (non-credit mandatory course) help overall development of the students. As mandated by AICTE/VTU the students need to earn 100 Activity Points during the course of their study for the award of degree. The students are encouraged to undergo technical, entrepreneurship, leadership, and soft skill and socially relevant activities to enable AICTE Activity points. The curriculum revision in the form of introducing new courses and revision/redesigning the existing course is done periodically i.e. once in two years. More than 40% of the courses offered during the assessment period are either new or revised.

With an aim to provide practical exposure to the concepts and latest technology, value added courses are offered. During the assessment period, more than 70 such courses were organized. More than 5000 students successfully completed MOOC Courses. All the students undergo field visits/Internship and field projects. Stakeholders' feedback and academic audits helps in assessing the relevance of curriculum.

Teaching-learning and Evaluation

Teaching Learning Process is a very important parameter in OBE. The teachers play a vital role in the process. The faculties are well qualified and experienced. 67% of faculty hold doctoral degree from premier academic institutions. The average teaching experience is around sixteen years. The college caters to the diverse students who come from several states and other countries. This is well reflected in the demand ratio for the seats offered by the institution.

- The institution organises induction programme for 3 weeks period for First Year UG and Diploma students respectively as per AICTE Student Induction Policy.
- The faculties effectively adopt numerous student centric measures such as experiential learning, participative learning, problem solving methodologies to enhance the learning experience of the students.
- Measures have been designed to assess the learning levels of students and also provide guidance to increase their competencies. Remedial classes are conducted to improve the academic performance of slow learners. Fast Track semester is conducted as an additional opportunity to help the students avoid losing an academic year. The advanced learners are encouraged to take part in workshops and seminars, explore content beyond the syllabus, and prepare to pursue higher education and other measures. Meritorious students are awarded scholarships of Rs.20,000 along with certificate of merit.
- The holistic development of all students is monitored through an effective mentoring system.
- OBE is effectively practised which involves defining the learning outcomes, integrating them into assessment process, attainment of CO, PO, PSO, ascertaining their effectiveness leading to continuous improvement.

- Exposure to various digital tools enable practicing ICT enable effective teaching and learning. State of the art e-Studio facilitates generation of digital content.
- The departments have also evolved many best practices with respect to TLP. Academic Audits (internal/external) is conducted for continuous improvement.

The institution continues to adopt improved examination processes. The Evaluation process is transparent. Bloom's taxonomy levels are used in preparation of quality assessments, both CIE and SEE. Students are evaluated on a continuous assessment system, comprising of written examinations, class seminars, quizzes, assignments and other alternate assessment tool.

Research, Innovations and Extension

BMSCE acknowledges innovations, research, and consultancy as key focus areas. BMSCE is Listed as a lead innovator for the year 2020 and 2021 by Clarivate Analytics (Web of Science) based on Derwent World Patent Index. BMSCE is one among 100 colleges in the country awarded 5G Use Case laboratory. An exclusive R&D Cell has been constituted. Identifying new research avenues, proposing research promotion measures and infrastructure augmentation are some of the major initiatives of R&D Cell. The institution has a well-defined Research and IPR policy. The Policy is uploaded on the website. Deputing faculty to premier institutions for pursuing PhD, facilitating patent filing in expedited mode, monetary incentives for publication in referred journals, fetching external grants and publishing books, seed funds through the Faculty Promotion Research Scheme (FRPS), reimbursement of the Membership fee of professional bodies and MOOC courses, deputation to conferences and workshops in India and abroad, etc. are some of the major research promotion measures implemented by the college. Fifteen departments are recognized as research centres. More than 350 research scholars are pursuing their Ph.D degrees. 244 PhDs and 22 M.Sc (by research) have been produced. Centralized research infrastructure viz., propel labs in Robotics, 3D Printing, Aerospace, Automotive lab have been established to promote curiosity in students on innovation, design and develop prototypes. Other facilities include Centre for Excellence in Advanced Materials Research established at a cost of 700 Lakhs through TEQIP Funds, Centre for Nano-Materials & Displays, Centre of Excellence in AI&ML houses the NVIDIA DGX, Centres of Excellence, Incubation Centres, industry supported labs and others. A section 8 company B.M. SREENIVASIAH INNOVATORS GUILD FOUNDATION was established in 2023 to promote startup culture. The college library has a good collection of books and journal subscriptions to facilitate research. The Institute Innovation Cell encourages forging collaborations with the outside world apart from department level initiatives.

As active agents of social change, the institution addresses, sensitize and find solutions to social and environmental problems through various extension activities through its NCC, NSS, Rotaract, student clubs/forums. The institution has received awards in recognition of its contribution towards society.

Infrastructure and Learning Resources

The college has an extensive Infrastructure spread over 11.00 acres 30 guntas with a total built up Area – 98545.07 Sq.Mts. The infrastructure comprises of labs, classrooms, Data Centre, Centres of Excellence, Incubation Centres, Propel labs, Language Lab, Auditorium/Seminar Halls Examination Centre, e-Studio, Placement Centre, Library, International Co-operation Division, Ladies Common Room, Cafeteria, Sports-Cultural, Yoga and other Facilities. Faculty rooms, conference halls, auditoriums, separate hostel for men and women, Student counsellor Cell, NSS Room, Multi-Gym are established. BMSCE has 116 class rooms

equipped with ICT facility and 138 laboratories with latest infrastructure facilities apart from industry supported laboratories and skill labs. State-of-the-art E-studio for video and audio recording and editing has been established. The Data Centre monitors the Campus-wide networking facility. The internet bandwidth enhanced from 650 MBPS 2.9 GPBS during the assessment period. 3150 computers are on network. The Library is housed in a spacious area spanning of 45200 sq ft, and has a seating capacity of 680 users. The library has extensive collection of books, with 156471 volumes and 48402 titles and has access to over 21883 e-journals and 6904 e-books. The membership to VTU Consortium, provides access to eight online resources covering Engineering, Science and Technology, Management, and related fields. The website provides access to official information. e-Governance is implemented all in major functional areas. In a significant milestone, BMSCE recently attained the prestigious ISO 14001:2015 certification for its Environmental Management System. The certification affirms the institutional commitment towards sustainability and environmental responsibility in implementing eco-conscious practices be it, Solar Energy, Rain Water harvesting, power supply systems, 350 KLD Capacity Sewage treatment plant, Water supply, Barrier free environment, potable water facility, green campus initiatives, fire and safety provisions, sewage and waste disposal system etc. The building & maintenance section is in charge of civil and electrical maintenance including power backup. The maintenance of equipments and services is through AMC. Adequate firefighting facilities, telephone, extensive parking space are some of the other facilities provided. Budgetary provision has ensured resource augmentation and proper maintenance of infrastructure and academic support facilities. General Insurance coverage for Building, Furniture, fixture and equipment are provided.

Student Support and Progression

BMSCE is one of the most preferred higher educational destination for the students all across the country. Quality educational practices supplemented with academic ambience, state of the art infrastructure, pedagogy, academic innovations, research, incubation, training opportunities and entrepreneurship provided to diverse student population is enabling the institute to produce graduates who are industry ready.

BMSCE also provides students the opportunity to participate in academic, administrative and campus activities.

- The student representatives are invited to the Governing Council and Academic Council Meetings. The student representatives are part of IQAC, BoS, Institution Innovation Council, Anti ragging committee, Grievance Redressal Cell, Internal Complaints Committee, Women's Cell, IQAC Autonomous Cell, Internal Committee for Students with Disabilities and other committees. The students actively participate in extension activities through NSS, NCC, Rotaract, Women Cell units etc.
- The faculty advisory system (proctor) helps the students to improve their overall performance.
- Professional Bodies/Student Forums/Clubs provide opportunity to students to participate in wide range of Co-Curricular, Extra-Curricular, Social and Community Development Activities. Fully Committed NSS, NCC, Rotaract, Women Cell units etc. are in place. Student chapters like IEEE, ACM, IET etc. regularly organize activity-based programs.
- Melton Foundation (USA) global Fellowship program help to integrate students into a lifelong global network.
- A section 8 company, B.M. SREENIVASIAH INNOVATORS GUILD FOUNDATION established to promote startup culture in the institute. IIC nurtures the idea of entrepreneurship among the students.
- The Placement & Training Centre and Competitive Examinations and Higher Studies Cell helps

students in achieving their goals.

- The students participate in the feedback system.
- The students benefit from expert/invited lectures from people of eminence.
- Every year the students actively participate in the annual Industry-connect technical symposium 'Phase Shift'.
- Students have strong representations in cultural and sports committees and help in organization and management of events.
- Propel Labs to promote Research Interest among the Students have been set up
- The Industry Interaction Cell facilitates exchange of ideas amongst students, faculty, and the industry.

BMSCE boasts of a very strong Alumni Network. The alumni have created endowment fund and providing merit scholarship and educational loans to deserving students.

Governance, Leadership and Management

The administration is overseen by the Board of Governors (BOG). Two faculty members (on rotation basis) are included as members of BOG. The BOG approves the strategic plan and budget based on the strategic plan. The strategic plan is developed and executed with the involvement of all stakeholders. The strategic plan and other major documents are uploaded on the college website. The BOG also ratifies the proceedings Academic Council, Finance Committee, disciplinary & others. The college works are delegated to individuals and committees both statutory and non-statutory. The committees comprise of key stakeholders. The diversity in the composition of the committees helps in making pragmatic decisions. The Head of the Departments are members of the Academic Council and College Council where major Academic/Administrative decisions are being addressed. As part of the Departmental Academic Committee [DAC], the faculties provide their inputs on all academic related matters.

The Governance Document outlines the responsibilities of the Committees and functionaries of the Committee. The management has devised the policy of rotation of head of the departments to groom next in line to lead the department. Many senior faculty members occupy pivotal positions like the Vice-Principal, Deans, Controller of Examination, Chief coordinator-IQAC, Placement Officer, Hostel Secretaries, Wardens, etc., The grievances (if any) of students and parents are duly redressed through grievance Redressal Cell (GRC). The Management has adopted Karnataka State Civil Service Rules [KCSR] and AICTE norms for governing service benefits, recruitment and others. Decentralized functioning empowers the departments to function with greater flexibility. The Board of Appointments nominated by BOG ensures that the recruitment process is done in transparent manner adhering to the applicable recruitment norms and Reservation Roster. The institution has an effective performance appraisal system. The institution believes that welfare helps in keeping the morale and motivation of the employees. High retention rate of faculty and staff can also be attributed to extensive staff welfare measures. Internal and External Academic and financial audits are conducted on regular basis. Well established online feedback mechanism is in place. Regular academic and financial audit (both internal and external) are conducted.

Institutional Values and Best Practices

The institution has created favorable atmosphere to women staff and girl students. Various committees are in place to empower women faculty and students. The BMSCE Women Cell has created Gender Equity Policy and regularly conducts gender equity and empowerment programmes and also facilitates conduction of annual external gender audit. Gender sensitive infrastructure and support measures/facilities are in place.

The college has implemented alternate sources of energy viz., solar energy, sensor-based energy conservation, use of LED bulbs / Power Efficient Equipment and other measures.

BMSCE is certified for ISO 14001 – Environmental Management Systems. Degradable and non-degradable waste viz., solid waste, Liquid waste, Biomedical waste and e-waste is disposed as per norms either by disposal or recycling keeping in view its impact on the environment. E-Waste is being disposed in accordance with E waste management rules and liquid waste through Sewage treatment plant. The liquid waste after treatment is reused for gardening purpose. The Chemical Waste is stored and disposed through authorized agencies. The hazardous and radioactive waste is disposed through SPCB authorized hazardous waste recycling/disposal units.

Water conservation facilities is in the form of Rain water harvesting, waste water re-cycling, tanks and other measures. The campus is having two Rainwater Harvesting Tanks. One of 1,00,000 litres capacity and the other of 1,25,000 litres capacity. The water collected is used for gardening and tap water purposes. Green Audit and Energy Audit of the campus are regularly done.

The Institute organizes national festivals and birth / death anniversaries of the great personalities viz., social reformers and freedom fighters. The Institution conducts multiple extension activities like tree plantation, Swach Bharath Abhiyaan, Voter Awareness and electoral literacy etc. The NSS, NCC, Rotoract Clubs, ELC have become institutional distinctiveness in terms of their contribution and the number of awards they have received.

With an aim to take care of the day to day needs of differently abled students at the college, Internal Committee for the Student with Disabilities (ICSD) is established. Apart from infrastructure and other support measures. The differently abled students are extended two merit scholarships of Rs.20,000/- every year.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	B.M.S.COLLEGE OF ENGINEERING
Address	P.O. Box No. 1908, Bull Temple Road, Bengaluru 560019
City	Bengaluru
State	Karnataka
Pin	560019
Website	www.bmsce.ac.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	Bheemsha	9180-26622130	9845942068	9180-266143 57	principal@bmsce.a c.in
IQAC / CIQA coordinator	Shambhavi B R	9180-26622135	9886784959	9180-266143 57	iqac@bmsce.ac.in

Status of the Institution	
Institution Status	Private , Grant-in-aid and Self Financing

Type of Institution	
By Gender	Co-education
By Shift	Regular Day

Recognized Minority institution	
If it is a recognized minority institution	No

Establishment Details	
Date of Establishment, Prior to the Grant of	14-08-1946

'Autonomy'	
Date of grant of 'Autonomy' to the College by UGC	01-01-1970

University to which the college is affiliated		
State	University name	Document
Karnataka	Visvesvaraya Technological University	View Document

Details of UGC recognition		
Under Section	Date	View Document
2f of UGC	31-05-2018	View Document
12B of UGC	31-05-2018	View Document

Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)				
Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
AICTE	View Document	11-06-2023	12	The details of AICTE approval pertaining to the year Two Thousand Twenty Three is being provided
AICTE	View Document	11-06-2023	12	The details of AICTE approval pertaining to the year Two Thousand Twenty Three is being provided
AICTE	View Document	11-06-2023	12	The details of AICTE approval pertaining to the year Two Thousand Twenty Three is being provided
AICTE	View Document	11-06-2023	12	The details of AICTE approval pertaining to the year Two Thousand Twenty Three is being provided
AICTE	View Document	11-06-2023	12	The details of AICTE approval pertaining to the year Two Thousand Twenty Three is being provided

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

Location and Area of Campus				
Campus Type	Address	Location*	Campus Area in Acres	Built up Area in sq.mts.
Main campus area	P.O. Box No. 1908, Bull Temple Road, Bengaluru 560019	Urban	11.3	98545.07

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Programme/ Course	Duration in Months	Entry Qualification	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BE,Civil Engineering,	48	PUC	English	120	114
UG	BE,Mechanical Engineering,	48	PUC	English	120	120
UG	BE,Chemical Engineering,	48	PUC	English	60	44
UG	BE,Electronics And Communication Engineering,	48	PUC	English	276	275
UG	BE,Electrical And Electronics Engineering,	48	PUC	English	60	59
UG	BE,Information Science And	48	PUC	English	207	207

	Engineering,					
UG	BE,Electronics And Instrumentation Engineering,	48	PUC	English	60	59
UG	BE,Medical Electronics,	48	PUC	English	60	59
UG	BE,Industrial Engineering And Management,	48	PUC	English	60	59
UG	BE,Computer Science And Engineering,	48	PUC	English	276	276
UG	BE,Aerospace Engineering,	48	PUC	English	60	60
UG	BE,Electronics And Telecommunication Engineering,	48	PUC	English	60	60
UG	BE,Biotechnology,	48	PUC	English	60	58
UG	BE,Artificial Intelligence And Machine Learning,	48	PUC	English	138	138
UG	BE,Artificial Intelligence And Data Science,	48	PUC	English	60	60
UG	BE,Computer Science And Engineering Data Science,	48	PUC	English	60	60
UG	BE,Computer Science And	48	PUC	English	60	60

	Engineering Internet Of Things And Cyber Security Including Block Chain Techn,					
UG	BE,Computer Science And Business Systems,	48	PUC	English	60	60
PG	Mtech,Civil Engineering, Construction Technology	24	BACHELOR OF ENGINE ERING	English	18	17
PG	Mtech,Civil Engineering, Environment al Engineering	24	BACHELOR OF ENGINE ERING	English	18	16
PG	Mtech,Civil Engineering, Transportatio n Engineering and Management	24	BACHELOR OF ENGINE ERING	English	18	14
PG	Mtech,Mech anical Engine ering,Machin e Design	24	BACHELOR OF ENGINE ERING	English	18	15
PG	Mtech,Electr onics And Co mmunication Engineering, Electronics	24	BACHELOR OF ENGINE ERING	English	18	11
PG	Mtech,Electr onics And Co mmunication Engineering, VLSI and	24	BACHELOR OF ENGINE ERING	English	24	24

	Embedded Systems					
PG	Mtech,Electronics And Communication Engineering, Digital Communications	24	BACHELOR OF ENGINEERING	English	18	5
PG	Mtech,Electrical And Electronics Engineering,Power Electronics	24	BACHELOR OF ENGINEERING	English	18	12
PG	Mtech,Information Science And Engineering, Computer Networking and Engineering	24	BACHELOR OF ENGINEERING	English	18	11
PG	Mtech,Medical Electronics ,Biomedical Signal Processing and Instrumentation	24	BACHELOR OF ENGINEERING	English	18	4
PG	Mtech,Computer Science And Engineering,Computer Science and Engineering	24	BACHELOR OF ENGINEERING	English	18	15
PG	MCA,Master s In Computer Applications,	24	BACHELOR OF ENGINEERING	English	60	60
PG	MBA,Master Of Business Administrati	24	BACHELOR OF ENGINEERING	English	120	120

	on,					
Doctoral (Ph.D)	PhD or DPhil,Civil Engineering,	72	MASTERS DEGREE IN ENGINEERING	English	120	57
Doctoral (Ph.D)	PhD or DPhil ,Mechanical Engineering,	72	MASTERS DEGREE IN ENGINEERING	English	144	35
Doctoral (Ph.D)	PhD or DPhil ,Chemical Engineering,	72	MASTERS DEGREE IN ENGINEERING	English	24	4
Doctoral (Ph.D)	PhD or DPhil ,Electronics And Communication Engineering,	72	MASTERS DEGREE IN ENGINEERING	English	124	72
Doctoral (Ph.D)	PhD or DPhil ,Electrical And Electronics Engineering,	72	MASTERS DEGREE IN ENGINEERING	English	56	31
Doctoral (Ph.D)	PhD or DPhil ,Information Science And Engineering,	72	MASTERS DEGREE IN ENGINEERING	English	44	13
Doctoral (Ph.D)	PhD or DPhil ,Industrial Engineering And Management,	72	MASTERS DEGREE IN ENGINEERING	English	20	5
Doctoral (Ph.D)	PhD or DPhil ,Computer Science And Engineering,	72	MASTERS DEGREE IN ENGINEERING	English	96	56
Doctoral (Ph.D)	PhD or DPhil,Master s In Computer Ap plications,M CA	72	MASTERS DEGREE IN ENGINEERING	English	16	2

Doctoral (Ph.D)	PhD or DPhil ,Mathematics ,	72	MASTERS DEGREE IN ENGINEERING	English	52	13
Doctoral (Ph.D)	PhD or DPhil,Physics,	72	MASTERS DEGREE IN ENGINEERING	English	32	7
Doctoral (Ph.D)	PhD or DPhil ,Chemistry,	72	MASTERS DEGREE IN ENGINEERING	English	48	12
Doctoral (Ph.D)	PhD or DPhil ,Electronics And Telecommunication Engineering,	72	MASTERS DEGREE IN ENGINEERING	English	32	4
Doctoral (Ph.D)	PhD or DPhil ,Biotechnology,	72	MASTERS DEGREE IN ENGINEERING	English	28	6
Doctoral (Ph.D)	PhD or DPhil,Master Of Business Administration,MBA	72	MASTERS DEGREE IN ENGINEERING	English	36	22

Position Details of Faculty & Staff in the College

Teaching Faculty												
	Professor				Associate Professor				Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	21				16				16			
Recruited	17	4	0	21	7	9	0	16	11	5	0	16
Yet to Recruit	0				0				0			
Sanctioned by the Management/Society or Other Authorized Bodies	54				39				236			
Recruited	24	30	0	54	20	19	0	39	120	116	0	236
Yet to Recruit	0				0				0			

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				18
Recruited	12	6	0	18
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				141
Recruited	75	66	0	141
Yet to Recruit				0

Technical Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				32
Recruited	32	0	0	32
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				157
Recruited	97	60	0	157
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	41	34	0	20	26	0	76	64	0	261
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	5	4	0	52	60	0	121
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	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

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

Details of Visting/Guest Faculties					
Number of Visiting/Guest Faculty engaged with the college?	Male		Female	Others	Total
		37	32	0	

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

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
UG	Male	897	274	77	0	1248
	Female	504	90	30	0	624
	Others	0	0	0	0	0
PG	Male	149	18	1	0	168
	Female	155	8	1	0	164
	Others	0	0	0	0	0
Doctoral (Ph.D)	Male	17	0	0	0	17
	Female	30	0	0	0	30
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years					
Category		Year 1	Year 2	Year 3	Year 4
SC	Male	78	81	87	100
	Female	55	55	59	54
	Others	0	0	0	0
ST	Male	18	20	17	17
	Female	10	9	6	18
	Others	0	0	0	0
OBC	Male	164	226	214	243
	Female	90	113	131	148
	Others	0	0	0	0
General	Male	784	920	745	981
	Female	516	399	411	530
	Others	0	0	0	0
Others	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
Total		1715	1823	1670	2091

