



Yearly Status Report - 2019-2020

Part A

Data of the Institution

1. Name of the Institution	B.M.S.COLLEGE OF ENGINEERING
Name of the head of the Institution	Dr. B.V.RAVISHANKAR
Designation	Principal
Does the Institution function from own campus	Yes
Phone no/Alternate Phone no.	08026614356
Mobile no.	9945517699
Registered Email	principal@bmsce.ac.in
Alternate Email	prof.bvrs@gmail.com
Address	P.O.Box. No.1908, Bull Temple Road, Bengaluru
City/Town	Bengaluru
State/UT	Karnataka
Pincode	560019

2. Institutional Status																									
Autonomous Status (Provide date of Conformant of Autonomous Status)			01-Jul-2008																						
Type of Institution			Co-education																						
Location			Urban																						
Financial Status			Self financed and grant-in-aid																						
Name of the IQAC co-ordinator/Director			Dr.Mangala Keshava																						
Phone no/Alternate Phone no.			08026614356																						
Mobile no.			9845675201																						
Registered Email			iqac@bmsce.ac.in																						
Alternate Email			mk.civ@bmsce.ac.in																						
3. Website Address																									
Web-link of the AQAR: (Previous Academic Year)			https://bmsce.ac.in/assets/files/aqar/aqar_2018-19.pdf																						
4. Whether Academic Calendar prepared during the year			Yes																						
if yes,whether it is uploaded in the institutional website: Weblink :			https://bmsce.ac.in/CalendarEvents/calendar_of_events_for_the_ay_2019-20.pdf																						
5. Accrediation Details																									
<table border="1"> <thead> <tr> <th rowspan="2">Cycle</th> <th rowspan="2">Grade</th> <th rowspan="2">CGPA</th> <th rowspan="2">Year of Accrediation</th> <th colspan="2">Validity</th> </tr> <tr> <th>Period From</th> <th>Period To</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>A</td> <td>3.41</td> <td>2013</td> <td>05-Jan-2013</td> <td>04-Jan-2018</td> </tr> <tr> <td>2</td> <td>A++</td> <td>3.83</td> <td>2019</td> <td>02-Mar-2019</td> <td>24-Mar-2024</td> </tr> </tbody> </table>						Cycle	Grade	CGPA	Year of Accrediation	Validity		Period From	Period To	1	A	3.41	2013	05-Jan-2013	04-Jan-2018	2	A++	3.83	2019	02-Mar-2019	24-Mar-2024
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6. Date of Establishment of IQAC			01-Mar-2014																						
7. Internal Quality Assurance System																									
<table border="1"> <thead> <tr> <th colspan="3">Quality initiatives by IQAC during the year for promoting quality culture</th> </tr> <tr> <th>Item /Title of the quality initiative by</th> <th>Date & Duration</th> <th>Number of participants/ beneficiaries</th> </tr> </thead> <tbody> <tr> <td colspan="3"> </td> </tr> </tbody> </table>						Quality initiatives by IQAC during the year for promoting quality culture			Item /Title of the quality initiative by	Date & Duration	Number of participants/ beneficiaries														
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IQAC		
TEQIP III Sponsored 2 week FDP on IoT and its applications	24-Jun-2019 12	30
Skill Development Programme on Advanced Manufacturing Techniques	15-Jul-2019 11	34
TEQIP-III Sponsored, one week Workshop Drone Technology	19-Jul-2019 6	63
Practical Approaches for Engineering courses from Industry Perspective TEQIP-III Sponsored One week FDP	22-Jul-2019 6	25
Technology Trends in 2019 and Beyond	03-Aug-2019 1	60
Workshop session on Alumni Interaction For Mock Interview	17-Aug-2019 2	50
Workshop on Google Analytics	24-Aug-2019 1	30
Job Opportunities for Industrial Engineers	05-Sep-2019 1	50
Phase Shift 2019	14-Sep-2019 2	2000
Energy Efficiency and Sustainability	14-Sep-2019 1	200
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8. Provide the list of Special Status conferred by Central/ State Government-UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

Institution/Department/Faculty	Scheme	Funding Agency	Year of award with duration	Amount
All Departments	TEQIP	NPIU	2019 365	35860662
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9. Whether composition of IQAC as per latest NAAC guidelines:	Yes
Upload latest notification of formation of IQAC	View File
10. Number of IQAC meetings held during the year :	3
The minutes of IQAC meeting and compliances to the decisions have been uploaded on the institutional	Yes

website	
Upload the minutes of meeting and action taken report	View File
11. Whether IQAC received funding from any of the funding agency to support its activities during the year?	No
12. Significant contributions made by IQAC during the current year(maximum five bullets)	
• Preparing applications to NIRF-2020, VTU Affiliation, AICTE, NBA etc. • Proposed revised Institutional Strategic Plan 2021-2025 • Organization of workshops, seminars on quality related themes and promotion of quality circles etc.,	
Monitoring of the academic and nonacademic process through scheduled internal audits	
Successful collaborated conduction of 5th Edition of ME CUP 2020 held from 14th & 15th February 2020. Mitsubishi Electric India Pvt. Ltd. (MEI) provided 20.00 Lakhs worth laboratory equipment's viz., High End PLCs and SCADA Licenses. Around 270 proposals were received and best 35 teams were selected. The delegates from Mitsubishi Electric Japan graced the Event.	
The college e-Governance team has been working with various departments in the college, students, faculty and all stakeholders for enhancing the digital infrastructure and develop solutions in-house for efficient operations. The IQAC is totally involved in implementation of e-governance in all areas of operation and functioning of the institution. Major e-governance initiatives: 1. Website updates and upgrades for the dissemination of information and provided virtual tour to visitors. 2. CAMPUS portal for connecting students, faculty, and Administration. 3. Online Payment Portal for ease of fee payment and avoid queues in college. 4. Online Student feedback on using standard design form. Feedback on faculty, teaching practices, curriculum and other parameters. The feedback is analyzed and remedial measures initiated. 5. Result management system for ease of checking the results over the internet for students. 6. Grievance redressal cell for the online raising of grievances of students 7. Online Admission module for UG and PG programmes. 8. Online payment Gateway for other services like placements, Convocation, PDC, Fees collection during exams, etc. 9. Online Course Registration & Institutional elective online selection portal to reduce redundancy and provide an opportunity for students to register online. 10. SAMARTH Enterprises Resource Planning (ERP) System which was initiated by the MHRD through TEQIP-III to automate the processes of the entire BMSCE Institution.	
View File	
13. Plan of action chalked out by the IQAC in the beginning of the academic year towards Quality Enhancement and outcome achieved by the end of the academic year	
Plan of Action	Achivements/Outcomes
The institution plans to set up an	The BS Narayan Centre for Nano

IQAC	21-Dec-2020
15. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to assess the functioning ?	No
16. Whether institutional data submitted to AISHE:	Yes
Year of Submission	2020
Date of Submission	05-Feb-2020
17. Does the Institution have Management Information System ?	Yes
If yes, give a brief description and a list of modules currently operational (maximum 500 words)	The college has embarked upon the systematic way of implementing eGovernance in different areas of operation. eGovernance team has been working with various departments in the college, students, faculty and all stakeholders for enhancing the digital infrastructure and develop solutions inhouse for efficient operations. Major eGovernance initiatives: 1. Website updates and upgrades for the dissemination of information and provided virtual tour to visitors. 2. CAMPUS portal for connecting students, faculty, and Administration. 3. Online Payment Portal for ease of fee payment and avoid queues in college. 4. Online Student feedback on using standard design form. Feedback on faculty, teaching practices, curriculum and other parameters. The feedback is analyzed and remedial measures initiated. 5. Result management system for ease of checking the results over the internet for students. 6. Grievance redressal cell for the online raising of grievances of students 7. Online Admission module for UG and PG programmes. 8. Online payment Gateway for other services like placements, Convocation, PDC, Fees collection during exams, etc. 9. Online Course Registration Institutional elective online selection portal to reduce redundancy and provide an opportunity for students to register online. 10. SAMARTH Enterprises Resource Planning (ERP) System which was initiated by the MHRD through TEQIP III to automate the

processes of the entire BMSCE Institution.

Part B

CRITERION I – CURRICULAR ASPECTS

1.1 – Curriculum Design and Development

1.1.1 – Programmes for which syllabus revision was carried out during the Academic year

Name of Programme	Programme Code	Programme Specialization	Date of Revision
BE	ISE	Information Science and Engineering	15/06/2019
BE	EIE	Electronics and Instrumentation Engineering	18/07/2019
BE	ET	Electronics and Telecommunication	18/07/2019
BE	ML	Medical Electronics	18/07/2019
BE	UG-MAT	Engineering Mathematics	20/07/2019
MBA	MBA	Business Administration	20/07/2020
BE	CV	Civil Engineering	22/07/2019
BE	CHE	Chemical Engineering	27/07/2019
MCA	MCA	Computer Applications	30/07/2019
BE	BT	Biotechnology	01/08/2019

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1.1.2 – Programmes/ courses focussed on employability/ entrepreneurship/ skill development during the Academic year

Programme with Code	Programme Specialization	Date of Introduction	Course with Code	Date of Introduction
BE	BE - Information Science and Engineering	15/06/2019	Operating System (19IS3ESOPS)	15/06/2019
BE	BE - Information Science and Engineering	15/06/2019	Data Structures with C (19IS3PCDSC)	15/06/2019
BE	BE - Information Science and Engineering	15/06/2019	Object Oriented Programming using C++ (19IS3PC00P)	15/06/2019
BE	BE -	15/06/2019	Web	15/06/2020

	Information Science and Engineering		Application Development (19IS3PWWAD)	
BE	BE- Information Science and Engineering	15/06/2019	Database Management System (19IS4PCDBM)	15/06/2019
BE	BE- Information Science and Engineering	15/06/2019	Analysis and Design of Algorithms (19IS4PCADA)	15/06/2019
BE	BE- Information Science and Engineering	15/06/2019	Java Programming (19IS4PCJAV)	15/06/2019
BE	BE- Information Science and Engineering	15/06/2019	Theoretical Foundations of Computations (19IS4PCTFC)	15/06/2019
BE	BE- Information Science and Engineering	15/06/2019	Seminar Based on Summer/Winter Internship (19IS4SRSMI)	15/06/2019
BE	BE- Information Science and Engineering	15/06/2019	UNIX System Programming (19IS4PWUSP)	15/06/2019
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1.2 – Academic Flexibility