2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

Department Name	Upload Report
Aerospace Engineering	View Document
Artificial Intelligence And Data Science	View Document
Artificial Intelligence And Machine Learning	View Document
Biotechnology	View Document
Chemical Engineering	View Document
Chemistry	View Document
Civil Engineering	View Document
Computer Science And Business Systems	View Document
Computer Science And Engineering	View Document
Computer Science And Engineering Data Science	View Document
Computer Science And Engineering Internet Of Things And Cyber Security Including Block Chain Techn	View Document
Electrical And Electronics Engineering	View Document
Electronics And Communication Engineering	View Document
Electronics And Instrumentation Engineering	View Document
Electronics And Telecommunication Engineering	View Document
Industrial Engineering And Management	View Document
Information Science And Engineering	View Document
Master Of Business Administration	View Document
Masters In Computer Applications	View Document
Mathematics	View Document
Mechanical Engineering	View Document
Medical Electronics	View Document
Physics	View Document

Institutional preparedness for NEP

1. Multidisciplinary/interdisciplinary:	The Government of India announced the National Education Policy – 2020 in July 2020. Covering all levels of education – The policy emphasises multi-
---	--

	<p>disciplinary approach, faculty and institutional autonomy, governance reforms, enhancing access through credit mobility, open and digital learning environment and skill development. To formulate perspective and strategies to be adopted phase-wise implementation of the policy, a committee comprising of senior academicians was constituted at the institution level. The committee had regular meetings wherein needs and targets were framed. Numerous workshops, webinars, seminars relating implementation of NEP 2020 are regularly conducted. One of the key changes is moving towards a more multidisciplinary undergraduate education. Multidisciplinary projects in engineering are vital for addressing complex real-world challenges, fostering creativity, improving efficiency, and enhancing interdisciplinary skills. Open elective courses inculcate interdisciplinary approach among UG and PG students. Provision has been made to carryout project in final year of UG program with a team of two to four members from different departments with mutual consensus between the guides and departments. It is allowed to carry out the project with common guidelines for assessment to be adopted by the departments. Ex: Department of Bio-Technology and Information science have facilitated projects during academic year 2022-23.</p>
<p>2. Academic bank of credits (ABC):</p>	<p>One of the essential steps of enabling ABC is registration of the Institution on the NAD portal. The office of Controller of Examination (CoE) has completed the registration process on NAD. Consequently students (NEP 2021-22 batch onwards) have registered for Academic Bank of Credits (ABC IDs). The list of student ABC IDs are shared with the affiliated University for further processing. The office of COE office is working towards uploading of results to the NAD portal.</p>
<p>3. Skill development:</p>	<p>Skill Labs on cutting edge technologies have been setup to provide platform for students to apply theoretical concepts, develop technical proficiency, foster creativity, and gain practical experience, making them better prepared for successful careers in engineering. About eighty percent of the courses in each program is focused towards employability, entrepreneurship and imparting technical skills. BMSCE also promotes skill development sessions and programmes as a capacity building measure.</p>

	<p>Training in various disciplines of skill development includes soft skills, life skills, ICT skills, language skills, competitive training, and entrepreneurship. During the year 2022-23, a total of 37 skill development programmes / activities were conducted across departments for the benefit of students and research scholars. With an aim to provide practical exposure to the concepts and latest technology, value added courses are offered. During the assessment period, more than 70 such courses were organised. More than 5000 students successfully completed MOOC courses, to upskill themselves.</p>
4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):	<p>The course on Universal human values is taught in first year as a part of the curriculum. This course highlights the value system for every student for a better quality of life.</p>
5. Focus on Outcome based education (OBE):	<p>Since 2013, institute is on the forefront of practicing Outcome Based Education (OBE). This was one of the requirements to get in NBA accreditation of Tier-1 Institute. The curriculum adheres to OBE principles while implementing course content, instructional methods and assessment strategies. Holistic education, experiential learning, digital integration and multidisciplinary approach as envisaged by NEP 2020 is adopted. Course outcomes are defined for every course. Qualitative Teaching Learning process is practiced to meet the course outcomes. Continuous improvement in every aspect of the Teaching Learning Process is the key aspect of OBE. Regular academic audits are conducted to maintain quality standards in TLP.</p>
6. Distance education/online education:	<p>High-quality ODL and online courses are beneficial to the students and provide opportunity for life-long learning. Efforts towards offering such courses in collaboration with the industry are being initiated by the institution. The state-of-the-art e-Studio has been established to create e-content.</p>

Institutional Initiatives for Electoral Literacy

1. Whether Electoral Literacy Club (ELC) has been set up in the College?	<p>With an aim to sensitise the faculty, students and community on their electoral rights and familiarise them with the electoral process of registration and</p>
--	---

	<p>voting and more-so on strengthening the culture of electoral participation among young future voters, the institution constituted Electoral Literacy Club (ELC) on 01.04.2023. Prior to this, the initiatives of electoral literacy were conducted through NSS unit of the College. The Institutional Electoral Literacy Club (ELC) has the following composition</p> <ol style="list-style-type: none"> 1. Dr. Suresh Ramaswamy Reddy, Vice-Principal (Academics) 2. Dr. Bheemsha, Vice-Principal (Administration) 3. Dr. K.J.Rathanraj, Dean (Student Affairs) 4. Dr. B.R.Shambhavi, Chief Co-ordinator, IQAC 5. Dr. N.Sujatha, NSS Programme Co-ordinator 6. Smt. M.G.Geethalakshmi – Suptd. Establishment Section 7. Smt. G.Shubhavathi – Suptd. Academic Section 8. Student Representatives
<p>2. Whether students' co-ordinator and co-ordinating faculty members are appointed by the College and whether the ELCs are functional? Whether the ELCs are representative in character?</p>	<p>Yes, the ELC has both faculty and student coordinators nominated by the Head of the Institution. The ELC especially identifies the new voters (in the age group of 18-21 years old) with aim to strengthen the culture of electoral participation among young and future voters. The ELC is fully active. The following are some of the initiatives taken by the ELC.</p> <ul style="list-style-type: none"> ? To educate the students about voter registration, electoral process and related matters. ? To familiarize the students about robustness of EVM and integrity of the electoral process using EVMs. ? To conduct more awareness programs and promotional activities in communities to help understand the value of their vote to ensure that they exercise their right in a confident, comfortable and ethical manner. ? To facilitate voter registration (through numerous registration drives) for all the eligible students who are not yet enrolled ? To develop a culture of electoral participation and maximize informed and ethical voting and follow the principle 'Every Vote Counts'
<p>3. What innovative programmes and initiatives undertaken by the ELCs? These may include voluntary contribution by the students in electoral processes-participation in voter registration of students and communities where they come from, assisting district election administration in conduct of poll, voter awareness campaigns, promotion of ethical voting, enhancing participation of the under privileged sections of society especially transgender, commercial sex workers, disabled persons, senior citizens, etc.</p>	<p>a) Right to Vote – Community Voting awareness campaigns to promote Ethical Voting b) Support measures to voting among differently abled and senior citizens c) Faculties, technical and administrative staff members attend to election duties and play crucial role in conduct of elections.</p>

<p>4. Any socially relevant projects/initiatives taken by College in electoral related issues especially research projects, surveys, awareness drives, creating content, publications highlighting their contribution to advancing democratic values and participation in electoral processes, etc.</p>	<p>The ELC promoted the culture of Electoral participation content creation and digital advertising. Numerous voter registration drives, promotional activities in communities are conducted.</p>
<p>5. Extent of students above 18 years who are yet to be enrolled as voters in the electoral roll and efforts by ELCs as well as efforts by the College to institutionalize mechanisms to register eligible students as voters.</p>	<p>A Google form was distributed with the aim to determine the number of students who are registered as voters. Out of the 2578 responses received, 1658 students had confirmed their registration. Out of 920 unregistered students 530 were registered through the continuous efforts of ELC members along with Student Voter Ambassadors identified for each department. 45 faculty members served performed polling duties for Karnataka State Legislative Assembly elections 2023 and 81 faculty members are assigned with the polling duties for the Lok Sabha Elections 2024.</p>

Extended Profile

1 Students

1.1

Number of students on rolls year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
7590	7270	6938	6206	5880
File Description		Document		
Provide Links for any other relevant document		View Document		
Institutional data in the prescribed format (data		View Document		

1.2

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

2022-23	2021-22	2020-21	2019-20	2018-19
1869	1613	1385	1358	1347
File Description		Document		
Provide Links for any other relevant document		View Document		
Institutional data in the prescribed format (data		View Document		

2 Teachers

2.1

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

2022-23	2021-22	2020-21	2019-20	2018-19
382	366	358	355	345
File Description		Document		
Provide Links for any other relevant document		View Document		
Institutional data in the prescribed format		View Document		
Certified list of full time teachers		View Document		

2.2

Total number of full time teachers worked/working in the institution (without repeat count) during last five years:

Response: 456

File Description	Document
Provide Links for any other relevant document	View Document
Institutional data in the prescribed format	View Document

3 Institution

3.1

Total expenditure excluding salary year wise during the last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
4591.28	2848.32	3560.74	5348.20	1754.07
File Description		Document		
Provide Links for any other relevant document		View Document		
Other Upload Files				
1		View Document		

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, regional, national, and global developmental needs, which is reflected in the Programme outcomes (POs) and Course Outcomes(COs) of the Programmes offered by the institution

Response:

Factors for curriculum design:

The curriculum is designed such that the students acquire domain knowledge, skills and right attitude. The factors considered are: (i) Model curriculum prescribed by AICTE, (ii) Curricular structure of VTU, (iii) The program specific criteria of professional bodies, (iv) Suggestions by industry experts, alumni and other stakeholders (v) Syllabus for various competitive exams (vi) Syllabus of various reputed Indian and international universities, (vii) Recent technological developments in the respective domain.

Relevance of curricula to the local/ national/ regional/global developmental needs

There are several courses in every programme which address societal needs and provide solutions to real-time problems. The project component gives leverage to the students to take up industry defined problems. In tune with the national and global needs, the institute has introduced new programmes in the emerging areas such as Internet of Things, Data Science, Data Analytics, Cyber Security, Artificial Intelligence and Machine Learning, Cyber Physical Systems and others. Courses imparting managerial and entrepreneurship skills are also offered. Computer language like Python is offered as mandatory course for all engineering programs with an aim to enhance employability skills of the students.

Courses on environment and sustainability are offered to create awareness and develop sustainable solutions. Mandatory courses such as Yoga, physical education and NSS under NCMC (non-credit mandatory course) help overall development of the students and enthuse them to take up activities impacting the society.

Addressing POs through the Curriculum:

The curriculum design process includes the type of courses to be offered, the number of electives, curricular structure along with details of the course title and content. For each course, 4-6 Course Outcomes (COs) are defined which shall map with Program Outcomes (POs) as stated by NBA and the Program Specific Outcomes (PSOs) as defined by the program. It is ensured that the CO-PO mapping of the various core-courses of the curriculum is such that every PO is addressed by a minimum of two courses. Effective curriculum design covers the COs of various courses, assessment tools to measure COs, strength of CO-PO mapping and CO-PSO mapping. An effective implementation of Outcomes Based Education (OBE) ensures that graduates have addressed all the 12 POs and global Graduate

Attributes (GA), thus enabling them to compete on global platform. Specific to each program, 3-5 Program Educational Objectives (PEOs) are defined which are measured through the performance of the alumni after 3-4 years of graduation.

Process for Curriculum Design:

The Department Advisory Board (DAB) gives inputs about recent issues and trends of the discipline, both within the country and across the globe, to be incorporated in the curricular design. The curriculum is also prepared by involving all the stakeholders. Further, the draft curriculum is placed before Board of Studies (BOS) for scrutiny and consideration. BOS also suggest methodologies for innovative teaching and evaluation techniques. The Academic Council finally approves the curriculum. The academic autonomy of the Institution provides the opportunity to frequently revise the curriculum based on needs and suggestions of various stake holders.

File Description	Document
Upload Additional information	View Document
Provide Link for Additional information	View Document

1.1.2

The programmes offered by the institution focus on employability/ entrepreneurship/ skill development and their course syllabi are adequately revised to incorporate contemporary requirements

Response:

The curriculum offered by each programme lays strong emphasis on employability, entrepreneurship and skill development to make the students industry ready and meet the demands of the job market. New courses on emerging technologies, like data science, artificial intelligence, IoT, blockchain, etc which are crucial to career goals of the students have been introduced during the assessment period. The curriculum revision ensures that course syllabi is aligned with contemporary requirements and industry standards. For example: Mechanical department offers Digital Twin and Ideation course as ability enhancement course. It provides hands-on experience and fosters creative ideation, ensuring students develop the essential skills needed to solve real-world problems.

The programmes emphasise on critical thinking, problem solving and industry specific technical skills. Around eighty percent of the courses in each programme is focussed towards improving employability and technical skill of the students. The courses are offered as professional core or elective. Exclusive training and workshops on employability skills are regularly conducted. Every department organizes 3 to 4 value added courses in an year for students to improve their skillset from the perspective of employability. This in-turn enhances internship opportunity and also hands-on training experience. The feedback from stakeholders viz., students, alumni, employers, teachers are conducted to assess the effectiveness of the Programs and gather input for further improvement.

With an aim to inculcate entrepreneurial skillsets, courses like “Management and Entrepreneurship”, “Innovation for Entrepreneurship”, “Entrepreneurship and IPR”, “Business Models for Entrepreneurship” are offered to 3rd and 4th year students across all programmes. These courses include case studies of entrepreneurs, start-up India schemes, art of writing business plans, challenges for women entrepreneurs, Entrepreneurial innovation and related topics. The Institute Innovation Council (IIC) strives to create an ecosystem that foster entrepreneurial spirit among faculty and students and also offer mentorship to translate ideas into products and services that cater to the needs of the society. IIC organise various talks, bootcamps, webinars that facilitate innovation and creativity leading to start-up ideas. B M Sreenivasaiah Innovators Guild (BIG) Foundation, a Section-8 company promoted by BMSET, provides platform for innovation, incubation, research, consultancy and entrepreneurship. Through its endeavours, BIG has successfully supported in bringing out 11 start-ups, 1 VC investment, 3 innovation grant from government organizations.

The curriculum is well balanced with Humanities, Social Science, Basis Sciences, Engineering Sciences, Professional Core courses and Open Elective courses. The open elective courses is aimed to inculcate an interdisciplinary approach among undergraduate students in professional degree. Student groups across varied disciplines execute interdisciplinary projects.

Soft Skill training for 4th & 6th semester students is facilitated through training and placement cell. Programming language like C programming/Web programming/ Python programming are taught to first year students to enhance coding skills. The AICTE and University has mandated that students shall earn 100 Activity Points during the course of their study for the award of degree. Wide range of activities like technical, entrepreneurship, leadership and soft skill and socially relevant activities are performed by students which also support their holistic development.

File Description	Document
Upload Additional information	View Document

1.2 Academic Flexibility

1.2.1

Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years

Response: 34.06

1.2.1.1 Number of new courses introduced during the last five years:

Response: 658

1.2.1.2 Consolidated number of courses offered by the institution across all Programmes (without repeat count) during the last five years :

Response: 1932

File Description	Document
Subsequent Academic Council meeting extracts endorsing the decision of BOS	View Document
Minutes of Board of Studies meeting clearly specifying the syllabus approval of new courses	View Document
Institutional data in the prescribed format (data template)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

1.3 Curriculum Enrichment

1.3.1

Institution integrates cross-cutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability and other value framework enshrined in Sustainable Development Goals and National Education Policy – 2020 into the Curriculum

Response:

With an aim to provide students a strong value-based holistic education and threading the lines of Sustainable Development Goals (SDG) and the National Education Policy (NEP) 2020, courses relevant to professional ethics, gender equality, human values, environmental sustainability, and other aspects have been offered across disciplines. To supplement the curriculum, numerous co-curricular activities are organized throughout the year for the benefit of the students.

Courses on professional ethics and human values is addressed through the following courses

- Universal Human Values (UHV) is a common course mandatorily offered to 2nd year UG students. Essential components of professional ethics viz., human values, honesty, compassion, tolerance are addressed. The course is handled by AICTE certified faculty member.
- Constitution of India and Professional Ethics is another common course offered during the first year of each UG programme. A dedicated unit covering engineering ethics, professional responsibility, and related case studies are offered.
- In addition, there are discipline specific course on professional ethics being taught. For example, Biotechnology for Society, Bioethics Biosafety & IPR by Biotechnology; Law for Engineers, Construction Project Management, Finance & Professional Ethics by Civil Engineering; Project Management and Finance, IPR & Cyber Law by Electrical Cluster; Value Engineering by Industrial Engineering & Management; Cyber Law for Engineers by Information Science Engineering; Business Government and Society by MBA; Cyber Regulations and Professional Ethics by MCA; Intellectual Property Rights by Mechanical Engineering; Corporate Law, IT law, Property Law as Open Electives; Construction and Contract Management by M.Tech. - Civil

Engineering.

Courses on environment and sustainability:

The curriculum includes various courses that adhere to SDG framework for addressing environmental challenges and promoting sustainability. A common course on Environmental Studies is included in the first year of UG curriculum. In addition, individual programs also have additional courses to address Environment and Sustainability.

Ecology & Environmental Management by Biotechnology; Environmental Studies & Pollution Control, Advances in Energy Technology, Biological Waste Water Treatment, Bioenergy, Safety Management in Bioprocess Industry by Chemical Engineering; Solid Waste Management, Industrial Waste Water Treatment, Environmental Impact Assessment, Environmental Engineering, Atmospheric Environmental Pollution and Control, Hazardous Waste Management, Air Pollution, Sustainable Construction by Civil Engineering; Green Computing by Computer Science & Information Science Engineering; Sustainable Practices in Electrical Engineering by Electrical Engineering; Electronics and Communication for Sustainable Development by Electronics and Communication Engineering; Micro-Sensing Networks for Sustainable cities by Electronics and Instrumentation Engineering; Renewable Energy and Sustainability by Mechanical Engineering; Sustainable Telecommunication Networks by Electronics and Telecommunication Engineering are the courses offered to address environment and sustainability. Few departments also offer open electives like Sustainability and Life Cycle Assessment, Sustainable Health with Technological Advances for benefit of all students.

The institution has created favourable atmosphere to women staff and girl students. The institution has in place various statutory & non-statutory committees and measures towards empowerment of girl students. The BMSCE Women Cell regularly conducts numerous gender equity and empowerment programmes. Annual external Gender audit is conducted to ascertain the impact of the gender equity policies and propose new gender specific initiatives.

File Description	Document
Upload Additional information	View Document

1.3.2

Number of certificate/value added courses/Diploma Programmes offered by the institutions and online courses of MOOCs, SWAYAM/e-PG Pathshala/ NPTEL and other recognized platforms (without repeat count) where the students of the institution have enrolled and successfully completed during the last five years.

Response: 1519

File Description	Document
List of students and the attendance sheet for the above mentioned programs	View Document
Institutional programme brochure/notice for Certificate/Value added programs with course modules and outcomes	View Document
Institutional data in the prescribed format (data template)	View Document
Evidence of course completion, like course completion certificate etc	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

1.3.3

Percentage of programmes that have components of field projects / research projects / internships during the last five years.

Response: 90.91

1.3.3.1 Total Number of programmes that have components of field projects / research projects / internships (without repeat count) during the last five years

Response: 30

1.3.3.2 Total Number of programmes offered (without repeat count) during the last five years

Response: 33

File Description	Document
Sample Internship completion letter provided by host institutions	View Document
Sample Evaluated project report/field work report submitted by the students	View Document
Provide the relevant information in institutional website as part of public disclosure	View Document
Program and course contents having element of field projects / research projects / internships as approved by BOS	View Document
Institutional data in the prescribed format (data template)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

1.4 Feedback System

1.4.1

Structured feedback for curriculum and its transaction is regularly obtained from stakeholders like Students, Teachers, Employers, Alumni, Academic peers etc., and Feedback processes of the institution may be classified as follows:

Response: A. Feedback collected, analysed, action taken & communicated to the relevant bodies and feedback hosted on the institutional website

File Description	Document
Feedback analysis report submitted to appropriate bodies	View Document
At least 4 filled-in feedback form from different stake holders like Students, Teachers, Employers, Alumni etc.	View Document
Action taken report on the feedback analysis	View Document
Link of institution's website where comprehensive feedback, its analytics and action taken report are hosted	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1

Enrolment percentage

Response: 88.25

2.1.1.1 Number of seats filled year wise during last five years (Only first year admissions to be considered)

2022-23	2021-22	2020-21	2019-20	2018-19
2095	1670	1817	1744	1849

2.1.1.2 Number of sanctioned seats year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
2217	2106	2180	1879	2015

File Description

Document

Provide the relevant information in institutional website as part of public disclosure

[View Document](#)

Institutional data in the prescribed format (data template)

[View Document](#)

Final admission list as published by the HEI and endorsed by the competent authority

[View Document](#)

Document relating to sanction of intake as approved by competent authority

[View Document](#)

2.1.2

Percentage of seats filled against reserved categories (SC, ST, OBC etc.) as per applicable reservation policy for the first year admission during the last five years

Response: 79.22

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

2022-23	2021-22	2020-21	2019-20	2018-19
580	514	495	415	421

2.1.2.2 Number of seats earmarked for reserved category as per GoI/State Govt. rule year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
687	555	569	563	687

File Description	Document
Provide the relevant information in institutional website as part of public disclosure	View Document
Institutional data in the prescribed format (data template)	View Document
Final admission list indicating the category as published by the HEI and endorsed by the competent authority.	View Document
Copy of the letter issued by the State govt. or Central Government Indicating the reserved categories(SC, ST, OBC, Divyangjan, etc.) to be considered as per the state rule (Translated copy in English to be provided as applicable)	View Document

2.2 Catering to Student Diversity

2.2.1

The institution assesses the learning levels of the students and organises special Programmes to cater to differential learning needs of the student

Response:

The institution organises orientation programme for the newly enrolled students. This two-week programme highlights various aspects of the course and also orients the students of the specific attributes that are expected of them. The Learning levels of the students are assessed based on performance in internal tests, semester end exams, lab tests and attendance. Informal assessments in theory classes and labs also help teachers to gauge students' learning ability. Remedial Classes are conducted with an aim to improve the academic performance of the slow learners. The proctors mentor the slow learners

through regular interaction and counselling. They also suggest the right approach required to approach different courses offered. For the students admitted through lateral entry system (diploma holders joining the second-year engineering course), the college offers special coaching, bridge programmes and peer guidance. Fast-track semester is conducted after even semester as an additional opportunity to help the students avoid losing an academic year. Previous year question papers and question banks for all courses are provided for reference. The placement office organize soft and communication skills hands-on workshops to improve the presentation skills of the students.