1.2.1 – New programmes/courses introduced during the Academic year

Programme/Course	Programme Specialization	Dates of Introduction
BE	BE-Electronics and Instrumentation Engineering:Laser and Optical Instrumentation (19EI3PCLOI)	18/07/2019
BE	BE-Electronics and Instrumentation Engineering:Circuit Simulation Lab (19EI3PCCSL)	18/07/2019
BE	BE-Electronics and Instrumentation Engineering:Sensors and Measurements Lab (19ES3GCSAM)	18/07/2019
BE	BE-Electronics and Instrumentation Engineering:Physical Activity (19ET3NCPYA)	18/07/2019

BE	BE-Electronics and Instrumentation Engineering:Cultural Activity	18/07/2019
BE	BE-Electronics and Instrumentation Engineering:Laser and Optical Instrumentation (19EI3PCL0I)	18/07/2019
BE	BE-Electronics and Instrumentation Engineering:Circuit Simulation Lab (19EI3PCCSL)	18/07/2019
BE	BE-Electronics and Instrumentation Engineering:Sensors and Measurments Lab (19ES3GCSAM)	18/07/2019
BE	BE-Electronics and Instrumentation Engineering:Physical Activity (19ET3NCPYA)	18/07/2019
BE	BE-Electronics and Instrumentation Engineering:Cultural Activity	18/07/2019
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1.2.2 – Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the College level during the Academic year.

Name of programmes adopting CBCS	Programme Specialization	Date of implementation of CBCS/Elective Course System
BE	Civil Engineering	01/07/2019
BE	Mechanical Engineering	01/07/2019
BE	Electrical and Electronics Engineering	01/07/2019
BE	Electronics and Communications Engineering	01/07/2019
BE	Industrial Engineering and Management	01/07/2019
BE	Computer Science and Engineering	01/07/2019
BE	Electronics and Telecommunication Engineering	01/07/2019
BE	Information Science and Engineering	01/07/2019
BE	Electronics and Instrumentation	01/07/2019

	Engineering	
BE	Medical Electronics	01/07/2019
BE	Chemical Engineering	01/07/2019
BE	Biotechnology	01/07/2019
BE	Aerospace Engineering	01/07/2019
Mtech	Construction Technology [CV]	01/07/2019
Mtech	Machine Design [ME]	01/07/2019
Mtech	Electronics [EC]	01/07/2019
Mtech	Power Electronics [EE]	01/07/2019
Mtech	Computer Science and Engineering [CSE]	01/07/2019
Mtech	Digital Communications [EC]	01/07/2019
Mtech	Environmental Engineering [CV]	01/07/2019
Mtech	Transportation Engineering and Management [CV]	01/07/2019
Mtech	Computer Networking and Engineering [IS]	01/07/2019
Mtech	Biochemical Engineering [CH]	01/07/2019
Mtech	Biomedical Signal Processing & Instrumentation [ML]	01/07/2019
Mtech	Manufacturing Science and Engineering [ME]	01/07/2019
Mtech	Thermal Engineering [ME]	01/07/2019
Mtech	VLSI and Embedded Systems [EC]	01/07/2019
Mtech	Masters in Computer Applications	01/07/2019
Mtech	Business Administration	01/07/2019

1.3 – Curriculum Enrichment

1.3.1 – Value-added courses imparting transferable and life skills offered during the year

Value Added Courses	Date of Introduction	Number of Students Enrolled
Value added course on 'Programming Skills' (CSE Dept.)	06/06/2019	10
Conducted TEQIP III sponsored Value added course on Machine Learning with Python (ISE Dept.)	10/06/2019	12

Value Added Course on C Programming (IEM Dept.)	26/06/2019	10
Value added course on C Programming (CSE Dept.)	26/06/2019	12
Data Structures for Cluster Branches (ISE Dept.)	08/07/2019	23
Value added course on Python programming (CSE Dept.)	18/07/2019	15
IICHe, workshop 2019 (CH Dept.)	01/10/2019	55
Finite Elements Analysis using ANSYS (ME Dept.)	10/10/2019	137
View File		

1.3.2 – Field Projects / Internships under taken during the year

Project/Programme Title	Programme Specialization	No. of students enrolled for Field Projects / Internships
BE	KPWD, Bengaluru	3
BE	CMC KANAKAPURA	1
BE	J J ASSOCIATES- Bengaluru	9
BE	KRDCL-Bengaluru	2
BE	INFRA SUPPORT- Construction of Arogya Soudha	1
BE	Design Maker, Bengaluru	4
BE	PRESTIGE JINDAL CITY- BENGALURU	2
BE	BSCPL Infrastructure Ltd.-Bengaluru	2
Mtech	TRANSPORTECH CONSULTANTS-BENGALURU	1
Mtech	EI TECHNOLOGY PRIVATE LIMITED	1
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1.4 – Feedback System

1.4.1 – Whether structured feedback received from all the stakeholders.

Students	Yes
Teachers	Yes
Employers	Yes
Alumni	Yes
Parents	Yes

1.4.2 – How the feedback obtained is being analyzed and utilized for overall development of the institution?

(maximum 500 words)

Feedback Obtained

A structured feedback is taken from all the five stake holders namely 1) students, 2) Teachers, 3) Employers, 4) Alumni and 5) Parents, for review of syllabus – semester wise/year wise. The curriculum is developed keeping in mind the industrial needs and also the societal requirements. Students, teachers, alumni and industry personnel are provided with a questionnaire to give their valuable feedback on curriculum. A formal questionnaire is sent through Google forms on the college portal. The set of questions vary for different stakeholders. They are also invited to the BOS, Academic council and BOG meetings to share their views on the curriculum. Course End Survey and exit survey are platforms to capture the student's feedback on the curriculum. Based on the feedback obtained, the following are the observations Feedback – Students The feedback document on curriculum was floated on the college website which contained nine questions. A rating of 5 to 1 was adopted. The average rating scored was 3.3 and a corresponding average percentage of 65.6 was obtained. Summing up the ratings from excellent to good, around 80 of the students have indicated that the curriculum is good. Those queries whose rating was less than the average was marked for improvement. This included that the electives need to be offered with regard to technological advancements, syllabus load was heavy and that the evaluation scheme needs to be looked into. Feedback – Teachers The feedback format for teachers had 8 questions, the average rating was 4.2 and the average score was 84.6. The points which need to be strengthened were requirement of industry based courses and to include recent advances in some of the courses. Feedback – Alumni The alumni in their feedback have felt that curriculum based training for competitive examinations and remedial coaching needs more attention. The average rating was 3.5 and the score was 69.4. Feedback – Parents The feedback obtained from parents of the wards emphasize incorporating curriculum with holistic development. They have also marked that startups need to be encouraged. The average rating was 3.9 and a score of 78.8 was obtained in the feedback. Feedback – Employers The feedback form for employers had seven questions. The average rating and score obtained was 4.6 on a scale of 5 and 92. Two parameters which showed less than the overall average was with regard to exercising creativity and attitude to work beyond schedule. Based on the feedback obtained, the parameters with less than average score will be taken up during the next curriculum revision in 2020. It is planned to introduce more no. of electives with regard to technological advancements in the next revision. Students have been supported along with faculty members with regard to the competitive examination. A cell has been formed to encourage students to become entrepreneurs and to launch the startups with the help of the institution coordinator. Regarding issues such as creativity and attitude problems, it is planned to take up during placement training and other orientation programme.

CRITERION II – TEACHING- LEARNING AND EVALUATION

2.1 – Student Enrolment and Profile

2.1.1 – Demand Ratio during the year

Name of the Programme	Programme Specialization	Number of seats available	Number of Application received	Students Enrolled
BE	Civil Engineering	180	500	173
BE	Mechanical Engineering	180	500	169
BE	Electronics and	180	1500	180

	Communications Engineering			
BE	Electrical and Electronics Engineering	60	600	59
BE	Industrial Engineering and Management	60	400	52
BE	Computer Science and Engineering	180	3000	180
BE	Electronics and Telecommunication Engineering	60	600	60
BE	Information Science and Engineering	180	3000	179
BE	Electronics and Instrumentation Engineering	60	180	58
BE	Medical Electronics	60	170	57
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2.2 – Catering to Student Diversity

2.2.1 – Student - Full time teacher ratio (current year data)

Year	Number of students enrolled in the institution (UG)	Number of students enrolled in the institution (PG)	Number of fulltime teachers available in the institution teaching only UG courses	Number of fulltime teachers available in the institution teaching only PG courses	Number of teachers teaching both UG and PG courses
2019	5040	930	293	70	363

2.3 – Teaching - Learning Process

2.3.1 – Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc. (current year data)

Number of Teachers on Roll	Number of teachers using ICT (LMS, e-Resources)	ICT Tools and resources available	Number of ICT enabled Classrooms	Number of smart classrooms	E-resources and techniques used
363	363	53	95	14	26
View File of ICT Tools and resources					
View File of E-resources and techniques used					

2.3.2 – Students mentoring system available in the institution? Give details. (maximum 500 words)

In 2008, when BMS College of Engineering attained academic autonomy, it introduced a formal student mentoring system. This system is referred to as 'student proctoring system' and has proved to be a very effective tool in addressing the academics of each and every student uniformly. Each student is assigned to a particular faculty member at the beginning when he/she enters the portals of the institution. By doing so, the

student is in the safe hands of the proctor. Every student entering the college is assigned a faculty proctor (or mentor) of the same programme specialization. Every proctor has around 25 students. The same proctor is retained for four years (or until he/she graduates). Proctors are viewed as academic guides on campus. The Institution has designed a proctor diary, and there exists two copies for every student: one copy is with the student, while the other is with the proctor. The initial content in the proctor diary includes essential personal details of the student like Name, Date of birth, home town, residential address, parents' details, any medical history, contact details, hobbies, significant achievements, emergency contact details etc. These personal details are then followed by the academic details of the student. At the beginning of every semester, during the course registration, the student is guided by the proctor about credits to register, elective courses etc. Students constantly update the diary about grades secured, attendance status, credits earned, course withdrawal, course re-registration etc. In addition to academic details, individual student achievements in co-curricular activities, extra-curricular activities, awards, internships, training programs are recorded. The proctor diary also includes details of leave record of the student, meetings with proctor (at least thrice per semester) and meetings with parents. The proctor diary is an in-house designed booklet that captures all academic and non-academic details of the student during his/her graduate/postgraduate program. The proctor diary is a document that serves as a ready reference to monitor and guide the students on all academic matters, especially in selection of electives, clarifying academic rules and regulations of the college. Proctors suggest remedial solutions in their capacity to student problems. A professional counselor is also available in the campus for further assistance. In case of an exigency, the case is brought to the notice of HoD, Dean Student Affairs and Principal. Besides the entries in the proctor diary, the proctor constantly monitors, discusses and guides the students about academics, higher education, placements, competitive examinations and achieving activity points as per the University. The bond between the student and his/her proctor is such that every success and difficulty, they resort to the proctor to share their stories. This proctoring mechanism has indeed proved to be beneficial to the student community.

Number of students enrolled in the institution	Number of fulltime teachers	Mentor : Mentee Ratio
5970	363	1:16

2.4 – Teacher Profile and Quality

2.4.1 – Number of full time teachers appointed during the year

No. of sanctioned positions	No. of filled positions	Vacant positions	Positions filled during the current year	No. of faculty with Ph.D
38	38	Nil	38	9

2.4.2 – Honours and recognition received by teachers (received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the year)

Year of Award	Name of full time teachers receiving awards from state level, national level, international level	Designation	Name of the award, fellowship, received from Government or recognized bodies
2019	S.Uma	Associate Professor	One of the top 2 Certified Candidates in Software Project Management NPTEL Course conducted during Jul-Oct 2019
2019	Pushpa T S	Assistant Professor	One of the top 5 Certified Candidates in “Discrete Mathematics” NPTEL Course conducted during Jul-Oct 2019
2019	Nirupama Mohan	Assistant Professor	Participated and presented a paper

			in the Sixth Asian Conference and expo on Heat treatment and Surface Engineering at Chennai trade centre organised by ASM International, Chennai Chapter in association with IFHTSE
2020	Dr. Sudarshan B	Assistant Professor	Best paper award (Paper: Study on combined effects of forward facing cylindrical and parabolic cavities with a high-pressure opposing jet (PR ? 18) at Mach 6 conditions) , National Symposium on Shock Waves (NSSW 2020), Indian Institute of Tech.Madras
2020	Dr. C Lakshminarayana	Professor	Excellence in Higher Education, Engineering
2019	Arjun C.C.	Assistant Professor	Certificate of Appreciation from the Rotaract District Council 3190 towards contributions as the faculty coordinator of Rotaract Club of BMSCE. This certificate was presented on the 23rd of June, 2019 at the Rotaract District Council meeting.
2019	Dr. Shambhavi B R	Associate Professor	Samsung Prism - Name Entity Recognition (NER)
2019	Dr. P Jayarekha	Professor	Samsung Prism - Name Entity Recognition (NER)
2019	Pushpa T S	Assistant Professor	Recognized as NPTEL Star in 'NPTEL Enthusiast' category

2019	Pushpa T S	Assistant Professor	Recognized as NPTEL Star in DISCIPLINE STARS
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2.5 – Evaluation Process and Reforms

2.5.1 – Number of days from the date of semester-end/ year- end examination till the declaration of results during the year

Programme Name	Programme Code	Semester/ year	Last date of the last semester-end/ year-end examination	Date of declaration of results of semester-end/ year- end examination
BE	Civil Engineering	VIII/IV	24/08/2020	03/09/2020
BE	Mechanical Engineering	VIII/IV	24/08/2020	03/09/2020
BE	Electronics and Communications Engineering	VIII/IV	24/08/2020	03/09/2020
BE	Electrical and Electronics Engineering	VIII/IV	24/08/2020	03/09/2020
BE	Industrial Engineering and Management	VIII/IV	24/08/2020	03/09/2020
BE	Computer Science and Engineering	VIII/IV	24/08/2020	03/09/2020
BE	Electronics and Telecommunication Engineering	VIII/IV	24/08/2020	03/09/2020
BE	Information Science and Engineering	VIII/IV	24/08/2020	03/09/2020
BE	Electronics and Instrumentation Engineering	VIII/IV	24/08/2020	03/09/2020
BE	Medical Electronics	VIII/IV	24/08/2020	03/09/2020

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2.5.2 – Average percentage of Student complaints/grievances about evaluation against total number appeared in the examinations during the year

Number of complaints or grievances about evaluation	Total number of students appeared in the examination	Percentage
48	1318	3.64

2.6 – Student Performance and Learning Outcomes

2.6.1 – Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)

<https://bmsce.ac.in/assets/files/aqar/documents/2019-20/2.6.1-PSOs-POs-COs-2019-20.pdf>

2.6.2 – Pass percentage of students

Programme Code	Programme Name	Programme Specialization	Number of students appeared in the final year examination	Number of students passed in final year examination	Pass Percentage
ML	BE	Medical Electronics	31	27	87.10
ET	BE	Instrumentation Technology	29	28	96.55
ISE	BE	Information Science and Engineering	116	114	98.28
TE	BE	Electronics and Telecommunication Engineering	67	67	100.00
CSE	BE	Computer Science & Engineering	172	169	98.26
IEM	BE	Industrial Engineering and Management	73	71	97.26
EE	BE	Electrical and Electronics Engineering	71	68	95.77
EC	BE	Electronics and Communication Engineering	163	159	97.55
ME	BE	Mechanical Engineering	210	202	96.19
CV	BE	Civil Engineering	144	137	95.14
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2.7 – Student Satisfaction Survey

2.7.1 – Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as weblink)

<https://bmsce.ac.in/assets/files/aqar/documents/2019-20/2.7.1-Student%20Feedback%20on%20TLP.pdf>

CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.1 – Promotion of Research and Facilities

3.1.1 – The institution provides seed money to its teachers for research

Yes
Name of the teacher getting seed money
Dr.Veena N Hegde, Dr.Santhosh R Desai , S.Pradeep,Dr.Gurumurthy Hegde
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3.1.2 – Teachers awarded National/International fellowship for advanced studies/ research during the year

Type	Name of the teacher awarded the fellowship	Name of the award	Date of award	Awarding agency
National	Syed Akram	Research scholarship	05/08/2019	AICTE
International	Preethi K Mane	Best student research forum Award	18/12/2019	5th IEEE International Symposium on Smart Electronic System, Rourkela, India
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3.2 – Resource Mobilization for Research

3.2.1 – Research funds sanctioned and received from various agencies, industry and other organisations

Nature of the Project	Duration	Name of the funding agency	Total grant sanctioned	Amount received during the year
Minor Projects	365	DBT	6	0.75
Interdisciplinary Projects	365	NPIU	358.61	358.61
Minor Projects	365	IIT-Delhi	0.5	0.5
Interdisciplinary Projects	1095	SERB	45.08	8.5
Interdisciplinary Projects	1095	DST	85	12
Interdisciplinary Projects	365	AICTE	3	0.3
Interdisciplinary Projects	730	VGST	20	10
Industry sponsored Projects	365	MITSUBISHI - JAPAN	20	20

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3.2.2 – Number of ongoing research projects per teacher funded by government and non-government agencies during the years

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3.3 – Innovation Ecosystem

3.3.1 – Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

Title of workshop/seminar	Name of the Dept.	Date
Workshop on product management	EEE	15/06/2019
Remote Measuring, monitoring and control of Electrical systems	EEE	17/06/2019
Matlab On-Board Training	ET	01/07/2019
Skill Development Programme on Advanced Manufacturing Techniques	ME	14/07/2019
One week Faculty Development Programme on LINUX Programming	EEE, ISE, CS,IT	15/07/2019
Linux Programming TEQIP-III Sponsored One week FDP	ISE	15/07/2019
TEQIP III sponsored four-day workshop on “Drone Technology”	EEE	19/07/2019
Workshop on Signals, Sensors and Measurement Systems	EIE	22/07/2019
Faculty Development Programme on Contact and Non-Contact Measurements	ME	22/07/2019

[View File](#)

3.3.2 – Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Title of the innovation	Name of Awardee	Awarding Agency	Date of award	Category
Character Recognition using CMSIS-NN on Resource Constrained Devices	Dr.Nagabhushan, Dr.Akhila SAnanya G. M., Aishwarya Gowri E. S., Ayush Sonthalia,	Samsung Research India, Bengaluru	01/08/2019	Teachers: 2 Students : 4
Best student project award	Pranav M	ISA Bangalore section Professional Body	09/07/2019	Student: 1

Multi-Modal Anaphora Resolution(VI13BM)	Dr.M Indiramma, Dr.Nagarathna N, Mohammed Mujahid Ul Islam, N V Swathi, Shweta Surendra Mali, Vasu V	Samsung Research India, Bengaluru	01/08/2019	Teachers: 2 Students : 4
Name Entity Recognition (NER)	Dr.P Jayarekha, Dr.Shambhavi B R, Paras Narendranath Harika Jayanthi Shreyas N	Samsung Research India, Bengaluru	19/08/2019	Teachers: 2 Students : 3
Age Prediction Using Speech Recognition	Dr Prasanna Kumar M K, Sriram R, S. Vinayaka Raju, Rahul M.K.	Samsung Research India, Bengaluru	19/08/2019	Teachers: 1 Students : 3
Orientation Script Detection	Dr. Suma, Dr. Rajeshwari Hegde, Vardhan Honmane, V Amruth, Sunil Hucharaddi, Supriya R	Samsung Research India, Bengaluru	19/08/2019	Teachers: 2 Students : 4
DRIPSTOP	Dr. H. N. Suma, Bhamini N. M., Ananya Madhav,	Karnataka Startupcell, Idea2PoC grant scheme	24/09/2019	Teachers: 1 Students : 2
Experimental Study on the Mechanical Properties of Ultra High-Performance Concrete With Hybrid Fibres	Prof. Ranganath R V, Mr.Akarsh M K	ICI (BC)- Bengaluru Centre	26/09/2019	Teachers: 1 Students : 1
Technochemilate	Amogh P Rao	IICHe BMSCE StudentChapter	09/11/2019	Students : 1
Understanding Aerodynamics of Micro Air Vehicles at Low Reynolds Number (Best Paper Award)	Sushmitha S	National Conference on Aerospace and Defence Technologies, CSIR-National Aerospace Laboratories	22/11/2019	Students : 1
View File				