The advanced learners are encouraged to contribute as members of professional bodies like IEEE, ACM, ISA etc. They actively participate in hands-on-training on new technologies and concepts through workshops, seminars, value add courses handled by experts from industries and institutes of higher learning. With an aim to develop curiosity in innovation, design and develop prototypes and demonstration, the institution has developed propel (self-learning) labs in Robotics, Aerospace, 3D Printing, Automotive and Fatigue Labs. They are also encouraged to participate in student competitions like Phase Shift, iACT, National Automation Games, Hackathons, etc. Innovators Guild Foundation (BIG Foundation) provides platform for innovation, incubation, research, consultancy and entrepreneurship. The Institution Innovation Council (IIC), BMSCE conducts annual workshop to create awareness about design thinking, patent filing, ideation to productization. As part of the workshop, students and researchers are encouraged to submit their ideas. The selected ideas are awarded SEED MONEY to take their proposals forward.

Meritorious students from each discipline are provided with a scholarship of Rs. 20000/- along with a certificate of merit. They are also encouraged to enrol for VTU honours degree. With an aim to motivate students to take up competitive exams or pursue higher studies after their graduation, an exclusive Competitive Examination & Higher Studies Cell has been established. The Cell regularly conducts awareness lectures on GATE, Civil services, GRE, ToEFL, IELTS and International admissions.

Alternate assessment tools, seminars and project presentations result in better learning of concepts. Students with good academic record are encouraged to take up NPTEL or MOOC certificate courses in domains of their choice. The advanced learners are invited to BOG, Academic Council, IQAC and other committee meetings and their views are considered while initiating new courses, curriculum framing, institutional audit etc. External and internal academic audits are conducted on regular basis to review the academic progression of students.

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

2.2.2

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

Response: 19.87

File Description	Document
List showing the number of students in each of the programs for the latest completed academic year across all semesters	View Document
Certified list of full time teachers along with the departmental affiliation in the latest completed academic year.	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 experience and teachers use ICT- enabled tools including online resources for effective teaching and learning process

Response:

The faculties adopt numerous student centric methods for enhancing the learning experience of the students.

Experiential Learning

- Field/Industrial visits – Industrial visits are undertaken which offer opportunities to connect academic theories to practical applications.
- Capstone Projects – Students showcase their cumulative learning experiences in the final year of study through capstone projects which requires critical thinking, decision making and team work resulting in community engagement or seeking solutions for societal issues.
- Mini-projects – During the second and third year of study, students execute mini-projects as part of the alternate assessment in few specific courses. Multi-disciplinary projects are encouraged across departments.
- Student Club activities – The numerous technical clubs of the institute provide an excellent platform for developing competencies in event planning, logistics management, teamwork, etc.

Participative Learning

- Lectures and Lab sessions – group discussion, Think-pair-share, online polls, class quizzes, Q&A sessions, case studies, role play, simulations, virtual labs etc enhance student engagement in class and lab sessions.
- Guest lectures – Students are exposed to real-world expertise, networking opportunities and practical insights of a course through guest lectures delivered by subject matter experts and industry personnel.

- Skill Building Workshops & Value-added courses – Content beyond the syllabus is offered to foster better practical skills relevant to respective engineering stream.
- Peer Learning – This collaborative learning has been effectively adopted to build a positive learning environment in classrooms.
- Student Seminars: The students regularly participate in seminars wherein papers are presented on technical topics to enrich their learning experience.

Problem solving Methodologies

- Tutorial Sessions – These sessions (at least one in every semester) are designed to help students develop problem-solving through practice and guided learning.
- Computational Thinking – Computational thinking is applicable to all engineering streams which helps students approach a problem in a systematic way, promoting effective decision making.
- Flipped Classroom – In this instructional strategy, classroom time is dedicated to problem solving exercises leading to effective collaboration among peers.
- Hackathon/Codethon Activities - The technical clubs organise many coding sessions and competitions to tackle real world problems within a limited timeframe. Hackathons are used as an assessment tool in courses since this skillset is highly valued in the professional world.
- Competitive Programming – Students are challenged to solve complex algorithmic and computational problems efficiently on competitive coding platforms, which helps them during the placements.
- Usage of Tools – Tools that span a range of domains, from software applications in simulation and analysis to physical tools for measurement and testing are used for engineering problem solving.

Skill Labs: The institution has developed around ten skill development laboratories with an aim to provide the students opportunity for practical application of their innovative skills.

ICT Enabled Teaching: The institution has established state of the art e-studio which focuses on generation of digital content. Other ICT facilities include Smart boards, LCD, Language Lab, seminar hall and auditoriums, digital library, NPTEL Classroom, Video Conferencing and others.

File Description	Document
Upload any additional information	View Document

2.3.2

The institution adopts effective Mentor-Mentee Schemes to address academics and student-psychological issues

Response:

The faculty advisory system (proctor) is in place to help and motivate the students to improve their overall academic performance. A batch of students comprising of 20- 25 students are assigned to each faculty member, nominated by the concerned Head of the Department. The assigned faculty serve as proctor (mentor) throughout the four years of the student's stay in the college. The mentors regularly meet the group of allocated students and continuously monitor, counsel, guide and motivate them in all academic matters. The mentors advise the students regarding choice of electives, projects, Internship, training, etc. The students also discuss with the proctor any other grievances.

The Proctor diary is maintained by the respective proctor in a designated format. A copy is also provided to the student. The proctor diary has complete information about the student's academic progress and related matters. It is a record of personal details, academic performance, Internship, Project work and other achievements of a student. Participation in extra/co-curricular activities, competitions, trainings undergone, deputation to various events, Placement/Higher Studies details are also recorded in the Proctor Diary. It also captures the essence of interactions such as proctor-student meetings and parent-proctor sessions.

The mentor assesses the performance of the students in tests and examinations. The mentor keeps the parents informed about the performance and general behaviour of their wards. The HODs meet all the mentors regularly to review the implementation of the system and provide necessary advice. The mentoring system also helps in identifying slow and advanced learners.

The BMSCE Counselling Cell was established in the year 2016. The Cell helps students with depression, anxiety, stress, relationship problems, OCD and other mental health concerns. Other issues addressed are low self-esteem, lack of study skills, absenteeism, addictions and parental issues of the students. The Cell also conducts health camp for the students and staff to spread awareness about mental health. Inclusion session are conducted to make students aware of how to help other fellow-students who are going through any mental health issues. A Full-fledged and qualified student counsellor Ms. Sneha Harish is available to offer counselling services. Ms. Sneha Harish completed her MSc in Clinical psychology and has been working as student counsellor at BMSCE since 2021. During pandemic, the counsellor gave a talk on how to practice mindfulness during stressful times. Video call consultation was also enabled during this time for the students who were feeling anxious. The centre which is open from 10 am to 5pm on all working days provides accessible counselling in a friendly and non-threatening setting.

File Description	Document
Upload any additional information	View Document
List of Active mentors	View Document

2.3.3***Preparation and adherence of Academic Calendar and Teaching plans by the institution***

Describe the Preparation and adherence to Academic Calendar and Teaching plans by the institution.**Response:**

The Dean (Academics) in consultation with the Principal and Vice-Principal (Academics) prepare the Academic Calendar of the institution. The draft calendar is presented in the College Council for approval. The approved calendar is circulated to the stakeholders and posted on the college website. The calendar of events includes important academic activities to assist the students and the faculty. Calendar includes Course registration, Internal Tests, Quizzes, alternate assessments, course dropping or withdrawal deadlines and last working day of the semester.

Each academic year is divided into semesters, with the calendar, durations and academic activities being scheduled in advance by the college. Every academic year includes THREE semesters. Two regular semesters (Odd, Even) with a minimum of 90 working days per semester. In addition, there is a supplementary/Fast track semester of 8 weeks.

Every semester starts with course registration which is done in online mode. A period of 2-3 days is specifically assigned for this event in the Academic Calendar to enable the students to seek proctor advice, discuss with the course instructors and complete the formalities.

Within the 2 weeks of the commencement of the semester, dropping of courses can be done by the student. This is to assist the students having poor performance to drop the identified course(s) (up to the minimum credits specified for the semester) without being mentioned in the Grade Card. Such Courses to be re-registered by these students will be taken up for study at a later semester in the programme. Towards the end of a semester, student's performance in CIE is reviewed by the proctor, sometimes leading to withdrawal from identified course(s) (up to the minimum credits specified for the semester) with mention in the Grade Card (Grade 'W').

During pandemic, the academic calendars were impacted and the institution had to publish alternative calendar to ensure that the academic interests of the students are not hindered. It included delays in the start of semesters or introduction of modified academic terms like remote learning, examination changes. The institute worked towards recovery by adapting to the "new normal" and developing strategies to continue education effectively whether in-person, hybrid or fully online.

Adherence to the academic calendar is ensured through audits conducted at the department level and at the institute level by IQAC and Dean (Academics). Care is taken to schedule all the internal tests and semester end examinations as planned in the academic calendar. Thus an academic calendar provides a complete frame work for all the activities in an academic year.

Each faculty prepare the teaching plans for their respective courses. The total number of hours depends on the course credit. This document is vetted by the Department Academic Committee (DAC) and included in the course file. All faculties teaching the same course come to consensus about syllabus coverage for every CIE and alternate assessments. Delivery methods and pedagogy for various topics are also stated in the lesson plan.

File Description	Document
Upload any additional information	View Document

2.4 Teacher Profile and Quality

2.4.1

Average percentage of full time teachers appointed against the number of sanctioned posts year wise during the last five years

Response: 93

2.4.1.1 Number of sanctioned posts year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
415	393	409	355	362

File Description	Document
Sanction letters indicating number of posts sanctioned by the competent authority (including Management sanctioned posts).	View Document
Provide the relevant information in institutional website as part of public disclosure	View Document
Institutional data in the prescribed format (data template merged with 2.4.3 and 2.4.4)	View Document

2.4.2

Percentage of full time teachers with Ph.D./D.Sc. / D.Litt./ L.L.D during the last five years

Response: 68.2

2.4.2.1 Number of full time teachers with *Ph.D./D.Sc. / D.Litt./ L.L.D* during the last five years

Response: 311

File Description	Document
List of faculty having Ph.D./D.Sc. / D.Litt./ L.L.D along with particulars of the degree awarding university, subject and the year of award per academic year.	View Document
Institutional data in the prescribed format (data template merged with 3.2.3 and 3.4.2)	View Document
Copies of Ph.D./D.Sc. / D.Litt./ L.L.D awarded by UGC recognized universities	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

2.4.3

Average teaching experience of full time teachers (Data to be provided only for the latest completed academic year, in number of years)

Response: 13

2.4.3.1 Total teaching experience of full-time teachers as of latest completed academic year

Response: 4966

File Description	Document
Institutional data in the prescribed format (data template merged with 2.4.1 and 2.4.4)	View Document

2.4.4

Percentage of full time teachers working in the institution throughout during the last five years

Response: 82.9

2.4.4.1 Number of full time teachers worked in the institution throughout during the last five years:

Response: 286

File Description	Document
Institutional data in the prescribed format (data template merged with 2.4.1 and 2.4.3)	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 last date of declaration of results during the last five years

Response: 11

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

2022-23	2021-22	2020-21	2019-20	2018-19
18	9	10	9	9

File Description

Document

Result Sheet with date of publication

[View Document](#)

Institutional data in the prescribed format (data template)

[View Document](#)

Exam timetable released by the Controller of Examination

[View Document](#)

2.5.2

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

Response: 1.74

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

2022-23	2021-22	2020-21	2019-20	2018-19
220	204	218	159	226

2.5.2.2 Number of students appeared in the examination conducted by the institution year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
14787	12744	12031	10657	8727

File Description	Document
List of students who have applied for re-valuation/re-totaling program wise certified by the Controller of Examinations year-wise for the assessment period.	View Document

2.5.3

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

Describe the examination reforms with reference to the following within a minimum of 500 words

- **Examination procedures**
- **Processes integrating IT**
- **Continuous internal assessment system**

Response:

The institution follows CBCS system for both UG and PG programs. In addition to academic rules and regulations, the regulations governing examination, evaluation and malpractice are in place.

Reforms in the examination procedures and digitization adopted to ensure transparent and efficient examination system:

- The assessment comprises of Formative (Continuous Internal assessment, CIE) and Summative (Semester End Examination, SEE). Equal weightage (50%) is given to CIE and SEE.
- For CIE, framing of question paper is based on mapping strength of the respective course towards Course Outcome and Program Outcome as defined by NBA. The course instructor plans the evaluation pattern and assessment tools. This evaluation pattern is made known to the students at the beginning of the semester with rubrics and assessment frameworks.
- CIE Question paper audit is conducted in the respective departments. SEE question paper scrutiny is conducted by the Board of Examiners (BOE) of respective departments.
- Marks entry of internal examinations (CIE) is through online. Faculty can login to the exam portal and enter the marks and attendance.
- The examination portal automatically checks the student CIE and attendance data for eligibility to take up SEE. The admission tickets of all eligible students are automatically generated.
- Digital Evaluation is implemented in SEE evaluation. The process includes answer sheet scanning and storage, evaluation dashboard, analytics and reporting to measure performance, managing exam pattern, student information, examiner and moderator as well as the result analytics to keep track of students' performances. It facilitates checking of answers sheets by comparing it to the model answers, adding comments on the answer sheets, mark blank pages digitally, add or delete annotations, undo previous tasks and auto-calculate the results.

- Student seating arrangement are notified on notice board. The room allotment information is sent to students individually through SMS 30 minutes prior to the commencement of examination. The examination attendance sheets (Form-B) are automatically generated according to seating arrangement. After the commencement of the examination, the consolidated attendance (Form-A) is generated on receipt of Form-B.
- The barcode mapping is used to mask the identity and other details of the students.
- The scanning of physical answer sheets and storage in digital format help reducing the physical handling of answer sheets.
- The results are announced on department notice boards. The same is also published in the College website. Students can also view the results logging into the website through USN.
- The process of disclosure of evaluated answer books to students with 'F' grade is in vogue for SEE.
- Student with Special needs can opt for scribes for writing SEE. Scribe is approved by the CoE for students who are incapacitated to write his/her examination. Students with special needs are given extra 20 minutes per hour during the SEE.
- On completion of the SEE, the cases of students indulged in the malpractice are addressed by the Malpractice Cases Consideration Committee and punitive actions are imposed as per the governing regulations.

File Description	Document
Upload any additional information	View Document
Provide links as Additional Information	View Document

2.6 Student Performance and Learning Outcomes

2.6.1

The institution has stated learning outcomes (programme and course outcome)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents and the attainment of the same are evaluated by the institution

Response:

Course Outcomes (COs) are statements that describe the competencies gained by the student through the course. COs are defined for every course. The number of COs defined for a given course may vary from three to six. The number of COs defined is linked to the number of credits and contact hours allocated for the course.

While defining the COs, it is ensured that they are not an abridged version of the course content module/unit wise. Through every CO, it is attempted to specifically address one or more Program Outcomes (PO) through the course content and its assessments. Care is taken by team of faculty instructors to define set of qualitative COs for every course. Program Specific Outcomes (PSO) are defined to highlight the specialized knowledge and skills that the students acquire in their chosen field of study. CO-PO-PSO mapping becomes the next significant step as one can map the CO to the PO/PSO

through comprehending the essence of the CO. However, the strength of the mapping is dependent on the course instructor and assessment component. Upon mutual discussions and consensus among course instructors, a CO-PO/PSO mapping matrix /articulation matrix along with the correlation strength is prepared for every course. This matrix becomes a useful tool in calculating the PO/PSO attainment.

Publishing the Course outcomes

Syllabus:

All courses of the curriculum have meaningful well-defined COs, CO-PO mapping, along with its correlation strength. The syllabus is approved by respective Board of Studies (BOS) in advance. This articulation matrix is included in the syllabus book.

Website:

The approved copy of the syllabus of each program offered by the department is uploaded on the College website. No hard copy is issued to students. This is an institutional initiative to promote minimum paper usage.

Course Files:

Every faculty member prepares a comprehensive course file at the end of every semester. The course file has details regarding POs, PSOs, list of COs and course articulation matrix. The observations, actions to be taken and the recommendations are reported in the course file as part of the CO analysis.

Disseminating the Course Outcomes

In the introductory/first class of each course during every semester, faculty communicates/explains to students regarding the course outcomes (CO) of the respective course. Questions of internal tests also have the assigned COs which in turn are mapped to PO.

Attainment of CO, PO, PSO:

Teaching methods and strategies support the achievement of CO, PO and PSO. The course outcomes are accomplished/realized through various modes of assessment/evaluation methods. At the end of every course, CO attainment is measured. Evaluation methods or assessment tools are designed to effectively measure the CO and contribute to the PO that it is mapped to.

At the end of the programme, the POs/PSOs attainment are computed using the exit survey and CO attainment value of all the COs that are mapped to respective PO/PSO. Analysis of PO/PSO leads to adjustments of curriculum, instruction, and assessment methods as part of the continuous improvement process.

File Description	Document
Upload POs and COs for all courses (exemplars from Glossary)	View Document

2.6.2

Pass percentage of students (excluding backlog students) (Data for the latest completed academic year)

Response: 83.52

2.6.2.1 Total number of final year students who passed the examination conducted by Institution during the latest completed academic year:

Response: 1561

File Description	Document
Institutional data in the prescribed format (data template)	View Document
Certified report from the COE indicating the pass percentage of students of the final year (final semester) eligible for the degree program-wise / year wise	View Document
Annual report of Controller of Examinations (COE) highlighting the pass percentage of final year students	View Document

2.7 Student Satisfaction Survey

2.7.1

Online student satisfaction survey regarding teaching learning process

Response: 3.24

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 are well defined policy for promotion of research which is uploaded on the institutional website and implemented

Response:

The institution has a well-defined Research and IPR policy The Policy is uploaded on the website.

https://bmsce.ac.in/assets/files/Governance_Documents/BMSCE%20Research%20&%20IPR%20Policy%202023.pdf

The Policy covers constitution and function of Research Committee, details of institutional research promotion policy, Eligibility, selection criteria, evaluation process and other conditions related to Faculty Research Promotion Measure / FRPS and code of ethics for research, IPR and consultancy policy and others.

The institute provides all necessary infrastructural facilities and a conducive environment to promote research activity in the campus. The institution regularly augments infrastructure for promoting R&D activities.

Research Promotion Schemes

1. The Management has approved grants/seed money for young faculty under FRPS.
2. Annual allowance of Rs.15,000/- per faculty under research incentive scheme
 - 100% Annual Membership fee - Indian professional body
 - 75% of the Annual Membership fee - Foreign Professional Body
 - 100% course fee for MOOC/SWAYAM/NPTEL/Coursera/edX, etc
3. Award of B.S.Narayan Fellowship of Rs.20,000 per month for the full time research scholars
4. Financial assistance of Rs.20,000/- per trip for presenting paper in Conference or attending workshop/FDP/Training.
5. Financial assistance of Rs.125,000/- for presenting papers in International Conference outside India.
6. Cash incentive for publishing in high quality referred journals
7. Study leave with full salary for pursuing PhD under QIP
8. Cash Incentive of 5% of the total financial amount received towards external research grants
9. Financial support for patent advise & filing
10. The institution also supports any matching grants required for industry-sponsored projects or government sponsored projects.

B.M.S. Engineering Consultancy Centre (BMSECC) to facilitate consultancy activities

Fifteen departments are recognized as research centres by the University. More than 350 research scholars are pursuing Ph.D under 217 research supervisors. 244 PhDs and 22 M.Sc (by research) have been produced so far. BMSCE is Listed as a lead innovator for the year 2020 and 2021 by Clarivate Analytics (Web of Science) based on the Derwent World Patent Index.

Propel labs in Robotics, 3D Printing, Aerospace, Automotive lab and Center for Structural Integrity Studies have been established to promote curiosity in students on innovation, design and develop phototypes. The student groups have participated in many all India and global completions and have brought laurels to the institution.