3.3.3 – No. of Incubation centre created, start-ups incubated on campus during the year

Incubation Center	Name	Sponsored By	Name of the Start-up	Nature of Start-up	Date of Commencement
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Tika Services Pvt. Ltd.	Tika Services Pvt. Ltd.	BMSCE	-	-	01/06/2019
Hewlett Packard Enterprise Virtualization Incubation Centre	Hewlett Packard Enterprise Virtualization Incubation Centre	HPE	-	-	12/02/2020
View File					

3.4 – Research Publications and Awards

3.4.1 – Ph. Ds awarded during the year

Name of the Department	Number of PhD's Awarded
Civil Engineering	7
Mechanical Engineering	4
Electrical and Electronics Engineering	1
Electronics and Communications Engineering	3
Computer Science and Engineering	3
Information Science and Engineering	1
Chemical Engineering	1
Mathematics	1

3.4.2 – Research Publications in the Journals notified on UGC website during the year

Type	Department	Number of Publication	Average Impact Factor (if any)
International	Civil Engineering	7	0.83
International	Mechanical Engineering	6	1.78
International	Electrical Electronics Engineering	4	1.64
International	Electronics Communications Engineering	9	0.67
International	Industrial Engineering Management	Nil	0.00
International	Computer Science Engineering	3	0.18
International	Electronics Telecommunication Engineering	1	0.38
International	Information Science Engineering	3	0.75
International	Medical	10	2.22

	Electronics		
International	Chemical Engineering	4	0.77
View File			

3.4.3 – Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year

Department	Number of Publication
Civil Engineering	19
Mechanical Engineering	12
Electrical Electronics Engineering	18
Electronics Communications Engineering	22
Industrial Engineering Management	11
Computer Science Engineering	20
Electronics Telecommunication Engineering	1
Information Science Engineering	24
Electronics Instrumentation Engineering	18
Chemical Engineering	13
View File	

3.4.4 – Patents published/awarded during the year

Patent Details	Patent status	Patent Number	Date of Award
Auxillary attachment for a side stand for a two wheeler	Published	31844	19/08/2019
I Pixel/Clock throughput Modified Median Adaptive Predictor for VESA DSC Encoder	Published	347212	21/09/2019
View File			

3.4.5 – Bibliometrics of the publications during the last academic year based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Title of the Paper	Name of Author	Title of journal	Year of publication	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self citation
Coordination chemistry of expanded porphyrins	Alka A., Shetti V.S., Ravikanth M.	Coordination Chemistry Reviews	2019	7	B.M.S. College of Engineering	6
	Shankar	US	2019	0	B.M.S.	Nil

	Strategies to reduce radiation exposure in electro physiology and interventional cardiology	S., Padmanabhan D., Chandrashekaraiah A., Deshpande S.	Cardiology Review			College of Engineering	
	Denoising using self adaptive radial basis function	Jeelani A., Veena M.B.	Indonesian Journal of Electrical Engineering and Informatics	2019	0	B.M.S. College of Engineering	Nil
	Examination of retinal vascular trajectory in schizophrenia and bipolar disorder	Appaji A., Nagendra B., Chako D.M., Padmanabha A., Jacob A., Hiremath C.V., Varambally S., Kesavan M., Venkatasubramanian G., Rao S.V., Webers C.A.B., Berendschot T.T.J.M., Rao N.P.	Psychiatry and Clinical Neurosciences	2019	7	B.M.S. College of Engineering	7
	Role of mixed nanofluids on fluid flow and intensify energy transfer in a boundary layer region driven by a free convective force	Ammani Kuttan B., Manjunatha S., Jayanthi S., Gireesha B.J.	Heat Transfer - Asian Research	2019	1	B.M.S. College of Engineering	Nil
	Retinal vascular	Appaji A.,	Journal of	2019	6	B.M.S. College of	6

	fractal dimension in bipolar disorder and schizophrénia	Nagendra B., Chako D.M., Padmanabha A., Hiremath C.V., Jacob A., Varambally S., Kesavan M., Venkatasubramanian G., Rao S.V., Webers C.A.B., Berendschot T.T.J.M., Rao N.P.	Affective Disorders			Engineering	
	Influence of reactive SiO ₂ and Al ₂ O ₃ on mechanical and durability properties of geopolymers	Dinesh H.T., Shivakumar M., Dharmaprakash M.S., Ranganath R.V.	Asian Journal of Civil Engineering	2019	1	B.M.S. College of Engineering	1
	Role of iron in the enhanced reactivity of pulverized Red mud: Analysis by Mössbauer spectroscopy and FTIR spectroscopy	Singh S., Aswath M.U., Das Biswas R., Ranganath R.V., Choudhary H.K., Kumar R., Sahoo B.	Case Studies in Construction Materials	2019	5	B.M.S. College of Engineering	4
	Efficient task allocation approach using genetic algorithm for cloud	Rekha P.M., Dakshayini M.	Cluster Computing	2019	10	B.M.S. College of Engineering	10

environmen t						
Ultra-sensitive H 2 S sensing at ppb concentrations by barely crystalline WO ₃ /W thin film	Raghavan M.S., Muralidharan G., Pramanik A., Shivasankar S.A., Bhat N.	Materials Research Express	2019	0	B.M.S. College of Engineering	Nil
View File						

3.4.6 – h-Index of the Institutional Publications during the year. (based on Scopus/ Web of science)

Title of the Paper	Name of Author	Title of journal	Year of publication	h-index	Number of citations excluding self citation	Institutional affiliation as mentioned in the publication
Coordination chemistry of expanded porphyrins	Alka A., Shetti V.S., Ravikanth M.	Coordination Chemistry Reviews	2019	7	6	B.M.S. College of Engineering
Strategies to reduce radiation exposure in electrophysiology and interventional cardiology	Shankar S., Padmanabhan D., Chandrashekharaiah A., Deshpande S.	US Cardiology Review	2019	7	Nil	B.M.S. College of Engineering
Denoising using self adaptive radial basis function	Jeelani A., Veena M.B.	Indonesian Journal of Electrical Engineering and Informatics	2019	7	Nil	B.M.S. College of Engineering
Examination of retinal vascular trajectory in schizophrenia and bipolar disorder	Appaji A., Nagendra B., Chako D.M., Padmanabha A., Jacob A., Hiremath C.V., Varambally S., Kesavan	Psychiatry and Clinical Neurosciences	2019	7	7	B.M.S. College of Engineering

	M., Venkat asubramani an G., Rao S.V., Webers C.A.B., Be rendschot T.T.J.M., Rao N.P.					
Role of mixed nanofluids on fluid flow and intensify energy transfer in a boundary layer region driven by a free convective force	Ammani Kuttan B., Manjunatha S., Jayanthi S., Gireesha B.J.	Heat Transfer - Asian Research	2019	7	Nill	B.M.S. College of Engineerin g
Retinal vascular fractal dimension in bipolar disorder and schizo phrenia	Appaji A., Nagendra B., Chako D.M., Padmanabha A., Hiremath C.V., Jacob A., Varambally S., Kesavan M., Venkat asubramani an G., Rao S.V., Webers C.A.B., Be rendschot T.T.J.M., Rao N.P.	Journal of Affective Disorders	2019	7	6	B.M.S. College of Engineerin g
Influence of reactive SiO 2 and Al 2 O 3 on mechanical and durability	Dinesh H.T., Shivakumar M., Dharma prakash M.S., Ranganath R.V.	Asian Journal of Civil Engi neering	2019	7	1	B.M.S. College of Engineerin g

properties of geopolymers						
Role of iron in the enhanced reactivity of pulverized Red mud: Analysis by Mössbauer spectroscopy and FTIR spectroscopy	Singh S., Aswath M.U., Das Biswas R., Ranganath R.V., Choudhary H.K., Kumar R., Sahoo B.	Case Studies in Construction Materials	2019	7	4	B.M.S. College of Engineering
Efficient task allocation approach using genetic algorithm for cloud environment	Rekha P.M., Dakshayini M.	Cluster Computing	2019	7	10	B.M.S. College of Engineering
Ultra-sensitive H ₂ S sensing at ppb concentrations by barely crystalline WO ₃ /W thin film	Raghavan M.S., Muralidharan G., Pramanik A., Shivasankar S.A., Bhat N.	Materials Research Express	2019	7	Nil	B.M.S. College of Engineering
View File						

3.4.7 – Faculty participation in Seminars/Conferences and Symposia during the year

Number of Faculty	International	National	State	Local
Attended/Seminars/Workshops	81	162	22	61
Presented papers	82	24	1	6
Resource persons	4	17	34	51
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3.5 – Consultancy

3.5.1 – Revenue generated from Consultancy during the year

Name of the Consultant(s)	Name of consultancy	Consulting/Sponsoring	Revenue generated
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department	project	Agency	(amount in rupees)
Civil Engineering	Quality Control Test Inspection	Bosch Adugodi	157500
Civil Engineering	Consultancy fee	Kumar	900
Civil Engineering	Material Testing	PESIT	10700
Civil Engineering	Consultancy fee	RASID	600
Civil Engineering	Consultancy fee	SURESH	5000
Civil Engineering	Test Charges	Apcons Ventures	80000
Civil Engineering	Consultancy fee	Krishnappa	6200
Civil Engineering	Material Testing	PES Construction	5000
Biotechnology	HPCL Analysis of samples	RVCE	1000
Mechanical Engineering	Consultancy Fee	3D image	800
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3.5.2 – Revenue generated from Corporate Training by the institution during the year

Name of the Consultan(s) department	Title of the programme	Agency seeking / training	Revenue generated (amount in rupees)	Number of trainees
Centralized	PHASE SHIFT-2019 Energy and Sustainability	ALPHA DESIGN TECHNOLOGIES	500000	27
Centralized	PHASE SHIFT-2019 Energy and Sustainability	REFEX ENERGY Ltd	100000	16
Department of Bio-Technology	PHASE SHIFT-2019 Energy and Sustainability	SIEMENS	50000	12
Department of Bio-Technology	PHASE SHIFT-2019 Energy and Sustainability	ANALOG DEVICES	50000	32
Department of Bio-Technology	PHASE SHIFT-2019 Energy and Sustainability	HAWLETT PACKARD	50000	15
Department of Bio-Technology	PHASE SHIFT-2019 Energy and Sustainability	CIIRC - Centre For Incubation, Innovation, Research and Consultancy	100000	34
Department of Bio-Technology	PHASE SHIFT-2019 Energy and Sustainability	E I TECHNOLOGIES Pvt. Ltd	50000	34

Department of Bio-Technology	PHASE SHIFT-2019 Energy and Sustainability	TEQUED LABS	50000	7
Department of Bio-Technology	PHASE SHIFT-2019 Energy and Sustainability	MAVEN CONSULTANCIES	30000	6
Department of Civil Engineering	PHASE SHIFT-2019 Energy and Sustainability	ROBERT BOSCH	50000	20
View File				

3.6 – Extension Activities

3.6.1 – Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organisations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year

Title of the activities	Organising unit/agency/ collaborating agency	Number of teachers participated in such activities	Number of students participated in such activities
Blood Donation Camp	NSS BMSCE-BMS HOSPITAL	1	80
Book exchange 4.0	Rotaract Club of BMSCE	1	50
School kit distribution to government school children	NSS BMSCE	1	50
Independence day, RakshaBandhan	Rotaract Club of BMSCE with Aruna Chetana, Smileys India	1	15
Independence Day Celebration	NSS BMSCE	1	50
Collection drive for Uttar Karnataka floods	Rotaract Club of BMSCE	1	10
Swacch Bharat Drive- Induction program	NSS BMSCE	1	400
Seed ball making- Induction program	NSS BMSCE - BMSCE Prakruthi	1	400
Poster Killing- Induction program	NSS BMSCE	1	150
Paper bag distribution- Induction program	NSS BMSCE	1	200
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3.6.2 – Awards and recognition received for extension activities from Government and other recognized bodies during the year

Name of the activity	Award/Recognition	Awarding Bodies	Number of students Benefited
Rotaract Star Club Awards	Star Club Award -2nd quarter(19-20)	Rotaract district 3190	1
Panther Awards	Best reporting club(2019-20)	Panther awards, Rotaract district 3190	1
Panther Awards	Club with the best digital presence -(2019-20)	Panther awards, Rotaract district 3190	1
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3.6.3 – Students participating in extension activities with Government Organisations, Non-Government Organisations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

Name of the scheme	Organising unit/Agency/collaborating agency	Name of the activity	Number of teachers participated in such activities	Number of students participated in such activities
Management Scheme	BMSCE Womens Cell	Self defence workshop	3	312
Education for all	Rotaract Club of BMSCE with The Ramose Foundation	Books Baro Andolan	1	15
SWACHH BHARATH JAN ANDOLAN	1 Karnataka Signal Regiment	SOLID WASTE MANAGEMENT, JAL SHAKTI ABHIYAN (JAL) AND PLASTIC FREE VILLAGE	1	8
Health Awareness	Rotaract Club of BMSCE with Rotaract Club of Banashankari	MegaTrek 4.0	1	160
REPUBLIC DAY CAMP-2020	NCC Karnataka and Goa Directorate	REPUBLIC DAY CAMP-2020	1	2
NSS	NSS BMSCE-BMS HOSPITAL	Blood Donation Camp	1	80
Disaster Management	Rotaract Club of BMSCE with NGO Seva Bharathi	North Karnataka Flood Relief Collective Drive	5	30
COMBINED ANNUAL TRAINING CAMP (CATC)	1 Karnataka Signal Regiment	COMBINED ANNUAL TRAINING CAMP (CATC)	1	44
INTERNATIONAL YOGA DAY	NCC Karnataka and Goa Directorate	INTERNATIONAL YOGA DAY	1	25
ALL INDIA THAL SAINIK	NCC Karnataka and Goa	ALL INDIA THAL SAINIK	1	2

CAMP-2019
(AITSC-2019)

Directorate

CAMP-2019
(AITSC-2019)[View File](#)**3.7 – Collaborations**

3.7.1 – Number of Collaborative activities for research, faculty exchange, student exchange during the year

Nature of activity	Participant	Source of financial support	Duration
Joint Research Collaborative research with MJPFET(Mentee Institute)	Dr.G Poornima Dr.Kiran Bailey Prof.Sujatha Dr.Shivakumar Tomar	TEQIP 3	180
Joint Research and development project in collaboration with M/s Symmetric system , Medilicon InfoTech LLP Pvt ltd. And Mentee institution FET MJPRU Bareilly	BMSCE, M/s Symmetric system, Medilicon InfoTech LLP Pvt ltd. And Mentee institution FET MJPRU Bareilly	TEQIP under winning-1.3 Component head 1.3.2.7- Twinning/ mentoring	365
Skill Enhancement Using ETABS Software Applications in Civil Engineering	Students (25)	Students Fees	14
View File			

3.7.2 – Linkages with institutions/industries for internship, on-the- job training, project work, sharing of research facilities etc. during the year

Nature of linkage	Title of the linkage	Name of the partnering institution/ industry /research lab with contact details	Duration From	Duration To	Participant
Industry	Internship	Stuti technologies Pvt Ltd	06/06/2019	06/08/2019	1
Internship	Internship	SLN CNC Tech Pvt Ltd., Benglauru	05/06/2019	15/07/2019	1
Industry	Internship	Digitalizing India Private Limited	03/06/2019	26/07/2019	3
Internship	Internship	nuSecond Technologies Pvt Ltd.,	03/06/2019	31/07/2019	2

Internship	Internship	NUKART Digital Solutions Pvt Ltd.,	03/06/2019	31/07/2019	2
Industry	Internship	Pierian Services Private Limited	02/06/2019	15/08/2019	1
Industry-Academia	Students Internship	Centre for Human Genetics, Bengaluru	01/06/2019	01/07/2019	1
Internship	EECG signal Acquisition	TCS Reasearch and Innovation Center	01/06/2019	01/07/2019	2
Internship	Internship	IISC	01/06/2019	31/07/2019	1
Internship	Internship	Sun trop Solar	01/06/2019	31/07/2019	2

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3.7.3 – MoUs signed with institutions of national, international importance, other institutions, industries, corporate houses etc. during the year

Organisation	Date of MoU signed	Purpose/Activities	Number of students/teachers participated under MoUs
Indian Society for Technical Education (ISTE) Working Professionals Learning Project (AICTE Project) with office at UVCE Bengaluru	06/06/2019	Towards development of Learning Material for, 'Effective implementation of Outcomes Based Education leading to Accreditation	2
TalentMicro Innovations Pvt Ltd.,	06/06/2019	Imparting quality training in the Artificial Intelligence and Digital Transformation Technologies domain to Engineering Students of the Institution.	23
CIIRC	29/06/2019	Internship Projects	12
CIIRC	03/07/2019	Internship Projects	12
Axiscades	29/07/2019	To Collaborate for promotion of research and	9

		education. To provide practical research and development topics to students/researches. To enable in taking up research projects which are relevant to industry	
Bangalore Bioinnovation Centre, Bengaluru, India	16/09/2019	To act as a link between the college and the startup's incubated at BBC and facilitate transfer of knowledge /technologies To facilitate commercialization of technologies developed in the college to facilitate use of equipment available with BBC f	2
AIKYA, ISKCON, Bengaluru	17/09/2019	The Programs undertaken by AIKYA are a) School Education Program b) Cleanliness Program c) Environment Program d) Leadership Program e) Volunteer Training Program	30
NOKIA Solutions and Networks India Pvt. Ltd.	22/11/2019	Lecture Series, Joint Research and Internship	3
CADD CENTRE	23/01/2020	Skill Development, Outcome Based Trainings and Related Services	25
M/s Kores Enterprises M/s Invent Edu Tech Consultants, Bengaluru	10/02/2020	Design and Development of Domestic Heat Pump	6
View File			

CRITERION IV – INFRASTRUCTURE AND LEARNING RESOURCES

4.1 – Physical Facilities

4.1.1 – Budget allocation, excluding salary for infrastructure augmentation during the year

Budget allocated for infrastructure augmentation	Budget utilized for infrastructure development
2700	2138

4.1.2 – Details of augmentation in infrastructure facilities during the year

Facilities	Existing or Newly Added
Classrooms with Wi-Fi OR LAN	Newly Added
Number of important equipments purchased (Greater than 1-0 lakh) during the current year	Existing
Value of the equipment purchased during the year (rs. in lakhs)	Newly Added
Video Centre	Existing
Seminar halls with ICT facilities	Existing
Classrooms with LCD facilities	Existing
Seminar Halls	Existing
Laboratories	Newly Added
Class rooms	Existing
Campus Area	Existing
View File	

4.2 – Library as a Learning Resource

4.2.1 – Library is automated {Integrated Library Management System (ILMS)}

Name of the ILMS software	Nature of automation (fully or patially)	Version	Year of automation
LIBSYS 7 (EJB)	Fully	Release 1.0	2002

4.2.2 – Library Services

Library Service Type	Existing		Newly Added		Total	
Text Books	1572	475382	1359	599065	2931	1074447
Reference Books	133	168082	155	216712	288	384794
e-Books	11113	1742151	11113	2076984	22226	3819135
Journals	151	607625	125	477078	276	1084703
e-Journals	1887	1742151	1887	2076984	3774	3819135
Digital Database	6	1742151	6	2076984	12	3819135
CD & Video	208	142525	29	14500	237	157025
Library Automation	1	654304	Nil	Nil	1	654304
View File						

4.2.3 – E-content developed by teachers such as: e-PG- Pathshala, CEC (under e-PG- Pathshala CEC (Under

Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & institutional (Learning Management System (LMS) etc