Other major central research facilities include

- Centre for Excellence in Advanced Materials Research with equipment like SEM/XRD Lab, Abrasive Water Jet Cutting & EDM Lab, X-ray diffraction analyzer, Impedance Analyzer, FTIR Instrument, MTS Landmark Servo Hydraulic UTM, etc.
- Centre for Nano-Materials & Displays which is housed with State-of-the-art Class-1000 cleanroom for materials fabrication, liquid crystal display laboratory, a Photoalignment unit, Photoisomerization and optical storage devices, Electro-optic set up, a Nano-fabrication unit, Glove box, glass cutting, etc.
- The Centre of Excellence in AI&ML houses the NVIDIA DGX A 100 Server, delivering performance of 56 instances in parallel devoid of computation deterioration. The server is the worlds first purpose-built system for deep learning and accelerated analytics, delivering high performance computations.
- The college offers specialized / Advanced skill labs to train students on new technologies.

File Description	Document
Provide links as Additional Information	View Document

3.1.2

The institution provides seed money to its teachers for research

Response: 90.78

3.1.2.1 Amount of seed money provided by institution to its teachers for research year wise during last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
78.03	8.05	3.5	0	1.2

File Description	Document
Sanction letters of seed money to the teachers is mandatory	View Document
List of faculty who have been provided with seed money for research along with the title of the project, duration and amount year-wise	View Document
Institutional data in the prescribed format (data template)	View Document
Audited Income-Expenditure statement highlighting the expenditure towards seed money endorsed by the Finance Officer	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

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

Response: 00

File Description	Document
List of teachers who have received the awards along with nature of award, the awarding agency etc.	View Document
Institutional data in the prescribed format (data template)	View Document
E-copies of the award letters of the teachers	View Document

3.2 Resource Mobilization for Research

3.2.1

Total Grants research funding received by the institution and its faculties through Government

and non-government sources such as industry, corporate houses, international bodies for research project, endowment research chairs during the last five years (INR in Lakhs)

Response: 677.92

File Description	Document
List of Extramural funding received for research, Endowment Research Chairs received during the last five years along with the nature of award, the awarding agency and the amount	View Document
Institutional data in the prescribed format (data template is merged with 3.2.2)	View Document
Copies of the letters of award for research, endowments, Chairs sponsored by non-government sources	View Document

3.2.2

Number of research projects per teacher funded by government, non-government , industry, corporate houses, international bodies during the last five years

Response: 0.23

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

Response: 105

File Description	Document
List of project titles with details of Principal Investigator, amount sanctioned and sanctioning agency etc	View Document
Institutional data in the prescribed format (data template merged with 3.2.1)	View Document
Copies of the grant award letters for research projects sponsored by government agencies	View Document

3.2.3

Percentage of teachers recognised as research guides as in the latest completed academic year

Response: 59.16

3.2.3.1 Number of teachers recognised as research guides as in the latest completed academic year:

Response: 226

File Description	Document
Upload copies of the letter of the university recognizing faculty as research guides	View Document
Institutional data in the prescribed format (data template merged with 2.4.2 and 3.4.2)	View Document

3.3 Innovation Ecosystem

3.3.1

Institution has created an ecosystem for innovations, Indian Knowledge System (IKS), including awareness about IPR, establishment of IPR cell, Incubation centre and other initiatives for the creation and transfer of knowledge/technology and the outcomes of the same are evident

Response:

The activities of Research & Development (R&D), IP Cell, Propel Labs, Centers of Excellence, Institution Innovation Cell (IIC) and B M Sreenivasaiah Innovators Guild (BIG) Foundation have helped create a strong innovation ecosystem in the institution.

Awareness meets, workshops, seminars and guest lectures on Entrepreneurship are organized. Students are provided opportunities to directly interact with outstanding entrepreneurs excelling in their field. Product service Training is provided for creating awareness on marketing the products.

- Financial support for patent advise and filing: The institution facilitates faculty and students to file IPR by providing a consultant/ IP attorney and paying the government and professional fees. The expenses towards filing new patent/copyright after the grant is borne by the institution. 29 patents were published and 17 patents were granted during the assessment period.
- IPR Support measures: The filled-out Invention Disclosure form (IDF) is submitted to the R&D office. This in-turn forwarded to Karnataka State Council for Science and Technology (KSCST), IISc Bengaluru for novelty search. This is based on the existing MoU with KSCST and the BMSCE IPR Cell. The recommendation of the KSCST is forwarded to the Patent authority firm for filing the patent application in expedited mode. Depending on the recommendation of the KSCST, the IDF is forwarded to the Patent attorney for drafting and filing the patent application. The patent attorney firm takes care of the filing expedited trial, response to the First Examination Report (FER), Hearing, trial, etc in concurrence with the inventors and R&D Centre. Once a patent is published/granted the possibility of commercial exploitation of the patents or technology transfer is explored on a case-by-case basis.
- To encourage Peer Learning and promote curiosity in innovation, design and develop phototypes, the institution has developed cutting-edge Propel labs in Robotics, Aerospace, 3D Printing, Automotive and BSN Fatigue Laboratory. Centre of Excellence in Photovoltaic systems, IoT,

Polymer composites, Nano materials and Displays, NVIDIA-DGX A 100 Lab have created opportunities for students to work with faculty researchers/mentors and broaden their horizon into research and innovation potentials. The institution has also developed around ten skill laboratories with an aim to provide the students the opportunity of practical application of their innovative skills.

- The Institution Innovation Cell (IIC) has been constituted as per Innovation Council, Ministry of Education, Govt. of India. The IIC addresses the challenge of building innovation and entrepreneurship ecosystem. It has received 4-star certification from the Innovation Cell of Ministry of Education for the year 2020-21 as per the certificate issued on 1st March 2022. The cell conducts start-up awareness activities such as motivational talks, workshops, field visits and regular annual idea competitions. Over 90 events conducted from Sept 2019 till date have been evaluated by Innovation Council, MoE.
- BIG Foundation is a Section-8 company promoted by BMS Educational Trust provides platform for product development & commercialization; augment R&D capabilities; The share capital of the foundation is 50 lakhs through 5 Promoters.
- BMSCE has been sanctioned 5G Use-Case Lab from Department of Telecommunication, Government of India.

File Description	Document
Upload 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.

The institution has a stated Code of Ethics for research and the implementation of which is ensured through the following:

- 1.Inclusion of research ethics in the research methodology course work**
- 2.Presence of institutional Ethics committee (Animal, Chemical, Bio-ethics etc.)**
- 3.Plagiarism check through software**
- 4.Research Advisory Committee**

Response: A. All of the above

File Description	Document
Copy of the syllabus of the research methodology course work to indicate if research ethics is included	View Document
Constitution of the ethics committee and its proceedings as approved by the appropriate body	View Document
Constitution of research advisory committee and its proceedings as approved by the appropriate body.	View Document
Bills of purchase of licensed plagiarism check software in the name of the HEI	View Document

3.4.2

Number of candidates registered for Ph.D per teacher during the last five years

Response: 1.68

3.4.2.1 Number of candidates registered for Ph.D during the last 5 years:

Response: 380

File Description	Document
Ph.D. registration letters/Joining reports of candidates.	View Document
Letter from the university indicating name of the Ph.D. student with title of the doctoral study and the name of the guide.	View Document
Institutional data in the prescribed format (data template merged with 2.4.2 and 3.2.3)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

3.4.3

Number of research papers published per teacher in the Journals as notified on UGC CARE list during the last five years

Response: 1.73

3.4.3.1 Number of research papers in the Journals notified on UGC CARE list year wise during the last five years

Response: 791

File Description	Document
Institutional data in the prescribed format (data template)	View Document
Link to the uploaded papers, the first page/full paper (with author and affiliation details) on the institutional website	View Document
Links to the paper published in journals listed in UGC CARE list	View Document
Link re-directing to journal source-cite website in case of digital journals	View Document

3.4.4**Number of books and chapters in edited volumes published per teacher during the last five years****Response:** 0.93**3.4.4.1 Total Number of books and chapters in edited volumes published during the last five years**

Response: 426

File Description	Document
List of chapter/book along with the links redirecting to the source website	View Document
Institutional data in the prescribed format (data template)	View Document
Copy of the Cover page, content page and first page of the publication indicating ISBN number and year of publication for books/chapters	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

3.4.5**Bibliometrics of the publications during the last five years based on average Citation index in Scopus/ Web of Science****Response:** 4.68

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

3.4.6

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

Response: 27

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

3.5 Consultancy**3.5.1**

Revenue generated from consultancy and corporate training during the last five years

Response: 203.47

3.5.1.1 Total Amount generated from consultancy and corporate training year wise during last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
59.46	33.14	28.80	45.62	36.45

File Description	Document
Letter from the corporate to whom training was imparted along with the fee paid.	View Document
Letter from the beneficiary of the consultancy along with details of the consultancy fee	View Document
Institutional data in the prescribed format (data template)	View Document
CA certified copy of statement of accounts as attested by head of the institution	View Document
Audited statements of accounts indicating the revenue generated through corporate training/consultancy.	View Document

3.6 Extension Activities

3.6.1

Outcomes of extension activities in the neighbourhood community in terms of impact and sensitizing the students to social issues and holistic development, and awards received if any during the last five years (Showcase at least four case studies to the peer team)

Describe the impact of extension activities in sensitising students to social issues and holistic development with four case studies within a maximum of 500 words

Response:

The institution inculcates the sense of social and civic responsibility and encourages the students to address community problems. The NSS, NCC, Rotoract, Institutional Social Responsibility Cell, Youth Red Cross Unit, Electoral literary Club regularly conducts community service activities. The institution has received numerous awards in recognition of its contribution to the community.

Case Study 1: Adoption of Government School: continuing its endeavour of social responsibility, the institution has adopted Srinagara Government School located at Srinagara, Bengaluru 560026. The institution strengthened & equipped the school with the following facilities.

- Civil Works – Building Classroom ceiling
- Toilet Repair Works – Civil Works
- Water Storage (Sump) and water pump machine
- Drinking water facility (Tank with Pipe Connection)
- Wall murals (painting and design)
- Providing window panes to the classroom windows
- Flooring Work (Civil Works)
- Providing Computers .
- Other works.

Case Study 2: Vaccination Drive in BMS College of Engineering

The NSS Unit conducted Covid 19 vaccination drive on 07.07.2021 and 08.07.2021. 210 staff members and 482 students were vaccinated. Vaccination drives were also held on 27.08.2021 in association with BBMP wherein 235 staff and students were vaccinated. In the vaccination drives conducted on 22.10.2021 and 04.12.2021, 110 and 94 participants were vaccinated.

Case Study 3: Plantation drives in collaboration with Adanya Chetana.

BMSCE collaborated with Adanya Chetana Foundation and started the Green Sunday Program. The concept of tree per person initiative is being conducted every Sunday with the enthusiastic participation of the students. Around 350 Sunday sessions have been held so far. BMSCE students are dedicating their time to de-weed, clean, and plant saplings. Additionally, the volunteers committed to watering the newly planted saplings, ensuring their nurturing and sustainable growth.

Case Study 4: IEEE SPS K12 Science for Signal Processing Training the School Teachers and Students.

The training programme was aimed to impart knowledge and to show the importance of how communication using signals affects our day to day lives. The programme was conducted on 30.11.2023.

The Research and Development Centre in association with IQAC & IEEE student branch conduct the training programme for school students and teachers on Science for Signal Processing. This is aimed to teach and enthuse the school children on latest technological tools and inspire creativity in them through hands on interactive sessions. The details of the programme are provided hereunder:

Name of the event	Training on Signal Processing for School Students & Teachers
Sponsor	IEEE signal Processing Society provided financial assistance towards Signal Processing Kits, Travel Expenses, Lunch and Snacks. The faculty and students from Host Institution (BMSCE) imparted training to the participants. The institution provided Auditorium, Seminar Hall and laboratory facilities for the said purpose.
Date of the Programme	30.11.2022 (Wednesday)
Details of participants	About 100 high school students and teachers (10 students and 02 faculty from 08 different schools from Bengaluru)
Take away for participants	<ul style="list-style-type: none"> • Hands-on session on Signal Processing • Scholarship Guidance • Signal Processing Take Away Kits.

File Description	Document
Upload any additional information	View Document

3.6.2

Number of extension and outreach programs conducted by the institution through organized forums including NSS/NCC with involvement of community year wise during the last five years

Response: 297

3.6.2.1 Number of extension and outreach programs conducted by the institution through organized forums including NSS/NCC with involvement of community year wise during the last five years.

2022-23	2021-22	2020-21	2019-20	2018-19
106	59	45	27	60

File Description	Document
Photographs and any other supporting document of relevance should have proper captions and dates.	View Document
Institutional data in the prescribed format (data template)	View Document
Detailed report for each extension and outreach program to be made available, with specific mention of number of students participated and the details of the collaborating agency	View Document

3.7 Collaboration

3.7.1

Number of functional MoUs/linkages 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: 28

File Description	Document
Summary of the functional MoUs/linkage/collaboration indicating start date, end date, nature of collaboration etc	View Document
List of year wise activities and exchange should be provided	View Document
List and Copies of documents indicating the functional MoUs/linkage/collaborations activity-wise and year-wise	View Document
Institutional data in the prescribed format (data template)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1

The Institution has adequate infrastructure and other facilities for

- 1. teaching – learning, viz., classrooms, laboratories, computing equipment etc**
- 2. ICT – enabled facilities such as smart class, LMS etc.**
- 3. Facilities for Cultural and sports activities, yoga centre, games (indoor and outdoor), Gymnasium, auditorium etc.**

Response:

The campus is spread over land 11.00 acres and 30 guntas. The built-up area is 98545.07 Sq.Mts. BMSCE has 137 well equipped laboratories catering to the needs of UG and PG students and research scholars. The institution continues to augment new infrastructure and those essential to renovate the existing ones. An amount 215.67 Crores and 2.31 crores have been expended towards infrastructure augmentation and purchase of e-resources respectively during the assessment period. BMSCE has 116 class rooms equipped with ubiquitous ICT facility. Specialized laboratories with state-of-the-art equipment's are established. Several laboratories funded by Industries like Dassault Systems, CARL ZEISS, Cares Renewables, Mitsubishi Electric India, Tequed Labs, Keysight Technologies, ESSCI, HPE, CMTI, InnAccel Technologies, Indian Institute of Tropical Meteorology have been established. E-studio with state-of-the-art hardware and software for video and audio recording and editing has been established. The Data Centres monitors the Campus-wide networking facility. The existing bandwidth of intranet is 10 GBPS. Currently CWN is supplemented with 2.9 GBPS leased line. 24/7 Internet facility at college and hostels, 11 High end blade servers (16 TB Storage), 3150 computers on network and 485 printers, 08 licenced system and 95 application software. The Internet bandwidth enhanced from 650 MBPS in 2018-19 to 2.9 GPBS in the year 2023-24. The Library resources are housed in a spacious building (49500 Sq.ft), The seating capacity of 680 users at a time. The library has a collection of 156215 volumes and 48314 titles. The library has access to 11 international databases: 7472 e-journals and access to 14585 e-books. The library is subscribed to 125 printed technical journals and 621 NPTEL Lectures and streamed using intranet. Apart from central library, departmental libraries of engineering, MBA and MCA provide for immediate reference. Centre of Excellence/Incubation/Propel Labs, workshops, Language laboratory, office of Controller of Examinations (COE), Placement & Training Centre, International Co-operation Division (ICD), rain water harvesting, solar energy form some of the other physical infrastructure facilities.

Faculty rooms, conference halls, auditoriums, separate hostel for men and women, on-campus health centre, Student counsellor Cell, NSS Room are established. Administrative block houses the office of Principal, Vice-Principals, Deans, IQAC office, reception, girls common room and administrative sections. The institution has necessary facilities for sports, game (Indoor/Outdoor), yoga center, Multi-Gym etc. 297 awards and medals for in sports at University/State national / international level have been achieved in the last 5 years.

BMSCE achieved the unique distinction of being in the top three positions in University Ranking in Sports and Cultural achievement among 208 engineering colleges. International Yoga Day celebrated. Vehicle parking facility, Barrier free environment, notice boards, potable water facility, fire and safety provisions, sewage disposal system, telephone facility, Cafeteria are available. Back Up Power of 2015 KVA is met through DG Set. The Back Up power supply is through UPS (725 KVA). The DG Set and UPC is maintained through AMC. A minimum of 12 periodic service visits are conducted per year.

File Description	Document
Upload any additional information	View Document

4.1.2

Percentage of expenditure excluding salary, for infrastructure development and augmentation year wise during the last five years

Response: 56.14

4.1.2.1 Expenditure for infrastructure development and augmentation, excluding salary year wise during last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
2198.30	1276.81	2466.18	3803.48	418.58

File Description	Document
Institutional data in the prescribed format (data template is merged with 4.2.2 and 4.4.1)	View Document
Audited income and expenditure statement of the institution to be signed by CA and counter signed by the competent authority (relevant expenditure claimed for infrastructure augmentation should be clearly highlighted)	View Document

4.2 Library as a Learning Resource

4.2.1

Library is automated with digital facilities using Integrated Library Management System (ILMS), adequate subscriptions to e-resources and journals are made. The library is optimally used by the faculty and students

Response:

The college has a voluminous computerized library which caters to the needs of the students, research scholars and faculty members. Housed in a spacious building spanning 45200 sq ft, it has a seating capacity of 680 users at a time. The Library is home to an extensive collection of books, with 156471 volumes and 48402 titles. The library has access to over 21883 e-journals and 6904 e-books in the fields of Science, Technology, Engineering, and Management. In addition, there are 145 national and international printed journals.

The membership to VTU Consortium, provides access to eight online resources covering Engineering, Science and Technology, Management, and related fields. The digital repository includes TechFocuz, NPTEL lectures from all IITs, and IISc which are made available throughout the campus via Intranet. Additionally, faculty and students can access question papers, e-Journals, and digitized CD-ROMs that contain information about important books and Journals. A Library Committee comprising senior faculty members with Chief Librarian as Member-Convener has been constituted. The Committee reviews the policies governing the Library. The Committee recommends budget, purchases, automation, activities, programmes and services. During the assessment period an amount of 3.95 Crores has been expended towards augmentation of library resources as shown hereunder:

Year	2022-23	2021-22	2020-21	2019-20	2018-19
INR in Lakhs	108.66	69.63	76.55	76.75	63.54

The library has access to e-resources of NDL (National Digital Library), N-list which is a part of e-shodhsindhu consortium of INFLIBNET. The users can access, browse and download e-books, e-journals, databases etc. The Library resources are fully barcoded and automated using Web Centric Libsys 10 Software on Cloud (<https://bmscelib.libsys10.in/loginPage.jsp>) an integrated library package that assists users with transactions, OPAC (Online Public Access of Catalogues), and book reservations, and other things. All books have been classified and cataloged using DDC and AACR2 and are organized on open shelves. Books are organized subject-wise for easy access and retrieval. New books are displayed in the "New Arrivals" section for 15-20 days before being processed for use by students and staff. The Library has Non-Visual desktop access software for the visually impaired students. Every year Orientation Program is been organized for the newly admitted students to familiarize them regarding library facilities, resources and services. The Library regularly organized various Training Programme on usage of library software and communication skills. Apart from the central library, various departmental libraries are also available for immediate reference and easy access.

The Library holds about 3776 rare books consisting of Biographies, Geographical Guides, Maps, Atlas, Dictionaries, Handbooks and books related to facts and places, along with around 25 titles have also been authored by our faculty. These books are extensively used and printed and published long back. The library also holds good collection pertaining to literature and religion.

The Library Service:

- Lending of Books
- Reference Service
- Reprographic Service
- Career Information Services
- Access to e-Journals/ e- Books
- Dissemination of News Paper Information

- New Arrivals Display
- Current Awareness Bulletins Related to New Additions
- Digital Repositories of Question Papers Using Intranet
- On-Line Public Access Catalogue (OPAC)
- Awareness of Digital Library – NDL, N-List consortium of INFLIBNET, NPTEL Local Chapter.

File Description	Document
Upload any additional information	View Document

4.2.2

Percentage of expenditure for purchase of books/ e-books and subscription to journals/e-journals year wise during the last five years

Response: 2.18

4.2.2.1 Expenditure for purchase of books / e-books and subscription to journals/e-journals year wise during last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
108.66	69.63	76.55	76.75	63.54

File Description	Document
Institutional data in the prescribed format (data template merged with 4.1.2 and 4.4.1)	View Document
Audited income and expenditure statement of the institution to be signed by CA and counter signed by the competent authority (relevant expenditure claimed for purchase of books/ e-books and subscription to journals/e-journals should be clearly highlighted)	View Document

4.3 IT Infrastructure

4.3.1

Institution frequently updates its IT facilities and provides sufficient bandwidth for internet connection

Describe IT facilities including Wi-Fi with date and nature of updation, available internet

bandwidth within a maximum of 500 words**Response:**

The Data Centre monitors the Campus Wide Networking (CWN) facility of the institution for ubiquitous network connectivity throughout the campus. At present CWN is having two redundant high end carrier class core switches and one hundred access switches. The connectivity between the core switch to the access switch is through multimode fibre optic backbone. The existing bandwidth of the intranet is 10 GBPS. Currently the CWN is supplemented with 2.9 GPBS of redundant internet link to cater to the internet requirement of the campus. The Internet bandwidth enhanced from 650 MBPS in 2018-19 to 2.9 GPBS in the year 2023-24. The institute has hosted a private cloud on virtualized environment of blade servers and flex servers with fibre SAN storage to meet the computing requirements of the campus. Campus intranet has paved way to provide seamless access to e-journals, online lecture streaming and application software. The Data Centre also hosts e-mail and webservers of the institution. Additionally, the CWN is supplemented with mobility aware wireless connectivity of wireless network enabled electronic gadgets of students and staff. APNIC, of which BMSCE is a proud member, has allotted three block of static (762 IP addresses and 03 ASNs) IP addresses. This facilitated the institution a global presence in the internet domain. In India BMSCE is the first educational institution to obtain APNIC membership and static IP addresses.

Features

High-end Blade Servers (11 nos. with 4 TB Storage)

Flex Servers (2 nos. with 16 TB storage)

Dedicated 2.9 Gbps leased line

24/7 Internet facility to the college / hostels

Hosts College Website

Official email Service & Messaging

Total number of computers on network- 3150

Number of Printers- 485

Licensed System Software's- 8

Licensed Application Softwares- 95

FortiGate Firewall -1 No.

Forti analyser 1 no

Juniper Router - 3 Nos

Extreme Core Switches -3 Nos

Extreme Edge Switches - 185 Nos

Ruckus Wifi Controller -1 No

Ruckus Wifi Access Points -62 Nos

Extreme Access Points –100 Nos

Network Access Control (NAC) -1

Qualified Technical Support Staff

The Auditoriums and Seminar Halls have been equipped with E Learning Solutions The Classrooms, seminar halls, conference halls, Auditoriums are equipped with LCD Projectors with all accessories. The institution established e-studio with high-resolution cameras, professional grade microphones, advanced lighting system and immersive audio-visual effects to enable faculty create engaging educational content. It is now a hub for recording live lectures, hosting virtual events and facilitating remote collaborations. The studio is acoustically designed with a seating capacity for 24 students. With an aim to provide efficient and transparent services to the stakeholders in all areas of functioning, the college has implemented latest ICT enabled applications. The institution has derived the e-governance policy which applies to all the students, alumni, faculty, staff, employers, parents, academic's administrators and others who or indirectly utilize the services provided by the Institute.

File Description	Document
Upload any additional information	View Document
Provide the link for additional information	View Document

4.3.2

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

Response: 2.41

4.3.2.1 Number of computers available for students' usage during the latest completed academic year:

Response: 3150

File Description	Document
Purchased Bills/Copies highlighting the number of computers purchased	View Document
Extracts stock register/ highlighting the computers issued to respective departments for student's usage.	View Document

4.3.3

Institution has dedicated audio visual centre, mixing equipment, editing facility, media studio, lecture capturing system(LCS) and related hardware and software for e-content development

Response:

Advancements in technology and changes in educational pedagogy has driven BMS College of Engineering to host the state-of-the-art e-studio with cutting-edge audio-visual facility. Advanced mixing equipment and editing software tailored for e-content development have been augmented. The facility was created at a total cost of 25 lakhs at a total area of 99 Sq.Mts BMSCE faculty produce multimedia and interactive educational videos that enhance students' learning experiences.

The studio has high-resolution cameras, professional grade microphones, advanced lighting system and immersive audio-visual effects to enable faculty create engaging educational content. It is now a hub for recording live lectures, hosting virtual events and facilitating remote collaborations. The studio is acoustically designed with a seating capacity for 25 students.

The infrastructure in the e-studio and its purpose is as listed below:

- 1.86" Interactive display (Ultra HD resolution) with built-in PC – The presenter uses this as a digital board for writing and annotating presentations.
- 2.Recorder LC-200 -Recording & Webcasting Hardware, Recording, Streaming and Web casting simultaneously, Built-in 4 Inputs (HDMI /IP/3G-SDI/DVI) HDMI Out, can record up to any three inputs simultaneously in a single frame and as well as individual sources simultaneously, 1TB inbuilt storage.
- 3.PTZ Camera VC A50P - Full HD 1080p, minimum 20X Optical Zoom, min 100 Presents, 60 Frames per Second, Ethernet Out, HDMI Out, 3G-SDI Out, Audio In, RS232/422 Controls, -170° ~ +170° Panning angle, -30° ~ +90° tilting angle, supports PoE for capturing presenter.
- 4.86" Monitor display – This replicates the content of the interactive display as presenter view.
- 5.Six-channel Digital Automatic Mixer – For Enhanced Audio Digital Sound Processor for recording
- 6.Lapel Microphone 10 PRO Wireless Body-pack & Handheld Microphone System
- 7.Amplifier 2 Channel 2 X 120-Watt Commercial Amplifier with Energy Star
- 8.Speakers WND-6: Passive loudspeaker - 16 W prog @ 8 Ohm with 2 x 6.5" Woofer and 1.35" Driver.
- 9.High-end Computer (Apple Mac Studio M1 chip) with Adobe Creative Cloud software for editing purposes
- 10.Apple iPad Pro and stylus to facilitate alternate mode of lecture delivery.

11.3 Way Lighting setup for improvising recording quality.

Before the pandemic, the institution had adopted Lecture Capturing System with Impartus application to record and archive lectures/seminars conducted in classrooms, seminar halls and auditorium serving as a valuable resource for future reference. The institution's YouTube channel supported live streaming of important events. Learning Management System (LMS) like Google Classroom, Edmodo, Schoology were being used to share the content, facilitating communication and collaboration.

The pandemic reshaped the teaching learning practices, accelerating the adoption of technology. The Institute YouTube channel was augmented with lectures, lab conduction procedures, webinars, Faculty development programs. Every faculty used desktop/laptop/tablets, headsets, writing pads (like PenTab) and webcam to capture the online lectures and shared the video content on Google Drive, for access to BMSCE students. Institution subscribed to Google Suite for Education and Google Classroom was adopted as LMS by all faculty.

File Description	Document
Upload any additional information	View Document
Provide the link for additional information	View Document

4.4 Maintenance of Campus Infrastructure

4.4.1

Percentage expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, during the last five years

Response: 18.33

4.4.1.1 Expenditure incurred on maintenance of physical facilities and academic support facilities of DDE and total expenditure excluding salary, year - wise, over the last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
949.77	759.63	482.57	612.29	514.33

File Description	Document
Institutional data in the prescribed format (data template merged with 4.1.2 and 4.2.2)	View Document
Audited income and expenditure statement of the institution to be signed by CA and counter signed by the competent authority (relevant expenditure claimed for maintenance of physical facilities and academic support facilities should be clearly highlighted)	View Document

4.4.2

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

Describe policy details of systems and procedures for maintaining and utilizing physical, academic and support facilities within a maximum of 500 words

Response:

The college has extensive Infrastructure spread over 11.00 acres 30 Guntas with a built up Area – 98545.07 Sq.Mts. The infrastructure comprises of labs, classrooms, Data Centre, Centres of Excellence, Incubation Centres, Propel labs, Language Laboratory, Examination Centre, e-Studio, Placement Centre, Hostels, Library, ICD, Ladies Common Room, Cafeteria, Sports and Cultural Facilities. Other facilities include, Auditorium/Seminar Halls / Conference Halls, Solar Energy, Rain Water harvesting, Health Care Centre, roads, power supply systems, Water supply etc.

The Building Section oversees construction and maintenance of physical infrastructure. The Building Section ensures construction quality and review. General Insurance coverage for Building, Furniture, fixture and equipment's are provided. sufficient funds are allocated towards Maintenance of Equipment, infrastructure and other facilities. The Library Committee suggest measures for improvement and maintenance of Library resources and services. The library has OPAC for easy search of books. The total power taken from Electricity Board is 1850 KVA. Back Up Power of 2015 KVA is met through DG Set. The Back Up power supply is through UPS (725 KVA). The DG Set and UPC is maintained through AMC. A minimum of 12 periodic service visits are conducted per year. Centralized RO Drinking Water Systems of capacity 250 LPH (01 Units), 10 LPH (07 Units), 40 LPH (02 Units) and 25 LPH (04 Units) have been established in all the buildings to cater for safe drinking water. The maintenance of all systems is on AMC. Fire utility services have been installed at various locations as per the regulatory norms. The maintenance of all systems (fire extinguisher, firefighting system/alarm) is on AMC. Exit signs and floor indicators are provided at important locations. Regular Fire mock drills/training are conducted. The Telephone, STD, ISD, Telefax facilities are available on campus. 52 External [P&T] telephone lines in the campus. Intercom facility with 700 extensions is provided. Maintenance and repair are undertaken through AMC. A minimum of 12 periodic service visits are conducted per year. The Hostels are installed with CCTV to monitor the movements. BMSCE Campus has network of underground sewer lines and the sewage disposal is connected to the main BWSSB manhole outside the campus. The Data Centre monitors the Campus Wide Networking (CWN) facility

and also looks after the maintainace of ICT Tools. All equipment's are maintained by Annual Maintenance Contract (AMC). Minor Equipment's are regularly maintained. The Sports Committee comprising of senior functionaries is constituted to plan and conduct activities. The maintainace of sports facilities is looked after by the Sports Department. There are 350 KLD capacity of Sewage Treatment Plant (STP), Waste water is recycled through Sewage treatment plant (STP) process, it performs physical, chemical, and biological processes to remove contaminants and produce treated wastewater that is safe enough to dispose of into the environment. Treated water is being used for Gardening, Toilet flushing and cleaning floor's purpose only. The Solid, liquid, chemical, bio-medical waste and e-waste management is done as per prescribed regulations. In a significant milestone, BMSCE recently attained the prestigious ISO 14001:2015 certification for its Environmental Management System.

File Description	Document
Upload any additional information	View Document
Provide the link for additional information	View Document

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1

Percentage of students benefited by scholarships and freeships provided by the institution, government and non-government bodies, industries, individuals, philanthropists during the last five years

Response: 37.3

5.1.1.1 Number of students benefited by scholarships and freeships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
3213	2858	2186	2272	2110

File Description

Document

Year-wise list of beneficiary students in each scheme duly signed by the competent authority.

[View Document](#)

Upload Sanction letter of scholarship and free ships (along with English translated version if it is in regional language).

[View Document](#)

Upload policy document of the HEI for award of scholarship and freeships.

[View Document](#)

Institutional data in the prescribed format (data template)

[View Document](#)

5.1.2

Efforts taken by the institution to provide career counselling including e-counselling and guidance for competitive examinations during the last five years

Response:

With an aim to guide the students to prospective careers, the institution has constituted Competitive Examinations and Higher Studies Cell (CEHSC). The CEHSC motivates the students to take up Competitive Exams such as GATE, CAT, GRE, TOEFEL, GMAT, Civil services (UPSC, MPSC) etc, held throughout India. The cell is headed by a senior professor and well supported by faculty coordinators from each department. The Cell organizes career development seminars and workshops on

competitive exams through Eminent resource persons from various sectors and esteemed institutions.

The objectives of the Cell are enumerated hereunder:

1. To motivate students for prospective career in Government and Corporate Sector
2. To organizing session on the awareness about the Competitive Exams.
3. To arrange session/coaching classes to guide the students to prepare for Competitive Exams
4. To impart quality training to students aspiring to go abroad for higher studies

Major Initiatives

1. During the assessment period, the CEHSC collaborated with the departments in conduction 14 programmes on Entrepreneurship development for the benefit of students
2. The institution has extended the benefit of reimbursing the examination fees of the students qualifying in GATE examinations.
3. Separate space has been identified in Library and reading room with dedicated books to students for the purpose developing their knowledge for competitive exams

Details of Major Activities/Events conducted by CEHSC is shown hereunder

1. In collaboration with overseas educational consultants and reputed training institutes, the cell organized training programs on preparation for competitive examinations, application and visa processes, scholarship opportunities and one-to-one counselling sessions on 26.10.2023, 24.11.2023 and 29.11.2023.
 2. The University Detailing programme by Mrs. Poornima of RICE University, USA was organised on 17.12.2022.
 3. Education fair was organised on 04-9-2023 in collaboration with Imperial Overseas Educational Consultants. The event witnessed the participation of 20 foreign delegates representing universities from USA, Canada, Germany, UK, Australia, New Zealand and Ireland.
-
1. CEHSC organised a meeting with the representatives from Malaysian Universities on 25.09.2023. The matter related to higher education avenues, student exchange programs and research collaborations were deliberated upon.
 2. A talk on career mentoring & Profile building session for global university was delivered by Mr. David Schuessler, Alumni of Columbia University & MIT, on 25.09.2023.

With an aim to encourage the students to become entrepreneurs, the institution has constituted Institution Innovation Council (IIC). IIC addresses the challenge of building innovation and entrepreneurship ecosystem. The cell regularly conducts start-up awareness activities such as motivational talks, workshops, field visits and regular annual idea competitions. BMSCE has received 4-star certification from the Innovation Cell of Ministry of Education for the year 2020-21. As on May 2023, there are 8 start-up companies, more than 30 innovators and more than 48 students working under the start-up cell.

BMS Academy for Professional Courses

The BMSET established the BMS Academy for Professional Courses in the BMSCE Campus to offer high class coaching to students willing to take UPSC, KPSC, Railway, Banking and other competitive examinations. The Academy offers best of faculty supplemented by modern teaching aids, well stocked

library.

File Description	Document
Upload any additional information	View Document
Provide the 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, self-employment and entrepreneurial skills)**
- 4.Awareness of trends in technology**

Response: A. All of the above

File Description	Document
Report with photographs on programmes conducted for awareness of trends in technology	View Document
Report with photographs on programmes/activities conducted to enhance soft skills, Language & communication skills, and Life skills (Yoga, physical fitness, health and hygiene, self-employment and entrepreneurial skills)	View Document
Institutional data in the prescribed format (data template)	View Document
Provide Links for any other relevant document to support the claim (if any)	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: B. Any 3 of the above

File Description	Document
Proof w.r.t Organisation wide awareness and undertakings on policies with zero tolerance	View Document
Proof related to Mechanisms for submission of online/offline students' grievances	View Document
Proof for Implementation of guidelines of statutory/regulatory bodies	View Document
Details of statutory/regulatory Committees (to be notified in institutional website also)	View Document
Annual report of the committee monitoring the activities and number of grievances	View Document

5.2 Student Progression

5.2.1

Percentage of placement of outgoing students and students progressing to higher education during the last five years

Response: 73.52

5.2.1.1 Number of outgoing students placed and progressed to higher education during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
1163	1210	1108	1103	983

File Description	Document
Institutional data in the prescribed format (data template)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.2.2

Percentage of students qualifying in state/ national/ international level examinations out of the graduated students during the last five years

(eg: NET/SLET/ Civil Services/State government examinations etc.)

Response: 6.14

5.2.2.1 Number of students qualifying in state/ national/ international level examinations (eg: NET/SLET/Civil Services/State government examinations etc.) year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
92	112	83	67	111

File Description	Document
List of students qualified year wise with details of examination and links to Qualifying Certificates of the students taking the examination	View Document
Institutional data in the prescribed format (data template)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.3 Student Participation and Activities

5.3.1

Number of awards/medals for outstanding performance in sports/cultural activities at University / state /national / international Level events during the last five years

Response: 100

5.3.1.1 Number of awards/medals for outstanding performance in sports/cultural activities at University / state / national / international level events (award for a team event should be counted as one) year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
54	22	3	9	12

File Description	Document
list and links to e-copies of award letters and certificates	View Document
Institutional data in the prescribed format (data template)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.3.2

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

Describe the Student Council activity and students' role in academic & administrative bodies within a maximum of 500 words

Response:

BMSCE provides students the opportunity to participate in academic, administrative and campus activities. The same may be confirmed with specific reference to the following points:

- The student representatives are invited to the Governing Council and Academic Council Meetings. The views of the students are considered while initiating new courses, curriculum framing etc. The student representatives are also part of IQAC, Board of Studies (BoS), Institution Innovation Council (IIC), Anti ragging committee, Grievance Redressal Cell (GRC), College Internal Complaints Committee (CICC) Women's Cell, IQAC Autonomous Review Cell, Internal Committee for Students with Disabilities (ICSD) and other committees. The students actively participate in service and extension activities through NSS, NCC, Rotaract, Women Cell units etc.
- Numerous Student Forums/hobby Clubs provide students the opportunity to participate in wide range of Co-Curricular, Extra-Curricular, Social and Community Development Activities conducted throughout the year. The clubs provide platform for the students to discuss ideas related to different branches of science and organize as well as participate in various co-curricular and extra-curricular activities.
- The students participate in the feedback system. Students provide feedback on faculty (6 times in a year), HODs & Principal (once in a year) and Institution (2 times in a year)
- The students are exposed to current research through expert lectures from people of eminence. Several stake holders visit the campus and provide expert advice and also interact with students. The students also participate in seminars conducted in other institutions.
- Students are encouraged to carry out mini & major project works both in- house and in collaborations with industry and academia
- Every year the students actively participate in the annual inter-collegiate technical symposium 'Phase Shift'. The students of various engineering colleges gather to collaborate, present, discuss, learn and explore development and applications in cutting edge technologies in all the fields of engineering and management. The two days National symposium has a footfall of more

than 8000 students who benefit from the product displays put up by various industry collaborators in the form of exhibition stalls.

- Students are also encouraged to form chapters like IEEE, ACM, IET etc. to organize activity-based programmes.

The faculty advisory system (proctor) is in place to help and motivate the students to improve their overall academic performance. A batch of students comprising of 20- 25 students are assigned to each faculty member, nominated by the concerned Head of the Department. The assigned faculty serve as mentor throughout the four years of the student's stay at the college.

- BMSCE hosted students of University of Washington as part of Grand Challenge Impact lab (GCIL) India Program. The 12-week training of 15 credit study abroad program was conducted from Jan-Mar 2023 in campus. The faculty and student of University of Washington visited BMSCE for the 2nd edition of the program from 03.01.2024 to 15.03.2024.
- Students have strong representations in cultural and sports committees and help in organization and management of events. Students also provide strong support in the administration and management of hostel affairs.

File Description	Document
Upload any additional information	View Document

5.3.3

The institution conducts / organizes following activities:

- 1.Sports competitions/events**
- 2.Cultural competitions/events**
- 3.Technical fest/Academic fest**
- 4.Any other events through Active clubs and forums**

Response: A. All four of the above

File Description	Document
Report on Sports, Cultural competitions/events, Technical/academic fests, Any other events through active clubs and forums along with photographs appropriately dated and captioned (whichever is applicable)	View Document
List of students participated in different events year wise signed by the head of the Institution	View Document
Institutional data in the prescribed format (data template)	View Document
Copy of circular/brochure indicating such kind of activities.	View Document

5.4 Alumni Engagement

5.4.1

Total Amount of alumni contribution during the last five years (INR in lakhs) to the institution through registered Alumni association:

Response: 26.09

5.4.1.1 Total Amount of alumni contribution during the last five years (INR in lakhs) to the institution year wise through registered Alumni association:

2022-23	2021-22	2020-21	2019-20	2018-19
8.54	1.0	0.0	9.35	7.2

File Description	Document
List of alumnus/alumni with the amount contributed year-wise	View Document
Annual audited statements of accounts of the HEI highlighting the Alumni contribution duly certified by the Chartered Accountant/Finance Officer	View Document

5.4.2

Alumni contributes and engages significantly to the development of institution through academic and other support system

Describe the alumni contributions and engagements within a maximum of 500 words**Response:**

The Alumni of BMSCE provide dedicated support and contribute significantly to all institutional activities. The alumni occupy prominent positions both in India and across the globe. The BMSCE Alumni Association (BMSCEAA) is registered under societies on 07.07.2011 with Registered Number: DRB-C/SOR/66/2011-12. BMSCEAA is formed with an aim to build an actively engaged alumni network. BMSCE has an alumni base of over 40000 with more than 29000 currently registered. The database is updated regularly. In addition, several national and international chapters are also formed. Each chapter fosters lifelong relationships with its members, forming a relevant and engaged community. Presently there are 20 International chapters across the globe and 6 national chapters.

The institution has constituted Alumni Executive Committee (AEC) with the following composition to prescribe guidelines as per bye-laws for carrying various activities.

SNO	Category	Nature
1	Three Trustees-One of them as Chairperson	Nominated by BMSET
2	Principal	Working President
3	Vice Principal	Vice President
4	One nominated Alumni faculty member	Secretary
5	One nominated Alumni faculty member	Joint Secretary
6	One nominated Alumni faculty member	Treasurer

The Alumni Association connects with alumni through diverse set of events / services. The alumni actively participate in academic, administrative and campus activities. The alumni involve in institutional initiatives and activities in the form of Tech fests, as members of Alumni Executive Committee, mentoring of students, facilitating placement and internship, delivering guest/invited lectures and other activities. The Academic Council, NAAC Internal Quality Assurance Cell, IQAC (Autonomous) Cell, Departmental Advisory Board (DAB) also have representation of alumni. The alumni participate in the process of curriculum design with focus on addressing the recent technologies and market needs. The alumni actively take part in the feedback process. Every year annual alumni meet is organized to provide a platform to relive the glory of yester years and interact with students of current batches. BMSCEAA also hosts Annual Alumni Sports meet.

The proceeds of BMSEAA Corpus are being used to recognize meritorious students in the form of Merit-Cum-Means Scholarships and also extending financial support to needy students in the form of education loans. During the assessment period, a total of 72.14 lakhs worth scholarships were disbursed among 518 beneficiary students. The details are as shown hereunder:

SNO	Year	No of Scholarships	Amount

1	2018-19	108	1070000
2	2019-20	110	1090000
3	2020-21	109	1090000
4	2021-22	127	2813748
5	2022-23	60	1150000
Total		518	7213748

In addition to the above, an amount of Rs.60.61 Lakhs towards education loan has been disbursed among needy students during the assessment period. For the assessment period individual contribution of Rs.2608748/- have also been received from alumni.

The BMSCEAA maintains an active online presence through its portal and social media platforms, where the alumni can register, update, and access the information about the association and its events.