Name of the Teacher	Name of the Module	Platform on which module is developed	Date of launching e-content
Dr.Srinidhi Asst. Proff. Chemistry Dept.	Colourometric determination of copper from the effluent of electroplating industry	Youtube	26/05/2019
Mr.Praveen Mech Asst. Instructor.	Tool Makers Microscope	Youtube	26/05/2019
Dr. Banu Prashanth	Demonstration of Experiments for the Undergraduate course on Linear Integrated Circuits	Youtube	22/05/2020
Dr. Suresh Ramaswamyreddy (Civil)	IMPACT OF JET ON VANES	Youtube	22/05/2020
Dr.Suresh Ramaswamyreddy (Civil)	IMPULSE TURBINE PELTON TURBINE	Youtube	22/05/2020
Dr.Suresh Ramaswamyreddy (Civil)	MULTISTAGE CENTRIFUGAL PUMP	Youtube	22/05/2020
Dr. Suresh Ramaswamyreddy (Civil)	Orifice Mouth Piece	Youtube	22/05/2020
Dr. Suresh Ramaswamyreddy (Civil)	REACTION TURBINE FRANCIS TURBINE	Youtube	22/05/2020
Dr. K L Nagashree Asst. Prof (Chemistry)	Conductometric estimation of strong weak acids from given mixture	Youtube	26/05/2020
Mr.Babu, Lab Instructor (Mech)	Thermocouple	Youtube	26/05/2020
View File			

4.3 – IT Infrastructure

4.3.1 – Technology Upgradation (overall)

Type	Total Co mputers	Computer Lab	Internet	Browsing centers	Computer Centers	Office	Departme nts	Available Bandwid th (MBPS/ GBPS)	Others
Existin g	2408	0	0	0	403	150	1855	1000	0
Added	85	0	0	0	30	0	55	0	0
Total	2493	0	0	0	433	150	1910	1000	0

4.3.2 – Bandwidth available of internet connection in the Institution (Leased line)

1 MBPS/ GBPS

4.3.3 – Facility for e-content

Name of the e-content development facility	Provide the link of the videos and media centre and recording facility
Adobe Creative Cloud editing Software	<a href="https://www.youtube.com/c/Educationvide
os-BMSCE">https://www.youtube.com/c/Educationvide os-BMSCE

4.4 – Maintenance of Campus Infrastructure

4.4.1 – Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary component, during the year

Assigned Budget on academic facilities	Expenditure incurred on maintenance of academic facilities	Assigned budget on physical facilities	Expenditure incurred on maintenance of physical facilities
934.72	766.91	675	612.29

4.4.2 – Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc. (maximum 500 words) (information to be available in institutional Website)

A full-fledged building maintenance is established to oversee the construction and maintenance of physical infrastructure. Potable Water Supply: Three bore wells are located in the college campus and two in the hostel premises. An open well is provided in the hostel premises which caters to the needs like water for drinking, toilet and gardening of the college. The overhead water tanks and underground sumps are cleaned every six months through a tank cleaning contractor. A water treatment plant with 3 Lakh Litre Capacity and 1 Lakh litre capacity of Rain water harvesting tank has been constructed. Centralized RO Systems of capacity 500 LPH (02 Units), 250 LPH (01 Units), 10 LPH (04 Units), 40 LPH (02 Units) and 25 LPH (04 Units) have been established in all the buildings to cater for safe drinking water. AMC has been made to replace spare parts and to carry out periodical services to all the drinking water RO plants located in BMSCE Campus. The quality of drinking water is tested every three months. The fire extinguishers are refilled and kept in a serviceable condition throughout the year. Sewage Disposal: A sewage treatment plant with a capacity of 350 KLD with MBR Technology with built up area of 123 SQM was installed during 2019-20. The MBR Technology has been installed in the plant for ultra-filtration of Sewage water (treated water with Ph value of 7.5) which is being used for the flushing lines of all the toilets at New Academic Block, watering for gardening area for the entire campus and basements floor cleaning at academic block. Electric Power Backup To monitor continuous power supply to all the department faculty rooms, HOD Chamber, drinking Water facility, Street Light etc. a sufficient back up power supply has been maintained in case of power failure. The total transformer capacity is 3000 KVA. Contract Demand is 1850 KVA. Peak Load is 1000 KVA. DG Set Back Up with a total capacity of 2330 KVA. The total UPS Back up is 862 KVA. Telephone Connection Available The Telephone, STD, ISD, Telefax facilities are available on campus. 52 External [PT] telephone lines in the campus. Intercom facility with 732 extensions is provided. Maintenance and repair due to normal use of the service are undertaken through Building Maintenance Department. The Data Centre monitors the Campus Wide Networking (CWN) facility of the institution for ubiquitous network connectivity throughout the campus. Equipment's: All Major/advanced equipments are maintained by Annual Maintenance Contract (AMC). Minor Equipments are repaired and maintained regularly. Maintenance of

Infrastructure- The infrastructure maintenance which includes civil, plumbing, electrical, furniture repair and other is done by estate office as and when required. General Insurance coverage for Building, Furniture, fixture and all types of college equipment's, Laboratory equipment's, Computer and Accessories, Laptops, Electrical Gadgets, Transformer Generators and all types of electrical equipment's. Fire and Special Perils (Material Damage) protection and support.

<https://bmsce.ac.in/assets/files/aqar/documents/2019-20/4.4.2-Procedures%20and%20Policies%20for%202019-20.pdf>

CRITERION V – STUDENT SUPPORT AND PROGRESSION

5.1 – Student Support

5.1.1 – Scholarships and Financial Support

	Name/Title of the scheme	Number of students	Amount in Rupees
Financial Support from institution	Alumni	111	1100000
Financial Support from Other Sources			
a) National	DSW Scholarship (SC/ST), CAT1 and Low Income Fee Concession	1153	27733330
b) International	-	Nil	0
View File			

5.1.2 – Number of capability enhancement and development schemes such as Soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.,

Name of the capability enhancement scheme	Date of implementation	Number of students enrolled	Agencies involved
Bridge Courses for Lateral Entry Students admitted to III semester BE with Diploma background	01/07/2019	124	BMSCE Faculty
Smart Materials	27/07/2019	68	Dept. Faculties(CH)
Composite Materials	27/07/2019	17	Dept. Faculties(CH)
Non-Conventional Energy Technology	27/07/2019	19	Dept. Faculties(CH)
Project Management	27/07/2019	68	Dept. Faculties(CH)
Management in Entrepreneurship	27/07/2019	68	Dept. Faculties(CH)
Placement Training	19/08/2019	103	Ethnus Consultancy Services Pvt. Ltd.
Hands On Workshop On Testing Contaminants In	14/09/2019	20	Environmental management and policy research

Samples			institute (EMPRI), department of forest, ecology and environment Government of Karnataka
Workshop On Sustainability Ideation For The Corporate World	14/09/2019	34	3I molecular solutions
Remedial class for lateral entry students (Diploma)	17/09/2019	17	BMSCE Faculty
View File			

5.1.3 – Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year

Year	Name of the scheme	Number of benefited students for competitive examination	Number of benefited students by career counseling activities	Number of students who have passed in the comp. exam	Number of students placed
2019	GATE coaching for UG students	6	Nil	3	Nil
2019	TEQIP GATE Coaching	25	25	1	9
2019	GATE coaching	Nil	Nil	6	Nil
2019	Soft skill training	Nil	17	Nil	4
2020	Gate Exam	3	13	3	9
2019	GATE Coaching Classes	5	2	1	1
2019	GATE	Nil	Nil	9	3
View File					

5.1.4 – Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year

Total grievances received	Number of grievances redressed	Avg. number of days for grievance redressal
1	1	7

5.2 – Student Progression

5.2.1 – Details of campus placement during the year

On campus			Off campus		
Name of organizations visited	Number of students participated	Number of students placed	Name of organizations visited	Number of students participated	Number of students placed

160	989	735	89	89	89
View File					

5.2.2 – Student progression to higher education in percentage during the year

Year	Number of students enrolling into higher education	Programme graduated from	Depratment graduated from	Name of institution joined	Name of programme admitted to
2019	1	BE - IEM	Industrial Engineering & Management	MIT WORLD PEACE INSTITUTE	Master of Business Adm inistration (MBA)
2019	1	BE - IEM	Industrial Engineering & Management	TuDELFT UNIV. OF TECHNOLOGY	MS in Complex Systems Engineering & Management
2019	1	BE - ME	Mechanical Engineering	BMSCE	M.Tech (MTH)
2019	1	BE - ME	Mechanical Engineering	BMSCE	M.Tech (MMD)
2019	1	BE - ME	Mechanical Engineering	Jyothi Insttt of Tecnology	M.Tech (PDM)
2019	1	BE - ME	Mechanical Engineering	BITS, Palini	M. E (Design Engg)
2019	1	BE - ME	Mechanical Engineering	BITS, Palini	M. E (Mechanical Engg)
2019	1	BE - CV	Civil Engineering	BMSCE	M.Tech (En vironmental Engineering)
2019	1	BE - CV	Civil Engineering	BMSCE	M.Tech(Con struction Technology)
2019	1	BE - CV	Civil Engineering	BMSCE	M.Tech (Tr ansportation)
View File					

5.2.3 – Students qualifying in state/ national/ international level examinations during the year (eg:NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

Items	Number of students selected/ qualifying
GATE	64
CAT	3
GRE	20
TOFEL	15
Any Other	13

5.2.4 – Sports and cultural activities / competitions organised at the institution level during the year

Activity	Level	Number of Participants
Kreedotsav - 2019	State	1500
National Open Yoga Competition 2019	National	150
Yoga Walkathon	State	350
International Day of Yoga 2019	State	200
VTU Inter Collegiate Bangalore South Zone Table Tennis Championship	State	150
Inter Zone Table Tennis VTU Championship.	State	200
Live Streaming Yoga Class and Online Quiz on Yoga	College	250
View File		

5.3 – Student Participation and Activities

5.3.1 – Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one)

Year	Name of the award/medal	National/ Internaional	Number of awards for Sports	Number of awards for Cultural	Student ID number	Name of the student
2019	Silver - Para Swimming	Internat ional	1	Nil	1BM17CV214	Punith N
View File						

5.3.2 – Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

BMSCE provides good number of opportunities to the student community to participate in academic and administration activities. The students are active members of various in-house clubs, student forums and student chapters. In addition they are members of several committees and administrative bodies. • The student representatives are invited to Board of Governance (BOG) meetings which are held regularly. The students are invited to the brainstorming sessions of academic council and Board of Studies meetings which are conducted regularly by the respective departments of the institution. Students views are considered while initiating new courses, curriculum framing, teaching methodology etc. The students also participate in the feedback system. Students provide feedback on faculty (4 times in a year), HODs Principal (once in a year) and Institution (2 times in a year). Hence the views of the students are recognized for the holistic development of the institution. • The College encourages various Student Forums/Clubs thereby providing opportunities to students to participate in wide range of Co-Curricular, Extra-Curricular, social and community developmental activities. Every year the students actively participate in the very popular annual inter-collegiate technical symposium 'Phase Shift'. The students of various engineering colleges gather to collaborate, present, discuss, learn and explore cutting edge technologies in all the fields of engineering and management. The two days National symposium

has a huge footfall of more than 8000 students. The students immensely benefit from the product displays put up by various industry collaborators in the form of exhibition stalls. Students form teams in each of the departments and arrange talks from eminent persons from industry. • The students are exposed to current research through expert lectures from people of eminence from other premier institutions and industries. Several stake holders are invited to the campus to provide expert advice and interact with students. The students also participate in seminars conducted nationally and internationally. Students are encouraged to carry out mini major project work in house and in collaborations with industry and academia. BMSCE has constituted a committee which looks into awarding the final year UG Engineering projects who have innovative ideas with a flavour for societal responsibility in their project work. The Institution has a full-fledged Technology Innovation Club for students which aims to inculcate the culture of innovation amongst students and encourage them to generate new ideas. • The students are part of extension activities such as NSS, NCC, Rotaract, Women Cell, etc. The student representatives are also part of IQAC, Anti ragging committee, Grievances' Redressal Committee, Women's Cell and other committees. Students are encouraged to form student chapters under IEEE, IGBC, ICI, etc and organize activities with the collaboration of these professional bodies.