BMSCE Alumni Portal: <https://alumni.bmsce.in/>

LinkedIn page: <https://www.linkedin.com/school/b.-m.-s.-college-of-engineering/people/?viewAsMember=true>

Instagram Page: https://www.instagram.com/bmsce_alumni_network/?hl=en

Facebook Page: <https://www.facebook.com/bmscean/>

File Description	Document
Upload any additional information	View Document
Provide the link for additional information	View Document

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1

The institutional governance and leadership are in accordance with the vision and mission of the Institution and it is visible in various institutional practices such as NEP implementation, sustained institutional growth, decentralization, participation in the institutional governance and in their short term and long term Institutional Perspective Plan.

Response:

B.M.S. College of Engineering (BMSCE) Bengaluru started in the year 1946 has the unique distinction of being the first private engineering college established in the country.

VISION

Promoting Prosperity of mankind by augmenting human resource capital through quality Technical Education and Training

MISSION

Accomplish Excellence in the field of Technical Education through Education, Research and Service needs of Society

The Founders have envisaged the vision of providing skilled and competent workforce to society by imparting quality education and training. In fulfilling its mission, the institution offers broad and balanced academic programs, effective curriculum, innovative pedagogy and evaluation methods and usage of state-of-the-art ICT.

The administration is overseen by the Board of Governors (BOG). The BOG meetings are conducted in an open manner. The BOG approves the strategic plan, Short Term and Long-Term goals and the Budget based on the strategic plan. The strategic plan of the college is developed with the involvement of all stakeholders. The plans are executed with the support of all the stake holders. The institution strongly believes in decentralization, participative management and delegation of power at various levels.

The college works are delegated to individuals and committees both statutory and non-statutory. The committees comprising of key stakeholders continuously monitor the academic and administrative activities of the institution. The diversity in the composition of the committees helps in making pragmatic decisions. The Good Governance Document prepared based on guidelines prescribed by various apex bodies and assessing agencies, provide information about academic and administrative committees. It also outlines the responsibilities of various functionaries nominated as part of these committees.

The institution has adopted NEP 2020 framework with a commitment to transform its educational ecosystem, fostering innovation, and nurturing students to become lifelong learners equipped with 21st-century skills. The curriculum promotes interdisciplinary learning by incorporating Science, Law and

Humanities in the form of open electives. Institute registration on NAD (National Academic Depository) is complete and student ABC ID generation is in progress.

The following are some of the major decentralization measures implemented

- Two faculty members (on rotation basis) are nominated as members of Board of Governors (BOG).
- Appointment of Vice-Principal (Academics), Vice-Principal (Administration), Dean-Academic, Dean-Student Affairs, Dean-First Year (BE), Dean-Innovations, Dean-Placements has helped in creating student centric policies and procedures and effective monitoring through departments/units
- The management has devised the policy of rotation of head of the departments with an aim to induct and groom the next in line to lead the department.
- The Head of the Departments are members of the Academic Council and College Council where major Academic/Administrative decisions are being addressed. As part of the Departmental Academic Committee [DAC], the faculties provide their inputs on all academic related matters. The faculty (Proctor) regularly monitor the progress of the assigned students. The Mentors meet the group of allocated students, counsel, guide and motivate them in all academic matters
- Senior faculty members are part of various Academic/Administrative committees. All stakeholders actively involved in the process of decision making and policy framing.

File Description	Document
Upload any additional information	View Document
Provide the link for additional information	View Document

6.2 Strategy Development and Deployment

6.2.1

The institutional perspective plan is effectively deployed and functioning of the institutional bodies are effective and efficient as visible from policies, administrative setup, appointment, service rules, and procedures, etc

Response:

The Institutional Strategic Plan

The Institutional Strategic plan is critical in providing roadmap to future activities in tandem with mission and vision. The strategic plan (2020-2025) was in vogue. The plan was prepared by adopting participatory approach both at the institutional and department level through focussed group discussions and workshops. The implementation of the plan was executed with the support and involvement of all stake holders. The BOG periodically reviewed the implementation of strategic plan. The extent of compliance was presented to the Board of Governors from time to time. The college has been able to

accomplish almost all the goals. Building upon the progress achieved in the previous plan, the college prepared Strategic Plan (2021-2025).

Functioning of Institutional bodies & Administrative Set-UP

The administration of BMSCE is overseen by the Board of Governors (BoG). The BOG is constituted as per statutory provisions. The college works are delegated to individuals and committees both statutory and non-statutory apart from several Committees/Sub-Committees to continuously monitor the activities of the Institution. The Committees comprise of key stakeholders including government, administrators, faculty, staff, industry, employer, alumni and current students. The diversity in the composition of the committees helps in making pragmatic decisions. The institution has prepared Good Governance Document (GDD) based on guidelines prescribed by various apex bodies and agencies. The Document provides information about various academic and administrative committees. It also outlines the responsibilities of various functionaries. The GDD helps the Board of Governors to ensure accountability, fairness and transparency in the institute's relationship with all its stakeholders.

The Appointment, Service Rules, and Procedures

The Management has adopted Karnataka State Civil Service Rules [KCSR] and AICTE norms for governing service benefits, recruitment and other policies. The staffing pattern of the Institution is dependent on the extension of the academic programmes and the manpower requirement for the same. With the introduction of new programmes, new teaching and non-teaching posts are created to meet the manpower requirement to satisfy the workload. The Governing Council approves the Budget for such newly created posts.

Recruitment Procedure

The Board of Appointments (BOA) nominated by BOG is headed by the Chairperson, BMS Educational Trust. The staffs at different cadres are recruited in transparent manner adhering to the applicable recruitment norms and Reservation Roster. Advertisements are issued in leading dailies inviting applications. The applications are scrutinised by scrutiny committee. One external subject expert is part of the committee. The Committee shortlists the candidates in the order of merit. The shortlisted candidates are called for preliminary interview by a sub-committee constituted by the BOA. One external expert is invited as part of preliminary interview/screening committee. The sub-committee assess the ability of the candidates through various evaluation parameters. The BOA conducts the final interview and recommend the names arranged in the order of merit.

The Strategic Plan 2020-2025 and 2021-2025, Good Governance Document, Recruitment Norms, Management Service Rules and procedure is provided in attachment

File Description	Document
Institutional perspective Plan and deployment documents on the website	View Document
Provide the link for additional information	View Document

6.2.2

Institution implements e-governance in its operations. e-governance is implemented covering the following areas of operations:

- 1.Administration including complaint management**
- 2.Finance and Accounts**
- 3.Student Admission and Support**
- 4.Examinations**

Response: A. All of the above

File Description	Document
Screen shots of user interfaces of each module reflecting the name of the HEI	View Document
Institutional expenditure statements for the budget heads of e-governance implementation ERP Document	View Document
Annual e-governance report approved by the Governing Council/ Board of Management/ Syndicate Policy document on e-governance	View Document

6.3 Faculty Empowerment Strategies**6.3.1**

The institution has performance appraisal system, effective welfare measures for teaching and non-teaching staff and avenues for career development/progression

Response:

The Institution has put great emphasis on faculty and staff performance and welfare measures. The Annual Performance Report (APR) formats have been derived as shown hereunder:

The APRs are divided into five parts Personal Data and Self – Assessment and Report, Review and Assessment to be filled by the Reporting authority, reviewing and accepting authority respectively. Separate APR formats are issued to employees of all cadres in the month of April every year to get their performance assessment for the previous year from April to March. APRs obtained from the concerned HODs are reviewed and accepted by the concerned authorities. In case of adverse remarks, the employees are counseled and suggested measures to improve their efficiency. Satisfactory Annual performance reports are being considered for extending the benefits like CAS promotions for teaching staff, Time Bound promotions of non-teaching staff. The annual performance review and the subsequent rating of an employee is an important factor in the grant of annual increments, performance awards and

career advancement opportunities.

High retention rate of faculty and staff can also be attributed to extensive staff welfare measures. The welfare measures for teaching and nonteaching staff are enumerated hereunder

Teaching Staff	Non-Teaching Staff
<ul style="list-style-type: none"> • AICTE Scales of Pay • Career Advancement Scheme • Faculty Research Promotion Scheme [FRPS] – Seed Money • Study Leave with full salary for pursuing Ph.D under QIP • Deputation to participate in Workshops / Seminar / Conference in India and abroad • Cash Incentive for publications in refereed journals • Cash incentive for fetching external grants • Financial Support for Patent advise and filing • Financial Support for presenting papers • Engineering Consultancy to facilitate consultancy activities. • Annual Allowance of Rs.15000/- per faculty towards professional requirements • Medical & Accidental insurance to employees (Spouse and Children) • Family Welfare Fund • Voluntary Provident Fund • Vehicle Loan (Car Loan) • Terminal Benefits/ • Benefit of VRS • Maternity Leave • Management quota seats for wards of the employees • Employees Credit Co-operative society • Festival Advance. 	<ul style="list-style-type: none"> • Revised State Government Pay Scales and up-to-date DA • Time-bound promotions • Terminal benefits • Maternity Leave Benefits • Medical (Family) & Accidental Insurance Coverage • Family Welfare Fund (FWF) • Voluntary Provident Fund (VPF) • Festival Advance • Vehicle Loan (two Wheelers) • Educational Aid (Rs.15,000) to children of non-teaching staff • Management Quota seats for the wards of employees • Benefits of VRS • Employees Credit Co-operative Society.

Staff Welfare Measures – Number of Beneficiaries – Assessment Period

Welfare Measure	Number of Beneficiaries during the Assessment period
Career Advancement Scheme [CAS]	207 [100+107]
2019 & 2023	
Faculty Research Promotion Scheme [FRPS]	76 Projects of 2.00 Lakhs each

Faculty provided with financial support to attend conferences/ workshops and towards membership fee of professional bodies	574 Faculty members
Incentive for Research Publications in Refereed Journals	503 Faculty Members
Family Welfare Fund	69 (29 faculty +40 Staff Members)
Voluntary Provident fund (VPF)	215 (124 Teaching +91 Staff Members)
Vehicle Loan (Car Loan)	08 (Faculty)
Vehicle Loan (two wheeler)	42 (Staff Members)
Education Aid	494 (Staff Members)
Terminal Benefits	32 (12 Faculty +20 Staff Members)
Maternity Leave	27 (17 Faculty +10 Staff Members)
Festival Advance	872 (151 Faculty +676 Staff Members)
VRS	02 (01 faculty +01 Staff Member)
Time-Bound Promotions	51 (Staff Members)
BMSCE is one of the very few institutions which paid Full salaries of all faculty & staff during COVID19 lock down period.	
File Description	Document
Upload any additional information	View Document

6.3.2

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

Response: 27.96

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

2022-23	2021-22	2020-21	2019-20	2018-19
230	63	31	81	100

File Description	Document
Policy document on providing financial support to teachers	View Document
Institutional data in the prescribed format (data template)	View Document
Copy of letter/s indicating financial assistance to teachers and list of teachers receiving financial support year-wise under each head.	View Document
Audited statement of account highlighting the financial support to teachers to attend conferences/workshops and towards membership fee for professional bodies	View Document

6.3.3

Percentage of teachers undergoing online/ face-to-face Faculty Development Programmes (FDPs)/ Management Development Programmes (MDPs) during the last five years

Response: 42.41

6.3.3.1 Total number of teachers who have undergone online/ face-to-face Faculty Development Programmes (FDP)/ Management Development Programs (MDP) during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
184	145	169	167	101

File Description	Document
Refresher course/Faculty Orientation or other programmes as per UGC/AICTE stipulated periods, as participated by teachers year-wise.	View Document
Institutional data in the prescribed format (data template)	View Document
Copy of the certificates of the program attended by teachers.	View Document
Annual reports highlighting the programmes undertaken by the teachers	View Document

6.4 Financial Management and Resource Mobilization

6.4.1**Institutional strategies for mobilisation of funds other than salary and fees and the optimal utilisation of resources**

Describe the resource mobilisation policy and procedures of the Institution within a maximum of 500 words

Response:

Mobilization of funds in the institute is through several ways. The primary source is tuition fees, salary grants received from Government of Karnataka, financial assistance obtained through external research projects, consultancy and other sources. The institute continued to be a beneficiary of TEQIP Phase III a world bank assisted funding for the assessment years 2018-19 to 2021-22. The institution is also part of Global Initiative Academic Network (GIAN), approved by Government of India. The details of mobilization of funds during the Assessment period are as shown below.

Tuition Fees & Salary Grants

The details of student fees, bank interest and salary grants received from the Government during the assessment period is shown hereunder

Amount in lakhs

Name of the Source	Year					Total
	2022-23	2021-22	2020-21	2019-20	2018-19	
Tuition Fee (Aided)	478.19	591.22	691.86	618.43	666.58	3046.27
Bank Interest (Aided)	1.96	1.64	1.98	2.10	2.25	9.93
Tuition Fee (Mgmt)	5381.90	4563.38	991.44	3678.28	3026.31	20641.31
Bank Interest (Mgmt)	27.53	33.14	34.26	32.11	46.31	173.35
Misc Income (Mgmt)	46.22	41.86	36.61	39.70	29.80	194.20
Salary Grants	1616.47	1552.49	1548.6	1465.27	1456.88	7639.71

Technical Education Quality Improvement Programme [TEQIP]

The Institution is a beneficiary of TEQIP a world Bank assisted project. The Grants received through TEQIP Funds during the assessment period (2018-19 to 2021-22) is as shown hereunder:

Year	Amount (in Lakhs)
2021-22	11.34
2020-21	165.72
2019-20	421.09
2018-19	274.47
Total	872.53

Revenue through External Research Projects

The details of external grants received during the assessment period is as noted hereunder:

Year	No. of projects	Amount (in Lakhs)
2022-23	42	174.98
2021-22	28	225.13
2020-21	21	100.05
2019-20	3	60.73
2018-19	11	117.02
Total	105	677.91

Revenue through Consultancy Projects

The revenue generated through consultancy during the assessment period:

IRG through consultancy		
Year	No. of Projects	Amount (in lakhs)
2022-23	115	61.31
2021-22	73	34.28
2020-21	57	28.80
2019-20	109	45.68
2018-19	84	36.45
Total	438	206.52

Other Sources

Amount in lakhs

Name of the Source	Year					Total
	2022-23	2021-22	2020-21	2019-20	2018-19	
Alumni Contribution	8.53	1.0	0	9.35	7.20	26.08

GLOBAL INITIATIVE OF ACADEMIC NETWORKS (GIAN)

The institution is beneficiary of Global Initiative of Academic Networks (GIAN), Under this Government of India initiative, a total amount of Rs.68.80 Lakhs worth projects has been granted.

The institution has implemented various research promotion/external fund mobilization measures to encourage the faculty and research scholars which has resulted in enhanced research and consultancy

outcomes. Some of the measures are enumerated hereunder:

- 1.5% cash incentive from management funds for faculty fetching external grants. During the assessment period (2018-19 to 2022-23) a cash incentive worth 20.02 Lakhs for a total of 48 projects were extended.
2. To support the consultancy activities of the faculty members, the management has in place, a policy of resource sharing for Type I consultancy projects and Type II consultancy projects (involving lab, facility, etc).

Financial control is exercised through various bodies/committees. The finance committee monitors the apt utilization of funds for various recurring and non-recurring expenses.

File Description	Document
Upload any additional information	View Document

6.4.2

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

Response: 50.97

6.4.2.1 Total Grants received from government/non-government bodies, philanthropists year wise during last five years (not covered in Criterion III and V) (INR in Lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
15.29	9.64	0	13.33	12.71

File Description	Document
Institutional data in the prescribed format (data template)	View Document
Copy of the sanction letters received from government/ non government bodies and philanthropists	View Document
Annual audited statements of accounts highlighting the grants received	View Document

6.4.3

Institution regularly conducts internal and external financial audits regularly

Enumerate the various internal and external financial audits carried out during the last five years with the mechanism for settling audit objections within a maximum of 500 words

Response:

The Institute has a mechanism for internal and external audit to ensure financial compliance. The institutional accounts are regularly audited. The observation of the auditors if any are duly considered and complied with.

Internal Audit: The internal audit is an ongoing continuous process. Qualified Internal Auditors from external resources have been permanently appointed and a team of staff under them do a thorough quarterly basis check and verification of all payments, receipts & journals vouchers of the transactions cash books, ledger account review that are carried out in each financial year on an accrual basis system. The audit is conducted in two sessions, first during the month of November/ December for period of six months starting from 1st April to September and second in the month of May/ June for the period from October to March. The auditors also verify payment of dues under TDS / EPF / PT and other statutory compliance.

External Audit: The external auditor appointed by the college performs audit of the financial statements of the college. The financial records are audited by qualified chartered accountants (after the end of each fiscal year) income & expenditures, balance sheet and prepared notes to accounts are certified. Finalization of account is completed in September and audited statement is prepared. The audited statement is duly signed by Principal, Chairman and Chartered Accountant. All accounting systems are accrual basis computerized and maintained on Tally. The Institution also publishes audited financial statements on the institutions website as information for the public.

The College has a full-fledged Accounts department headed by the Finance Officer. The financial statements are prepared in accordance with Accepted Accounting Principles

Finance Committee: The Finance Committee constituted by the Governing Council acts as an advisory body to advice the BOG on all matters connected with the finances of the college. The Principal is the Chairman of the Committee and Management representative and officer incharge of finance as its members. Budgetary provisions for the departments are made based on the requirements/inputs provided by the HOD. The departments propose their budgetary requirement for the particular year. The Committee considers the budgetary requirement of the departments in the beginning of the financial year. The Committee consolidates the budget received from various Departments and presents to the Governing Council for approval. The BOG reviews/ratifies the proceedings of the Finance Committee. The BoG considers the recommendation of the finance committee with specific reference to the academic interest of the department and potential income and expenditures (recurring and non-recurring) involved for the year. The Finance Committee regularly monitor the utilization of the sanctioned budget.

Procurement Process: The College Procurement Committee (CPC) oversees the procurement process so as to maintain uninterrupted flow of materials/services. Procurement policy and procedures are in place to streamline the procurement processes. The Departmental Procurement Committee (DPC) proposes the equipment/requirement. The DPC recommendations is based on the requirement and procurement guidelines of the institution.

File Description	Document
Upload any additional information	View Document
Provide the link for additional information	View Document

6.5 Internal Quality Assurance System

6.5.1

Internal Quality Assurance Cell (IQAC)/ Internal Quality Assurance System (IQAS) 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

Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes visible in terms of –

- **Incremental improvements made for the preceding five years with regard to quality (in case of first cycle)**
- **Incremental improvements made for the preceding five years with regard to quality and post accreditation quality initiatives (second and subsequent cycles)**

Describe two practices institutionalized as a result of IQAC initiatives within a maximum of 500 words

Response:

The Internal Quality Assurance Cell (IQAC) continues to ensure quality culture in all academic and administrative endeavours.

Some of the major functions of IQAC include Accreditation by NBA, NAAC, university affiliation, NIRF ranking, AISHE, formulating Strategic plan, arranging stakeholders' feedback and analysis, involving in processes towards deriving policies for quality culture at the institution level in academics, research and administration, organising inter and intra institutional workshops, seminars on quality related themes, conducting academic and administrative audits (both internal and external), submission of Annual Quality Assurance Report (AQAR) and others.

Two Practices Institutionalized by IQAC:

Internal Academic Audit: The internal audit is conducted at three levels: faculty, department and institute. Internal audit teams comprise of senior professors from across disciplines. The audit teams review TLP, research contribution, learning outcomes, OBE practises, assessment patterns, course file preparation and documentation procedures. The follow-up process includes sharing the audit report to the departments to implement the recommendations. A committee comprising of management representatives, Principal and senior functionaries review the action taken report based on the audit observations.

External Academic Audit: The external audit committee comprises of three distinguished academicians. The Committee reviews all aspects of academic and other performance of the college with specific reference to implementation of academic autonomy. The external audit report is sent to University/UGC. The Academic Audit reports are also placed for the consideration of the Academic Council and BoG from time to time.

1.Nurturing Young Educators: Teaching Learning Centre (TLC) was established with an aim to support young faculty in enhancing their teaching skills and fostering a culture of continuous professional development. Organising capacity enhancement and knowledge upgradation programmes and sharing prevalent pedagogical practices among teachers across disciplines are some of the major activities conducted by TLC. Other major activities are as enumerated hereunder:

- Peer learning sessions on innovative pedagogy, setting dynamic classroom, course design, active learning, usage of Canvas LMS etc.
- Hands-on session on Adobe Express was conducted. 60 faculty were awarded Adobe Creative Educator certificates.
- IPR Session on “Indian Patent: Filing and Grant Procedure” was conducted for CSE and allied branch faculty to understand the nuances involved in patent filing process on expedited mode.
- OBE workshops series were conducted for the benefit of 40 NBA coordinators and newly joined faculty on 15-16th June 2022, 23-24th June 2022, 24-25th March 2023 and 28-29th March 2023.
- TLC organised OBE awareness workshop in collaboration with NBA and VTU on 16.01.2023. More than 200 Professors from 85 colleges across the state participated.
- 5-day FDP on Pedagogical Innovations was conducted by TLC from 29th May to 2nd June 2023 for the benefit of newly joined faculties. Experts from NITTR Chennai and senior Professors of BMSCE were Resource persons for the FDP.
- BMSCE is member of Indo-Universal Collaboration for Engineering Education (IUCEE). The TLC nominates BMSCE faculty for IIEECP programme organised by IUCEE. The TLC in association with IUCEE conduct various Online certification programs on wide range of topics. The faculties and students actively participate in the programs.

File Description	Document
Upload any additional information	View Document

6.5.2

The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms

Describe any two examples of institutional reviews and implementation of teaching learning reforms facilitated by the IQAC within a maximum of 500 words each.

Response:

The IQAC reviews the effectiveness of the teaching learning process and learning outcomes through student feedback, course-end survey, academic audit (both internal and external), observation of the external assessing agencies and others.

Two Best Practices**1. Facilitating conduct of Internal and External Academic Audit****Internal Academic Audit**

The Internal Academic audit is conducted once in a year for first year engineering, higher semesters and PG programmes. The academic audit is coordinated by office of IQAC and Dean-Academic.

Review of academic systems, Teaching, Learning and Evaluation practices, adequacy of infrastructure, remedial measures in vogue for slow learners, implementation of OBE are some of the parameters reviewed as part of the audit process. The audit comprises of course outcomes defined for each course, the CO-PO mapping, Assessment tools adopted, assessment analysis, CO attainment and best practices followed.

The audit is conducted at three levels: faculty, department and institute level. The first level is the self-analysis by faculty handling the respective course. The second level of audit is conducted by the respective departmental academic committee. The final level audit is at the institute level where-in internal audit teams comprising of senior professor's audit on departmental academic activities. A well-designed self-evaluation format is shared with the Departments. The Department submit the filled-in self-evaluation document. This is followed by data review by the internal audit team and visit of the to the departments. This audit comprises of observations on academic practices, strength and weakness of the programs and suggest areas for improvement. The follow-up process includes sharing the audit report to the departments and review meeting by a committee comprising of management representatives, Principal and other senior functionaries. The Academic Audit report is also placed for consideration of the Academic Council and BoG from time to time.

External Academic Audit

In adherence to the VTU communication dated 10.11.2021, an IQAC (Autonomous) Cell was constituted as per UGC guidelines. The objective of the Cell is to review all aspects of academic performance with specific reference to implementation of autonomy. The prescribed composition includes internal members (faculty/ students/non-teaching staff) and three external members nominated by the University. The institution through communication dated 09.12.2021 sought university nomination for the Cell. The VTU through communication dated 10.11.2023 nominated three external expert members on the Cell. The meeting of the internal members was conducted on 31.01.2024 and external peer team review was conducted on 26.02.2024.

The Process adopted:

1. The Departments submit duly-filled self-evaluation document to the IQAC. The reports are presented to the external auditors. The audit formats are finalised by the external experts.

- 2.The external audit covers curriculum design, syllabus content and coverage, CIE & SEE evaluation, quality of question papers, budget, NBA Accreditation, MOUs, Industry support initiatives, Faculty achievement, project evaluation, student co-curricular and extracurricular achievements, best practices and others.

The audit report is sent to University/UGC/Department of higher education and also put on website of the College. The college prepares the response based on the corrective measures implemented upon the observations made by the auditor.

File Description	Document
Upload any additional information	View Document

6.5.3

Institution has adopted the following for Quality assurance:

- 1.Academic and Administrative Audit (AAA) and follow up action taken**
- 2.Conferences, 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 and other recognized ranking like Shanghai Ranking, QS Ranking Times Ranking etc**
- 6.Any other quality audit recognized by state, national or international agencies**

Response: A. Any 5 or more of the above

File Description	Document
Quality audit reports/certificate as applicable and valid for the assessment period	View Document
NIRF report, AAA report and details on follow up actions	View Document
List of Collaborative quality initiatives with other institution(s) along with brochures and geo-tagged photos with caption and date	View Document
Link to Minute of IQAC meetings, hosted on HEI website	View Document

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1

Institution has initiated the Gender Audit and measures for the promotion of gender equity during the last five years.

Describe the gender equity & sensitization in curricular and co-curricular activities, facilities for women on campus etc., within 500 words

Response:

The institution has created favourable atmosphere to women staff and girl students. Various statutory and non-statutory committees like Women Cell, Students Grievance Redressal Committee (SGRC), Anti-Ragging Committee, Vigilance Squads, SC/ST Cell, College Internal Complaints Committee (CICC), Campus Discipline Committee, Internal Committee for Students with Disabilities and others are in place. The BMSCE Women Cell strives to promote gender equality among faculty and students at all levels of functioning. The cell has created Gender Equity Policy with an aim to ensure fairness across all genders. The Cell regularly conducts gender equity and empowerment programmes and also facilitates conduction of annual external gender audit. The composition of the Women Cell are as follows:

Women's Cell:

Sl.No.	Name	Nature
1	Dr. K.P.Lakshmi – Faculty, Dept. of ECE	Chairperson
2	Dr.Rashmi S Shenoy- Faculty, Dept. of BT	Member
3	Dr. Nandini Vineet- Faculty, Dept. of CSE	Member
4	Dr. Chaitanya L – Faculty, Dept. of EEE	Member
5	Mrs. A.N.Shwetha Staff Admission section	Member
6	NGO nominee	Member
7	Student Representatives	Member
8	Dr. V.N.Shailaja-Faculty, Dept. of IEM	Convenor

Major Objectives and Function of the Women Cell:

- Organizing orientation programmes, seminar, workshops and gender sensitivity programs.
- To promote general harmony and prevent discrimination of women in the campus.
- To make students aware of Gender Equity, Women Health, Self-Défense, Sanitation & Hygiene, Literacy, Women Entrepreneurship, Legal Awareness and other activities listed as part of AICTE

Lilavati Award.

- To consider and redress the grievances of Women (Staff & Students)

Gender Audit – Aims and Objectives

- 1.To ascertain the gender balance in the institution
- 2.To assess the impact of the gender equity policies adopted by the college
- 3.To identify and propose gender equity measures (if any)

The Annual Gender audit Committee for the year 2022-23 was headed by Smt.M.P.Omkareshwari, Joint Commissioner for Transport and also comprised of internal faculty, staff and student representatives.

Gender Audit Methods:

The audit was conducted on a broad framework to review the elements of gender sensitive infrastructure, equity, gender balance, female representation in various academic and administrative forums, gender equity promotion programmes organised and conclusion and recommendation to be arrived based on the above review.

Audit Process:

As part of the audit process, the committee visited/reviewed gender sensitive infrastructure and support measures/facilities like ladies common room, Counselling Centre, women safety and security measures in the campus (both college and hostel) premises. The files/documents related to financial assistance extended by the institution to women students under various schemes apart from Central and State Government Schemes and service benefits extended and its impact were analysed. The audit team also interacted with various student groups and faculty members. The Committee appreciated various infrastructure/support and service measures introduced towards gender equity duly supplemented by numerous safety and security measures at college and hostels and functioning of related committees and functionaries. The Committee also made few suggestions/recommendations for further improvement, which is duly considered by the Management and compliance measures have been implemented.

File Description	Document
Upload any additional information	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
6. Wind mill or any other clean green energy

Response: A. Any 4 or more of the above

File Description	Document
Permission document for connecting to the grid from the Government/ Electricity authority	View Document
Geo-tagged photographs of the facilities.	View Document
Bills for the purchase of equipment's for the facilities created under this metric	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:

The institution satisfies the applicable compliance requirements towards environmental, eco conscious practices and waste management measures. This is evidenced through the institution attaining the prestigious ISO 14001:2015 certification for its Environmental Management System through qualified external ISO 14001 auditor. The Process involved 1) Pre-Audit Process 2) Preparation for Certification 3) Review and Certification by NABCB Accredited Body 4) Filing the gaps 5) Final Certification by External Auditor.

The degradable and non-degradable waste is managed in following ways.

Solid Waste Management	The dry solid waste is collected and stored within the campus and disposed through PCB/ BBMP authorised agencies. Sufficient quantity of waste bins, are identified and placed within the campus based on the waste type such i.e. Compostable waste segregation, Non Compostable – Non hazardous waste segregation, E-waste, Hazardous waste and Biomedical waste. Workshops and awareness programs are regularly organised.
Liquid Waste Management:	BMSCE Campus has a network of underground sewer lines and the sewage after treatment is reused for gardening purpose within the campus. Sewage treatment plant capacity is 350 KLD. Awareness programme regarding conservation of water is

	regularly conducted.
Biomedical waste Management:	Bio medical waste (wherever generated) is collected in designated bins and disposed through authorized agency as per SPCB rules.
e-Waste Management	E-Waste is being disposed through outsourcing. BMSCE has entered into MOU with authorised agency M/S. Elexon Private Limited who recycle the materials/equipment's in accordance with E waste management rules. No e-waste is stored more than 180 days in campus.
Waste recycling system:	Waste water is recycled through Sewage Treatment Plant process, which performs physical, chemical, and biological processes to remove contaminants and produces treated wastewater that is safe enough to dispose of into the environment. The sludge further undergoes treatment before being suitable for disposal or application to land. The treated water is used for gardening, toilet flushing and floor cleaning purposes
Hazardous chemicals (HW) and radioactive Waste Management	The HW is stored in separate containers, meant for the purpose. stored in a cool, shady place, away from sources of ignition and fire. Only authorized and trained personnel are authorised to remove Hazardous Waste (HW). Storage in inappropriate containers is strictly avoided. There is a legal agreement for the safe disposal or recycling of hazardous waste material between the College and the SPCB authorized hazardous waste recycling/disposal units. Appropriate Personal Protective Equipment is used and ensured that HW does not enter storm water drains. Spill procedures are established to handle any spill incident. The management ensures that all the necessary records are maintained as per the Hazardous Waste Rules

File Description	Document
Relevant documents like agreements/MoUs with Government and other approved agencies	View Document
Geo-tagged photographs of the facilities	View Document
Any other relevant information	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 more of the above

File Description	Document
Green audit reports on water conservation by recognised bodies	View Document
Geo-tagged photographs of the facilities	View Document
Bills for the purchase of equipment's for the facilities created under this metric	View Document

7.1.5**Green campus initiatives include**

Describe the Green campus initiative of the institution including Restricted entry of automobiles, Use of Bicycles/ Battery powered vehicles , Pedestrian Friendly pathways , Ban on use of Plastic, landscaping with trees and plants etc in 500 words

Response:

The institution has excellent infrastructural facilities like spacious classrooms, laboratories, workshops, libraries, faculty rooms, conference halls, auditoriums administrative block and other units. The campus has aesthetically designed buildings, surrounded by greenery making it highly conducive for learning. The campus also houses separate hostels for men and women. Dustbins have been provided along all major corridors for collection and disposal of waste. Water services have been provided both for gardening and drinking. Fire utility services have been installed all around the campus as per the regulatory norms. A separate engineering division (Building Section) ensures the maintenance of the campus with sufficient human resources. The campus has adopted Rainwater Harvesting, has lawns and well grown trees thus making the institute, eco-friendly. The faculty, staff and students are encouraged to contribute collectively to develop an eco-friendly sustainable campus.

- The institution has a well established Environmental System Management (EMS) Manual outlining procedures, rules and regulations, governing the EMS adopted by the institution. This in alignment with ISO 14001:2015
- Minimize the use of paper through digital communication technology and ICT tools.
- Ban use of single-use plastics in canteens, in the college premises and hostels. Awareness drives and sensitization workshops on the harmful impact of single use plastics are conducted. Plastic Free zone stickers and posters are promoted. The NSS/NCC/Rotaract Units conduct regular drives/campaigns educating students about harmful effect of plastic usage.

- LED bulbs are used for newly constructed buildings and some of the incandescent and fluorescent tube lights are replaced with LED bulbs. The class rooms, laboratories, administrative blocks, computer centers, libraries, seminar halls and staff rooms are provided with energy efficient LED lighting system.
- For effective wastewater management, the campus is provided with advanced wastewater treatment plant involving membrane bioreactor (MBR) technology for treating the wastewater generated from hostels and different buildings in the campus.
- To provide potable, palatable and safe drinking water to the students and employees, a purified drinking water treatment facility involving reverse osmosis process has been established in the campus.
- In order to achieve zero liquid discharge, the treated effluent is being recycled through toilet flushing and gardening.
- Reduce the vehicular noise pollution in the campus, no sound horn sign boards have been installed at various locations in the campus.
- Roads inside the campus are well maintained. Pedestrians can walk safely through the campus using walk friendly pathways. Proper signages are proved at strategic locations.
- A dedicated garden section has been established to protect and nurture the flora and fauna on the campus.
- Solar lamps in the campus premises and solar water heaters in girls and boys hostels have been installed.
- Annual energy audit and green audit are conducted and the recommnedations are implemented.
- Exclusive parking space is allocated for Bicycles / Powered Battery Vehicles.

File Description	Document
Policy document on the green campus/plastic free campus	View Document
Geo-tagged photographs/videos of the facilities	View Document
Circulars and report of activities for the implementation of the initiatives document	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

7.1.6

Quality audits on environment and energy are regularly undertaken by the institution

The institutional environment and energy initiatives are confirmed through the following

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

Response: C. Any 2 of the above

File Description	Document
Report on environmental promotion and sustainability activities conducted beyond the campus with geo-tagged photographs with caption and date.	View Document
Policy document on environment and energy usage Certificate from the auditing agency	View Document
Green audit/environmental audit report from recognized bodies	View Document
Certificates of the awards received from recognized agency (if any).	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

7.1.7

The Institution has Differently-abled (Divyangjan) friendly, barrier free environment

Write description covering the various components of barrier free environment in your institution in maximum of 500 words

- **Built environment with Ramps/lifts for easy access to classrooms**
- **Divyangjan friendly washrooms**
- **Signage including tactile path, lights, display boards and signposts**
- **Assistive technology and facilities for Divyangjan accessible website, screen-reading software, mechanized equipment**
- **Provision for enquiry and information: Human assistance, reader, scribe, soft copies of reading material, screen reading**

Response:

With an aim to take care of the day to day needs of differently abled students at the college and to oversee the implementation of Government and Management schemes, policies and programs devised for the benefit of disabled students, an Internal Committee for the students with Disabilities (ICSD) was established in the year 2018 with the following composition

SNo	Category	Nature
1	Professor nominated by the Principal	Chairperson
2	Four Teachers nominated by the	Members

	Principal	
3	Registrar	Member
4	Director (Projects)	Member
5	Student Counsellor	Member
6	One Non-Teaching Staff	Member
7	Two Student Representatives	Member
8	Two Parent Representatives	Member
9	One Teacher	Member-Secretary

The Cell ensures that necessary facilities and assistance for students with disabilities are provided in the campus. The major activities of ICSD include:

- To Providing information, guidance and support to disabled students
- To Create awareness among stakeholders in the area of equal opportunities on a regular basis.
- To propose any other programmes/activities as deemed fit for the benefit of Differently abled students.
- Update related information on website.

The following Infrastructure and other support measures are provided to Persons with physical Disabilities:

- 1.Ramps/Rails, Lifts, Special Toilets, Parking Lots, Scribes and assisting devises like Wheelchairs, walking-aids, hearing aids etc
- 2.Wheelchair users can move without others help. Provision of Ramps with minimum width of 1.5 Meters along with handrails at entrances, exits and passages.
- 3.Adequate space (1.2 Meters) is provided for movement of wheelchair users to enter into classrooms, laboratories, toilets and other areas within the building.
- 4.Ramp slope is 1:12 for climbing by wheelchair users, even when they have a care giver to push. steep slopes can be painful.
- 5.Provision of lifts to Accommodate wheelchair users to move different floors.
- 6.Handrails for persons who use Crutches with anti-skid (non-slip) floors,
- 7.Accessible toilets with provision of handrails in urinals, wheelchair access to utilities like washbasin. health facets, etc.
- 8.Reserved designated parking.

Special Provisions for persons with Disabilities in the examination:

- The Management is extending the benefit of two merit scholarships of Rs.20,000/- per student every year for the differently abled students commencing from the year 2022-23.
- Provision of scribes (as per the guidelines issued by the department of Empowerment of persons with disabilities, Government of India) for students who find difficulty in writing, visual impairments, etc during examinations both CIE and SEE.
- Extension of time up to 20 minutes per hour given to the students who uses scribes and students find difficulty in writing examinations.
- Permission to make adequate arrangements for use of computers for writing examinations by persons with print disabilities with provision of softcopy of question paper in accessible format.

Additional Support and linkages:

- Tie-ups with NGOs: DASC has MoU with Youth4Jobs Foundation aimed to improve the livelihood and wellbeing of PwDs
- Placement and support services: Mega job fair for engineering graduates with Disability was conducted by DASC in association with Youth4Jobs Foundation and National Career Services Centre for the Differently Abled (NCSC) on 30th April 2022. Report attached.
- Employer sensitization
- Awareness on disability rights and reservation policies

File Description	Document
Upload any additional 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 such other diversities (within 500 words).

Response:

BMSCE provides an inclusive environment with tolerance and harmony towards cultural, regional, linguistic, communal socio-economic and other diversities. The college hosts a variety of activities to encourage cultural, ethical, religious and spiritual values among staff and students. The student from different states across the country with ethnic backgrounds study in a congenial campus environment. Out of 2204 students admitted for the year 2022-23, 499 students from other states are enrolled. The faculty and staff from different backgrounds enrich the diversity. Every year, the hostels conduct Freshers Day wherein the newly admitted students enjoy moments of togetherness and make them feel good about being a part of the campus. Every year the students celebrate Ethnic Day, the students and faculty of the college come dressed in their ethnic wear and celebrate the spirit of unity and inclusiveness. National festivals, birth anniversaries of great Indian personalities are celebrated recalling their contribution to the nation and inculcating the spirit of nationalism and oneness. The faculty and students take active lead in celebrating Teacher's Day to commemorate the birth anniversary of Sri Sarvepalli Radha Krishna, former President of India and a great teacher of the nation. UTSAV, is rated as one of the best techno-cultural fest in the state. The three-day celebration provides students the platform to showcase their talents in various technical and cultural activities. The institutional infrastructure and resources are made accessible to individuals with disabilities, including wheelchair ramps, elevators, accessible restrooms, and assistive technologies. By removing physical barriers, institutions promote inclusivity and ensure equal opportunities for all members of the community. With an aim to help students to pursue their hobbies and interests and to increase social relationship among the students, numerous hobby and activity clubs have been established. Apart from making the student more active in their academics, these clubs provide platform for recreation and self-expression. The institution inculcates the sense of social and civic responsibility and encourages the students to address community problems. The NSS, NCC, Rotoract, sports and cultural committee regularly conducts activities bringing students and teachers with diverse background on single platform. Annual Staff sports day is conducted

every year. An array of sports events is conducted wherein in the staff members participate enthusiastically. International Yoga day is celebrated every year with an aim to promote harmony and well-being. The mentoring program benefit all students in their academic pursuits.

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

Describe the various activities in the Institution for inculcating values for being responsible citizens as reflected in the Constitution of India within 500 words.

Response:

BMSCE believes in providing holistic and all-round development of students. The college facilitates conducive environment and facilities in accomplishment of the goal. Apart from regular curriculum of the program, the students are encouraged to participate in co-curricular, extra-curricular and other campus activities.

Through NSS, NCC, Rotoract and various student clubs, activities sensitizing students on constitutional rights, values, duties and responsibilities is conducted on regular basis. Independence Day, Republic Day, Ambedkar Jayanth, Gandhi Jayanthi, Indian Constitution Day, Martyrs Day (Tribute to our brave soldiers), National Girls Day, International Yoga Day, Anti-Corruption Day, World Tourism Day, Khadi Exhibition, National Unity Day, , Swatch Bharat Awareness campaign, Sadbhavana Divas, Walkathon on say NO to drugs, World Cancer Day, Blood Donation Camps, Har Ghar Tiranga, run for unity, Surgical Strike celebration day, Vaccination Drives, Health Awareness Campus, Road safety, Self-defence sessions for women are some of the major activities / events conducted. The Ethnic Day is a day of celebration for the diversity of cultures and ethnicities. The students from different cultural backgrounds dressed in traditional outfits participate enthusiastically and zealously. With an aim to sensitise the faculty, students and community on their electoral rights and familiarise them with the electoral process of registration and voting and more-so on strengthening the culture of electoral participation among young future voters, the institution constituted Electoral Literacy Club (ELC) on 01.04.2023. Right to Vote – Community Voting awareness campaigns Promotion to Ethical Voting, Voter Awareness Rally, Voter registration drives are some of the major activities conducted through ELC.

As part of the curriculum, the subject of Constitution of India and Professional Ethics sensitize the students about the constitutional obligations. The details are as shown hereunder:

- **Constitution of India and Professional Ethics:** The course is Integrated into the curriculum

across disciplines, it involves incorporating case studies and discussions on constitutional law, governance structures, and citizen rights and duties into relevant course. The course is offered in the 1st Year for all branches of engineering students.

- **Associated Activities:** Education and Awareness Campaigns: On Constitution Day - Debate competition, essay writing and preamble reading is done to educate students and employees about the constitution, its principles, and the rights and responsibilities it entails. These activities cover topics such as the fundamental rights guaranteed by the constitution, the importance of upholding democratic values and the significance of civic duties.

By implementing these strategies, institutions have effectively sensitized students and employees to their constitutional obligations and empowering them to become informed, engaged, and responsible citizens.