5.4 – Alumni Engagement

5.4.1 – Whether the institution has registered Alumni Association?

Yes

The BMSCE Alumni Network (BMSCEAN) established and registered under the Societies Registration Act 21 of 1860. BMSCEAN is formed with an aim build an actively engaged alumni network. The Association connects with alumni through a diverse set of events/services. Since its inception the BMSCEAN has been active in ensuring that its esteemed alumni continue to be part of the institutional ecosystem. The Alumni Network ensures active alumni participation in various institutional initiatives in the form of Tech forums, Tech fests, alumni advisory boards, mentoring of students, placement and internship opportunity to students. The proceeds of the BMSCEAN corpus are being used to recognize meritorious students in the form of BMSCEAN Merit Scholarships since 2012-13 and also supporting students needing financial support in the form of educational loans. Alumni are registered online and connected on the online portal bmscealumni.net. The Network is now 23402 (~23500) members strong. The database is being updated on a regular basis. The Alumni Contribute in the Curriculum Design process. The Department Advisory Board has representation from industry, academia, alumni besides faculty and students. Board of Studies includes alumni representatives. Alumni actively participate in the Institutional initiatives like Phaseshift, Conferences, Workshops and department level technical symposia etc. Alumni provide expert suggestion to the institutional leadership on various academic and administrative functions. The guest lectures by alumni pave the way for interaction to further improve TLP. Alumni are mentoring students for national and international programmes like SAE Baja events, SAE Aerospace and general activities like career counseling. Alumni are part of IQAC, Departmental Advisory Board, Alumni Executive Committee etc. Alumni provide feedback once in a year about the institution. Alumni Survey and their feedback help the effective implementation of the OBE Process. BMSCE Alumni Interest Free Education loans were rolled out in 2013 for the needy students of BMSCE. As on 31.06.2021, 80 students have benefited so far. A total loan amount of Rs.295.00 Lakhs has been disbursed. Alumni Sponsored Merit Scholarships: Alumni Donations and Contributions The BMSCE Alumni Network recognizes meritorious students by giving the BMSCEAN Merit Scholarships at the end of every semester. The toppers at the end of the Academic year are recognized during the Annual Alumni Day with a cash prize of

Rs.10000/- each and a merit certificate. Year Number of Scholarships Total Amount 2011-12 53 530000 2012-13 53 530000 2013-14 108 1080000 2014-15 112 1120000 2015-16 114 1140000 2016-17 114 1140000 2017-18 115 1150000 2018-19 108 1080000 2019-20 109 1090000 Also recognized are achievers in the field of sports were recognized from the Seventh Annual Alumni Day onwards. Two student achievers were recognized in 2018, two in 2019 and two in 2021. The Alumni Association creates and maintains a life-long connection between the Institute and its alumni, who number more than 20,000. The Alumni Association works to connect alumni, support students and build an unforgettable Institute experience through a diversity of events, programmes and services.

5.4.2 – No. of registered Alumni:

23500

5.4.3 – Alumni contribution during the year (in Rupees) :

945000

5.4.4 – Meetings/activities organized by Alumni Association :

Number of meetings/activities organized by the Alumni Association 2 ((Alumni Sub Committee Meet, Annual Alumni Meet) Minutes: Alumni Day preparation review meeting - 10th December 2019 Minutes of the meeting held on Tuesday the 10th December to review the preparations for the upcoming Annual Alumni Day. Attendees: Principal Dr. B V Ravishankar, Vice Principal Dr. Muralidhara, Dr. J Sharana Basavaraja, Mr. H RSridhar, Dr. Prathima Bhat and Ms. Vidhya Shenoy Minutes and actions: 1. Registrations and Communications: As of 9th December 2019, we have 832 alumni registrations, 935 accompanying guests. 2. Programme Schedule: The programme schedule was discussed and Principal to get this reviewed and approved by the Hon.Chairman. 3. Cultural Programme: Dr. Prathima Bhat to oversee the invocation and cultural programme. A high level planto incorporate one Solo Classical by Ms.Meera, a group dance by students and group songs by students was discussed. 4. Venue Arrangements: Mr. Sridhar to coordinate with M/S Skyline. 5. High Tea and Dinner Arrangements: Dr JSB to coordinate with the hostel mess for the arrangements and present the menu plan to the Principal. 6. Senior Alumni felicitations: Depending on the numbers at closure of registrations, Dr. JSB to order for Mementos, Shawls and bags. 7. Invitation: Vidhya to send a draft invitation for review. On approval 100 invitations to be printed through M/S Sri Sai Creations 8. Event Photography: It was dicussed that Mr. Lokesh B will be the event potographer. Dr. JSB to coordinate 9. Sports and Cultural Team Scholarships: It was discussed that 4 scholarships of Rs.5000/- each would beawarded to two outstanding students in sports and cultural activites. While the approval for sports is in place,Dr. Prathima Bhat has to submit a formal request to the Principal for further approval by Chairman. 10. Budget: Vidhya to prepare and send a draft budget for review and approval. Dr. JSB to get this signed offby thePrincipal and office of CFO. 11. Student volunteers: Dr JSB and Dr Dakshayini to help arrange for student volunteers needed on the day of the event Minutes: Alumni Day preparation review meeting - 21st December 2019 The 8th Annual Alumni Day was organized on 21st December 2019 at 4.30 P.M. in the sports Auditorium of BMSCE campus. The function was Presided by Dr.P.Dayanda Pai, Trustee BMSET, Chairman BMSCE Honorary President, and Guest of Honour Dr.B.S.Ragini Narayan, Donor Trustee and Chairperson, BMSET Honorary Member. Sri.Aviram Sharma, Trustee BMSET. 10 members of from the 1968 batch were Honoured and were asked to give their valuable inputs. The Alumni Day had a foot fall of around 850 members from all over the country and abroad.

CRITERION VI – GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 – Institutional Vision and Leadership

6.1.1 – Mention two practices of decentralization and participative management during the last year (maximum 500 words)

The institution has adopted a decentralized system by involving several persons for the smooth functioning of the college. It involves all the stakeholders for critical decision making process for framing guidelines and rules and regulations to ensure a systematic functioning of the college. The principal who is the head of the institution steers the academic administration and creates a good environment for the academic growth of the college. The decentralization process is carried further by inducting deans to look into the academics and the well-being of the students in the institution. The Dean first year, dean Academics and Dean Student affairs look into the academic spectrum. This being the first best practice, the second is the formation of various cells and committees which look into specific areas thus ensuring a comfortable stay of the student during his/her stay in the campus. The Dean first year is the first point of contact for the students entering the college. He/she is responsible for conducting induction and orientation programmes. During the academic year 2019-2020, the fresh batch of students was inducted through a virtual programme. The induction and the orientation programmes held virtually included several sessions relevant to the Covid-19 situation. This boosted the general morale of the fresh students. The higher semesters are managed by Dean Academics. Both the deans ensure that all the courses studied are as per the statutory bodies. The Dean Student affair looks into the proctoring, counseling and well-being of the students. He/she is also responsible for the smooth conduction of the graduation ceremony. All the Head of the Departments are members of the Academic Council/College Council where major decisions are taken. More academic power is delegated to the Heads of the Departments. At the department level, decisions are taken by various department level Committees such as the Departmental Academic Committee [DAC], where in the faculties provide their inputs on all academic related matters. The institution has formed several Committees / Sub-Committees to continuously monitor/guide all the activities. The committees comprise of key stakeholders like government representatives, faculty, staff, industry, employer, alumni, parent and students. Many senior faculty members are invited to occupy pivotal administrative positions. This includes Vice-Principal, Deans, Placement Officer, Director, IQAC, Hostel Secretaries, Wardens, Controller of Examination etc. The Management has brought out a handbook to ensure transparency and guide the staff to discharge their responsibilities with ease and efficiency. The book provides policies, procedures, rules, benefits and other service matters. The management has also devised the policy of rotation of heads of the departments with an aim to induct and groom the next in line to lead the department. The BOG members directly participate in various activities of the Institution. The minutes of the BOG, Academic Council and Annual Report are published on college website. The finance committee appraises the BOG pertaining to finances of the college. The Institution also publishes audited financial statements on its website for public information. This clearly indicates the role of a participative management.

6.1.2 – Does the institution have a Management Information System (MIS)?

Yes

6.2 – Strategy Development and Deployment

6.2.1 – Quality improvement strategies adopted by the institution for each of the following (with in 100 words each):

Strategy Type	Details
Curriculum Development	The new curriculum intended towards incorporating the credit distribution in line with AICTE directives. The

projects are in interdisciplinary concept for the intermediate semesters. Each project group will consist of students from different disciplines. Students were also invited to participate in the Academic Council to share their views on the curriculum. During the Pandemic, students were taught on Offline-Online Blended mode and each student gave their feedback on the classes handled during the semester. It is exemplary situation where the difficulty faced due to pandemic was overcome and the students got very good teaching-learning experience.