File Description	Document
Details of activities that inculcate values necessary to nurture students to become responsible citizens	View Document

7.1.10

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

- 1. The institutional Code of Conduct principles are displayed on the website**
- 2. There is a committee to monitor adherence to the institutional Code of Conduct principles**
- 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
Report on the student attributes facilitated by the Institution	View Document
Policy document on code of ethics.	View Document
Handbooks, manuals and brochures on human values and professional ethics	View Document
Document showing the Code of Conduct for students, teachers, governing body and administration as approved by the competent authority.	View Document
Constitution and proceedings of the monitoring committee.	View Document
Circulars and geo-tagged photographs with date and caption of the activities organized under this metric for teachers, students, administrators and other staff	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:

- Title of the Practice: Faculty Research Promotion Scheme – Providing Seed Money Grant** with an aim to nurture research culture among the young faculty members.

Objectives

The research initiation is designed to encourage newly recruited faculty to perform quality research and publish their work in reputed international journals. The Management has approved grants/seed money under Faculty Research Promotion Scheme (FRPS) to enable beginning of research activities. Socially relevant projects having potential to attract external funding were given preference. The expected outcomes include quality publication, financial support from external funding agencies, possibility of patenting and productization.

The Context

The maximum grant will be limited to Rs.2 Lakhs per research project. The Research and Development Cell prepared the terms and conditions of the scheme, application format and made it available on the college website under the research tab. The R&D Committee verified the applications and confirmed

with the eligibility criteria of the project. After detailed review, the R&D Committee issued the sanction letters to the selected candidates. The final list is forwarded to the Accounts Section for sanction of grants as per norms.

The Practice

The Governing Council approved the proposal to grant seed money to faculty under FRPS. The project period is maximum of two years from the date of sanction.

Eligibility

1. Any new faculty of BMSCE appointed at the level of Assistant Professor or above, on regular basis
2. The initiation is also considered for those recruited in the last six years in BMSCE.
3. The faculty should commit to publish and seek external funding for R&D projects

Selection Criteria

1. The research plan which is sustainable and has the potential to attract external funding was preferred
2. The research is beneficial to the community/society at large
3. Itemized budget should be consistent with a research plan

Evaluation Process

1. Review Committee comprising of senior professors is constituted to review the proposals and make recommendations based on the feasibility and acceptance. Based on the recommendations by the Committee, the Principal will approve/reject the proposal.

Expenditure Guidelines

1. The funds may be used towards project related items like research equipment, databases, software, laboratory supplies, consumables etc.
2. Record of purchase will be maintained by the department.

Conditions

1. All purchases / expenses should be processed in accordance with BMSCE procurement policy / guidelines.
2. Half-yearly review of the progress of the research by the R&D Committee.
3. The faculties are expected to publish in good quality journals and explore the possibility of patenting or productization.

Evidence of Success

43 projects worth 78.80 Lakhs and 32 projects worth 60.06 lakhs were sanctioned during financial year 2022-23 and 2023-24 respectively. The faculty members have published around 30 papers based on their pilot work. Around 10 patents filed, 4 faculty members have received external grants from government

agencies. Apart from achieving the primary goal of the scheme, further development of research resources in the area of expertise was also achieved.

Problems Encountered

Under-utilization of existing facilities was one of the concerns observed during the first year i.e. 2022-23. From the subsequent year, the faculties were asked to utilize the existing research facilities apart from equipment procured as part of the research grant.

2. Title of the Practice: ISO 14001 Environmental Management System (EMS)

Objectives of the Practice

1. Enhancement of Environmental Performance: to Improve environmental practice and performance through eco-conscious measures
2. To improve institutional environmental performance through efficient use of resources and reduction of waste.
3. To fulfil current and future statutory and regulatory requirements related to environmental laws and regulations.
4. Reducing energy consumption and waste generation through effective EMS implementation

The Context

Beyond listing legislation, BMSCE had to understand how each environmental statutory regulation applies to different aspects of its operations.

Understanding environmental issues and its impact analyses and orienting the stakeholders on the various nuances of the process

The Practice

The Chairman, BMSCE through office order dated 02.03.2023 approved initiation of the process related to ISO 14001:2015 Environmental audit. The institution adopted the following stages under quality audit leading to certification

1. Pre-audit by external consultant (acquire the background information, site-visit, gap analysis, implementation and training).
2. Preparation for Certification: Conduct all activities and processes related to filling the gaps and training the trainers.
3. Review and certification by NABCB accredited body/agency

The activities accomplished during the process included: Introductory session to stakeholders regarding importance and processes involved in ISO 14001:2015, context analysis, impact and aspect analysis, internal auditor training, activities related to filling the gaps, implementation review and final auditing.

Evidence of Success

BMSCE is certified with ISO 14001:2015 and is valid until 15th May 2027

Problems Encountered and Resources Required

Complying with statutory and mandatory regulations and identifying and training in-house team, filling the identified gaps within the timeline are some of the major challenges successfully overcome with the cooperation and support of stakeholders.

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:

VISION	Promoting Prosperity of mankind by augmenting human resource capital through quality Technical Education and Training
MISSION	Accomplish Excellence in the field of Technical Education through Education, Research and Service needs of Society

Threading on the vision as envisioned by the beloved Founders, the institution continues to strive augmenting human resource capital through industry ready graduates. The institution feels that bridging the gap between academia and real-world application is essential for producing job-ready graduates. It is ensured that the students have the right skillset and knowledge to become employed and stay productive in current industries. The Institution has established Industry-Institute Interaction Cell (IIC) with an aim to promote activities to enhance interaction between the institution and industry. The Cell regularly organises workshops, conferences and symposiums with joint participation of the institution and the industry. The IIC headed by a senior Professor nominated by the Principal. The IIC has industry interaction coordinators from various departments.

Participation of experts from industries, in curriculum development

Industry Representatives participate in Academic Council and Board of Studies meetings. They thoroughly scrutinize the curriculum and suitably suggest changes to ensure that the curriculum meets the current industry requirement. The courses ensure that employable skill sets, knowledge and training is offered to students. The institution also collects feedback every year from employers on curriculum through online process. The Qualitative employer responses are analysed and considered towards continuous improvement of curriculum.

Phase Shift – National Level Annual Tech Symposium

The two days technical symposium 'Phase Shift' is organized every year to commemorate Engineer's Day. The symposium has been a medium for effective industry interaction in which the industries showcase their expertise and product exhibits. Phase Shift organises a plethora of seminars, workshops, competitions and multidisciplinary events collaborated with industries on technological advances. As

part of the symposium, more than 100 plus competitions and 50 plus workshops are held during the two days. It aims to coalesce ideas from industry in order to achieve high level of skill to help the students emerge as competent professionals. The symposium attracts more than 4000 students from other institutions and 6000 plus BMSCE students.

During the Assessment period the Following symposia were conducted

- Phase Shift 2018 – held on 15.08.2018 and 16.08.2018 on the theme ‘Space Systems ’.
- Phase Shift 2019 – held on 14.09.2019 and 15.09.2019 to mark ‘Engineers Day Celebrations’
- Phase Shift 2021 – held on 26.11.2021 and 27.11.2021 on the theme: ‘Digital Disruption’.
- Phase Shift 2022 – held on 25.11.2022 and 26.11.2022 on the theme: ‘Datafication and Digital Trust’

Industry MOUs and Linkages

With an aim to gain exposure to the updated technology and innovation happening in industries, different MoU with well-known industries are entered. Creation of industry supported labs, project works, internships, industrial visits. Training and survey, research and development, problem solving, placements are the focus areas. Presently 86 functional MOUs with reputed industries are in vogue, out of which 48 MOUs were reached during the assessment period. The details of MOU, duration, list and details of activities under each MOU, number of beneficiaries etc during the assessment period is provided in attachment.

Industry Supported Laboratories

BMSCE has established 22 laboratories in the campus across disciplines with the support / sponsored by the reputed industries. These labs provide students practical knowledge that will support them in the industry. 3D PLM, Dassault Syatems, CARL ZEIZZ, M/S.CANMED Health Care, Cares Renewables, Dassault Sytems LaFoundation, Pheonix Lab (Remote Electrical Machines Laboratory), Mitsubishi Electric, HPE-Hewlett Packard, Turtle Shell, InnAccel, CMTI, IITM, Swakit Biotech, Keisight, SM Electronics, Hi-tech Newtork, ESSCI & IESA, Entuple, NASSCOM and others are some of the major industry supported laboratories. The details of activities conducted during the assessment period under these laboratories is provided in attachment.

Sahayoga – Industry Connect Meet

The Industry Connect Meet - Sahayoga is conducted every year. New frontier areas of engineering and technology and expectations of the industry are the main focus areas. The annual event attracts more than 100 industry/employers. Feedback from employers on learning abilities, adaptability, curriculum, training needs are also obtained and analysed. The report is presented before the Governing Council. During the assessment period, Industry Connect Meet – Sahayoga was conducted for the year 2018, 2019, 2020, 2022, 2023 and held on 02.03.2018, 29.03.2019, 06.03.2020, 29.04.2022 & 02.06.2023 respectively.

Partial delivery of courses by industry experts

With an aim to introduce industry trends and practices, the institution has mandated that every department offers one regular course in collaboration with industry under partial delivery of course by

industry person. The name of the industry experts, name of the course & course code is provided in the attached statement.

Industry experts are part of major academic and administrative committees like Governing Council, Academic Council, Board of Studies, Internal Quality Assurance Cell (IQAC), Departmental Advisory Board (DAB) and others. In addition, numerous invited/guest lectures are conducted by industry experts, seminars, conferences and workshops in different domain areas are conducted regularly to facilitate interaction with the students and faculties.

AC External Members – 2017-2019 (Industry Personnel)

1.Dr. K. Kesavasamy

Head, TCS, Academic Interface Programme,

Tata Consultancy Services, SJM Towers, 18,

Sheshadri Road, Gandhi Nagar, Bengaluru 560 009

2.Dr. S. Rajagopalan

CEO/Founder NoPo Nanotechnologies-ReBeam Inc.

#26D, Veerasandra Industrial Estate Post, Electronic City, Bengaluru 560 100

AC External Members – 2020-2022 (Industry Personnel)

1. Mr. Aravind Mohandas Kamath

Principal Consultant – Robert Bosch, Bosch Ltd,

Dodda-Kammana-Halli, Bengaluru - 560 083

2. Dr. Leena Chandran Wadia

Senior Consultant, ORF, Mumbai

N11 Narmada Block, ICTS-TIFR,

Shivakote, Bengaluru - 560 089

3. Mr. Aravind Prasad

Manager, Application Engineering Team

ROHM Semiconductors India Pvt. Ltd.,

C. V. Raman Nagar, Byrasandra, Bengaluru - 560 093

AC External Members – 2023-2026 (Industry Personnel)

1. Mr. Venkata Rangam T.

Senior Director,

Infineon Technologies India Pvt. Ltd., Bengaluru

2. Mr. Jayananda A. Kotri

Product Manager,

SAP Labs India Private Ltd., Bengaluru

3. Mr. K. S. Prasanna

Director, Pride Machine Tools Pvt. Ltd.,

Peenya Industrial Area, Bengaluru – 560058

4. Mr. Ankur Dang

General Manager,

Thought works India Private Ltd., Bengaluru

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

5. CONCLUSION

Additional Information :

MAJOR DISTINCTION AND ACCOMPLISHMENTS ACHIEVED

DURING THE ASSESSMENT PERIOD

- Listed as a lead innovator for the year 2020 and 2021 by Clarivate Analytics (Web of Science) based on the Derwent World Patent Index
- Recognized in the excellent band under ATAL ARIIA All India Ranking (2021-22)
- The AICTE, New Delhi recognized BMSCE as a QIP Centre in Engineering & Technology
- BMSCE was recognised as AICTE Doctoral Fellowship (ADF) during 2018-19
- Recipient of MHRD Scheme on Global Initiative of Academic Network (GIAN)
- BMSCE rated as Best performing Institution under TEQIP Institution (World Bank Project) in all three Phases
- The institution was selected as mentor institute of Mahatma Jyothiba Phule Rohilkhand University, UP under TEQIP III
- All the Undergraduate and Postgraduate programmes have been granted the status of Permanent affiliation by VTU, Belagavi
- All the eligible UG and PG programmes accredited by NBA, New Delhi
- The UGC, New Delhi extended the autonomous status of the Institution for a period of 10 years from the session 2022-23 to 2031-32 during February 2022.
- BMSCE is one among 100 colleges in the Country that has been sanctioned with 5G use Case Labs as part of Indian Mobile Congress 2023.
-

The college is ranked consistently among the top engineering colleges in the country by various media sources.

Times of India Ranking National Survey

- Ranked 8th among top 150 Engineering Institutes in the Country during 2020. Ranked 3rd among top 50 Private Institutes on Placement
- Ranked 9th among top 175 Engineering Institutes in the Country during 2021 & Ranked 8th among top 70 Private Institutes on Placement
- Ranked 5th among top 170 Engineering Institutes in the Country during 2023
-

India Today -All India MDRA Survey Ranking

- Ranked 6th among Top 200 Private Engineering Institutes in the Country during 2020
- Ranked 5th among Top Private Engineering Institutes in the Country during 2021.
- Ranked 5th among Top Private Engineering Institutes in the Country during 2023

The Week Best Colleges Ranking

- Ranked at 5th position among top private engineering Colleges in the country during 2020

- Ranked at 4th position among top private engineering Colleges in the during 2023

Concluding Remarks :

BMSCE, with existence of more than 75 years, has carried a legacy of imparting excellent education to students. Over the years it has grown from strength to strength. The vision and mission of the founders are guiding lights for the stake holders of the college. BMSCE has produced more than 40,000 graduates who have enriched the world through their immense contributions as engineers or leaders for mankind. BMSCE is one of the most preferred higher educational destination for the students all across the country and also attracts students from South Asian, Middle East & African countries. The institution has played significant role in developing human resource capital to meet the requirement of society in India and abroad. The College has one of the largest student populations amongst engineering colleges in the state.

The College is accredited by NAAC with A++ grade in the Second Cycle. Currently all the UG and PG programmes hold the status of Accreditation from NBA, New Delhi in tier I Format. The College became autonomous, UGC approved, in 2008 and has been effectively practicing Outcomes-based Education.

The academic processes are developed with due weightage to provide skills through project-based learning model. Curriculum design & development, Pedagogy and Assessment are given highest priority. The Curriculum and pedagogy is envisaged based on the broad guidelines and key aspects of NEP 2020. The Institution has MOUs with various organizations (both India & Abroad). It has developed many Centres of Excellence, cutting edge laboratories and incubation centres in collaboration with industries with an aim to enrich the learning experiences of the graduating students and to comply with the programme outcomes. The learning experiences and quality educational practices created at the institute supplemented with academic ambience, state of the art infrastructure, pedagogy, academic innovations, research, incubation, training opportunities and entrepreneurship provided to diverse student population is enabling the institute to produce graduates who are industry ready.

The institution has adopted best practices and key principles of good governance in all its administrative procedures. The college is being ranked consistently among the top engineering colleges in the country by various media sources.

6.ANNEXURE

1.Metrics Level Deviations

Metric ID	Sub Questions and Answers before and after DVV Verification																																								
1.2.1	<p>Percentage of new courses introduced out of the total number of courses across all programmes offered during the last five years</p> <p>1.2.1.1. Number of new courses introduced during the last five years: Answer before DVV Verification : 814 Answer after DVV Verification: 658</p> <p>1.2.1.2. Consolidated number of courses offered by the institution across all Programmes (without repeat count) during the last five years : Answer before DVV Verification : 1932 Answer after DVV Verification: 1932</p> <p>Remark : DVV has made the changes as per shared data template document by HEI.</p>																																								
2.1.1	<p>Enrolment percentage</p> <p>2.1.1.1. Number of seats filled year wise during last five years (Only first year admissions to be considered) Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2022-23</th> <th>2021-22</th> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> </tr> </thead> <tbody> <tr> <td>2095</td> <td>1670</td> <td>1823</td> <td>1715</td> <td>1623</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2022-23</th> <th>2021-22</th> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> </tr> </thead> <tbody> <tr> <td>2095</td> <td>1670</td> <td>1817</td> <td>1744</td> <td>1849</td> </tr> </tbody> </table> <p>2.1.1.2. Number of sanctioned seats year wise during last five years Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2022-23</th> <th>2021-22</th> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> </tr> </thead> <tbody> <tr> <td>2217</td> <td>1866</td> <td>1866</td> <td>1824</td> <td>1686</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2022-23</th> <th>2021-22</th> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> </tr> </thead> <tbody> <tr> <td>2217</td> <td>2106</td> <td>2180</td> <td>1879</td> <td>2015</td> </tr> </tbody> </table> <p>Remark : DVV has made the changes as per shared supporting document by HEI .</p>	2022-23	2021-22	2020-21	2019-20	2018-19	2095	1670	1823	1715	1623	2022-23	2021-22	2020-21	2019-20	2018-19	2095	1670	1817	1744	1849	2022-23	2021-22	2020-21	2019-20	2018-19	2217	1866	1866	1824	1686	2022-23	2021-22	2020-21	2019-20	2018-19	2217	2106	2180	1879	2015
2022-23	2021-22	2020-21	2019-20	2018-19																																					
2095	1670	1823	1715	1623																																					
2022-23	2021-22	2020-21	2019-20	2018-19																																					
2095	1670	1817	1744	1849																																					
2022-23	2021-22	2020-21	2019-20	2018-19																																					
2217	1866	1866	1824	1686																																					
2022-23	2021-22	2020-21	2019-20	2018-19																																					
2217	2106	2180	1879	2015																																					
2.1.2	<p>Percentage of seats filled against reserved categories (SC, ST, OBC etc.) as per applicable reservation policy for the first year admission during the last five years</p>																																								

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

Answer before DVV Verification:

2022-23	2021-22	2020-21	2019-20	2018-19
2095	1670	1823	1715	1623

Answer After DVV Verification :

2022-23	2021-22	2020-21	2019-20	2018-19
580	514	495	415	421

2.1.2.2. Number of seats earmarked for reserved category as per GoI/State Govt. rule year wise during the last five years

Answer before DVV Verification:

2022-23	2021-22	2020-21	2019-20	2018-19
2217	1866	1866	1824	1686

Answer After DVV Verification :

2022-23	2021-22	2020-21	2019-20	2018-19
687	555	569	563	687

Remark : DVV has made the changes as per shared data template document by HEI .

2.4.1 Average percentage of full time teachers appointed against the number of sanctioned posts year wise during the last five years**2.4.1.1. Number of sanctioned posts year wise during the last five years**

Answer before DVV Verification:

2022-23	2021-22	2020-21	2019-20	2018-19
382	366	358	355	345

Answer After DVV Verification :

2022-23	2021-22	2020-21	2019-20	2018-19
415	393	409	355	362

Remark : DVV has made the changes as per shared supporting document by HEI .

3.1.2 The institution provides seed money to its teachers for research**3.1.2.1. Amount of seed money provided by institution to its teachers for research year wise during last five years (INR in lakhs)**

Answer before DVV Verification:

2022-23	2021-22	2020-21	2019-20	2018-19
86.85	3.5	0	6.8	2.3

Answer After DVV Verification :

2022-23	2021-22	2020-21	2019-20	2018-19
78.03	8.05	3.5	0	1.2

Remark : DVV has made the changes as per shared supporting document by HEI.

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

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

Answer before DVV Verification : 84

Answer after DVV Verification: 00

Remark : DVV has made the changes not provided the proper document by HEI .

3.4.3 Number of research papers published per teacher in the Journals as notified on UGC CARE list during the last five years

3.4.3.1. Number of research papers in the Journals notified on UGC CARE list year wise during the last five years

Answer before DVV Verification : 1041

Answer after DVV Verification: 791

Remark : DVV has made the changes as per shared supporting document and excluding the ISBN publication.

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

3.4.4.1. Total Number of books and chapters in edited volumes published during the last five years

Answer before DVV Verification : 615

Answer after DVV Verification: 426

Remark : DVV has made the changes as per shared data template document excluding the ISSN publication.

3.7.1 Number of functional MoUs/linkages 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

Answer before DVV Verification :

Answer After DVV Verification :28

Remark : DVV has made the changes as per shared data template document only considered the relevant activities .

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

4.4.1.1. Expenditure incurred on maintenance of physical facilities and academic support facilities of DDE and total expenditure excluding salary, year - wise, over the last five years (INR in lakhs)

Answer before DVV Verification:

2022-23	2021-22	2020-21	2019-20	2018-19
2255.04	1491.46	983.77	1450.95	1244.44

Answer After DVV Verification :

2022-23	2021-22	2020-21	2019-20	2018-19
949.77	759.63	482.57	612.29	514.33

Remark : DVV has made the changes as per shared supporting document by HEI .

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**

Answer before DVV Verification : A. All of the above

Answer After DVV Verification: B. Any 3 of the above

Remark : DVV has selected the B. Any 3 of the above as per shared supporting document by HEI .

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at University / state /national / international Level events during the last five years

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

Answer before DVV Verification:

2022-23	2021-22	2020-21	2019-20	2018-19
67	27	3	12	16

Answer After DVV Verification :

2022-23	2021-22	2020-21	2019-20	2018-19
54	22	3	9	12

Remark : DVV has made the changes as per shared supporting document by HEI .

7.1.6	<p>Quality audits on environment and energy are regularly undertaken by the institution</p> <p>The institutional environment and energy initiatives are confirmed through the following</p> <ol style="list-style-type: none"> 1. Green audit / Environmental audit 2. Energy audit 3. Clean and green campus recognitions/awards 4. Beyond the campus environmental promotion and sustainability activities <p>Answer before DVV Verification : A. All of the above Answer After DVV Verification: C. Any 2 of the above Remark : DVV has selected the C. Any 3 of the above as per shared supporting document by HEI</p>
-------	--

2.Extended Profile Deviations

Extended Profile Deviations
No Deviations