Teaching and Learning

Online classes conducted through Google Classroom, Google Meet, WebEx, Zoom, GotoMeeting etc. Online classes conducted using platforms like Laboratory sessions were video recorded by the instructor/subject teacher and shared with students. Introducing the concept of No-Laboratory Manual for higher semester students to motivate them to think and innovate ways rather than in conventional approach. MHRD Virtual labs/ NPTEL/ Swayam platforms were also used to complement the online teaching. Online preparatory classes were conducted for both the UG and PG slow learners for about 15 days before they appeared for their final semester end examination

Examination and Evaluation

The Controller of Examinations is appointed on rotation basis to foster new ideas. The student grievances in the disclosure of F grade answer scripts were formally addressed through Board of Examiners instead of individual faculty. An online marks entry system has been introduced as a new initiative at the first year level. Partial digitization of evaluation process has also been introduced. In addition to posting the semester end examination results on the web, they were also shared to students individually by SMS.

Research and Development

The RD Committee was re-constituted with an objective to further promote and enhance research activities. The format for faculty performance evaluation was revised with specific reference to faculty achievements/competency in terms of quality publications, sponsored

research and consultancy projects, etc. With an aim to give thrust on research productivity in Web of Science (SSCI/SCIE), the faculties have been encouraged to publish at least one quality indexed journal in a year. The monthly RD Newsletter highlights a wide range of ongoing research activities within the institute. It also focuses on funding opportunities, upcoming events, details about recently organized workshops, seminars, etc.

Library, ICT and Physical Infrastructure / Instrumentation

Library to date has a total collection of 154467 volumes of books, reference books and non-print/multimedia, 3009 book CDs, 361 subject floppies and 1720 journal/magazine CDs. The library is presently subscribing to 125 National and International Technical Journals in addition to 35 Magazines. The library subscribes to 1359 Text Books, 154 Reference books, 138 Journals, 138 e-Journals and 111113 e-Books. The library also procured 6 digital databases and 123 CD videos. The library has updated its Library Automation LIBSYS 7.3 Version Package.

Human Resource Management

B.M.S. College of Engineering maintains a balance between the intake and faculty ratio by identifying and filling the vacancies through a well-defined recruitment procedure. It includes advertisement in leading dailies, the applications received are sent to HOD for shortlisting as per department requirement and screening the shortlisted candidates by the BOA Sub-committee. The eligible candidates are called for the final interview, where the BOA selects the candidates to be appointed in the college. BMSCE appoints candidates with PhD or who have submitted their thesis at premier institutions. During the academic year 2019-20, 39 teaching and 18 non-teaching staffs were appointed.

Industry Interaction / Collaboration

B.M.S. College of Engineering has placed emphasis on promotion of various industrial activities by the faculty members and students in collaboration with industries. A cell has been formed to strengthen the relationship between the institute and industry resulting in a mutually beneficial partnership. This Cell is very keen in collaborating with industrial organizations for working on

various problems of mutual interest by entering into eight MoU's during 2019-2020. In view of the current situation covid-19 pandemic, many industries offered online activities for students also. Many student projects have secured Certificate of Excellence from industry during 2109-20.

Admission of Students

The admissions are made transparently following the guidelines of the Consensual agreement between Government of Karnataka and the Karnataka Unaided Private Engineering Colleges Association in the matter of regulating admission and fee structure to the undergraduate courses in private professional colleges of Engineering/Architecture" from time to time. The summary of fee structure and percentage of seats notified in the agreement is as follows: The State Government is responsible for admissions under CET quota (45). The Consortium of Medical, Engineering and Dental Colleges of Karnataka is responsible for admission under COMED-K quota (30). The remaining seats are filled through Management quota (25). Both the CET and COMED-K constitute 75 of seats and admissions under these categories are based on merit as per ranking to be determined by the tests conducted by respective agencies. The Institution grants admission on receipt of admission order issued by the counselling authorities of Government KEA (CET) or COMED-K and on submission of documents pertaining to qualification etc. The Management quota seats are allotted by the BMS Educational Trust adhering to the guidelines of the consensual agreement. The college has embarked upon the systematic way of implementing E-Governance in admission process. e-Governance team has developed necessary digital infrastructure and solutions for efficient operations. Major e-governance initiatives: 1. Website updates and upgrades for the dissemination of admission related information and provide virtual tour to visitors. 2. Online Payment Portal and payment gateway for ease of fee payment to avoid queues in college. 3. Online Admission module for UG and PG programmes.

6.2.2 – Implementation of e-governance in areas of operations:

E-governance area	Details
Student Admission and Support	Online mode admission (Web based) BMSCE Campus Portal Various Reports are Generated (Feedback, Stakeholders Feedback, Course Registration Feedback and others)
Examination	Online results . Fee Collection for the PDC, Convocation, Transcript etc., Plan on development of modules for Online Applications like Revaluation, Challenge Evaluation, Photocopy Re-Totaling, Makeup Exam, WES. Plan to develop module for Management fee collection is under development.
Planning and Development	Website Updation, Online fee collection.
Administration	Campus Portal for online faculty details updation which automatically gets updated on the college website. Online Course Registration and Institute Elective Registration for students
Finance and Accounts	Various Fee collection modules deployed in cloud server.

6.3 – Faculty Empowerment Strategies

6.3.1 – Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

Year	Name of Teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee is provided	Amount of support
2019	VEENA MB	-	IEEE	6630
2019	GEETISHREE MISHRA	-	IEEE	4360
2019	MANJUNATH PS	-	IEEE	4272
2019	SHABNAM SIDDIQUI	ICIAMR-2019, AT NANYANG TECHNOLOGICAL UNIVERSITY -SINGAPORE	-	67000
2019	BHARATHI .V	ADVANCE TRENDS IN MECHANICAL AEROSPACE-ATMA -AT DAYANAND SAGAR UNIVERSITY	-	7500
2019	H.B.NAGARAJ	A REVIEW OF FACTORS AFFECTING	-	100000

		UNDERDRAIND STRENGTH OF FINE GRAINED SOIL - ICELAND		
2019	VENKATESH T LAMANI	ADVANCE TRENDS IN MECHANICAL AEROSPACE-ATMA -AT DAYANAND SAGAR UNIVERSITY	-	7500
2019	GURUMURTHY HEGDE	INTERNATIONAL CONFERENCE - INDONESIA	-	35000
2019	V.CHAMPA	INTERNATIONAL CONFERENCE ESA- AT ROSCHESTER NEW YORK	-	100000
2019	A.N. NAGASHREE	INTERNATIONAL CONFERENCE ESA- AT ROSCHESTER NEW YORK	-	100000
View File				

6.3.2 – Number of professional development / administrative training programmes organized by the Colleges for teaching and non teaching staff during the year

Year	Title of the professional development programme organised for teaching staff	Title of the administrative training programme organised for non-teaching staff	From date	To Date	Number of participants (Teaching staff)	Number of participants (non-teaching staff)
2019	FDP on "Linux Programming"	-	15/07/2019	19/07/2019	27	Nil
2019	FDP on "Data Science Visualization"	-	28/05/2019	01/06/2019	33	Nil
2019	FDP on "Current Research Trends in applied Physics"	-	10/06/2019	14/06/2019	57	Nil
2019	Workshop on "Machine Learning with Python"	-	10/06/2019	14/06/2019	40	Nil
2019	Workshop	-			35	Nil

	on "Product Management"		15/06/2019	16/06/2019		
2019	FDP on "Wireless networks- A smart city Perspective"	-	17/06/2019	21/06/2019	26	Nil
2019	FDP on "Robotics Process Automation Advanced training"	-	17/06/2019	21/06/2019	24	Nil
2019	FDP on IOT and Its applications	-	24/06/2019	05/07/2019	35	Nil
2019	FDP in Mechatronics and Artificial Intelligence	-	01/07/2019	01/07/2019	52	Nil
2019	One day national symposium Infrared thermography and its applications	-	05/07/2019	05/07/2019	38	Nil
View File						

6.3.3 – No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

Title of the professional development programme	Number of teachers who attended	From Date	To date	Duration
Summer Visiting Researcher program 2019	1	01/06/2019	01/07/2019	30
AICTE sponsored QIP Short Term Course on Applications of Computational Techniques in Engineering using MATLAB	4	03/06/2019	07/06/2019	7
Coursera	1	04/06/2019	04/07/2019	28

course on Geospatial and Environmental analysis by UC Davis				
Electro analytical Techniques for Energy Conversion and Storage	1	06/06/2019	08/06/2019	3
QIP AICTE Sponsored short term course on FPGA Based Controller Design for Power Electronic Converters ,	1	10/06/2019	14/06/2019	5
Machine Learning with Python, BMSCE	1	10/06/2019	15/06/2019	6
Professional Development Training programme(PDT)	1	10/06/2019	14/06/2019	5
TEQIP-III Sponsored One Week FDP on Current Research Trends in Applied Physics	6	10/06/2019	14/06/2019	5
Participated in Faculty Development Program on Strategy and Sustainable Enterprise conducted by Indian Institute of Management, Bangalore	2	11/06/2019	14/09/2019	90
Microfluidic T-Junction Device For High Throughput Droplet For Encapsulation presented in International Conference on	1	12/06/2019	14/06/2019	3

6.3.4 – Faculty and Staff recruitment (no. for permanent recruitment):

Teaching		Non-teaching	
Permanent	Full Time	Permanent	Full Time
38	38	18	18

6.3.5 – Welfare schemes for

Teaching	Non-teaching	Students
Teaching • AICTE scales (Sixth Pay) with up to date DA (164). • Career Advancement Scheme (CAS) benefit • The Research Development (R D) Cell to facilitate and encourages research culture among the faculty and students. • Study leave with full salary for pursuing PhD under QIP • Deputation to participate in workshop/ seminar/ conference • Reimbursement of fee paid towards PhD under part-time • Cash incentives for publications in refereed journals • Financial support for patent advise filing • Financial support for presenting papers in National and International conference • Cash incentive for writing technical literature Books • B.M.S. Centre for Engineering Consultancy (BMSCEC) to facilitate consultancy activities • Incentives for fetching external research grants • Annual allowance of Rs.15,000/- per faculty for professional requirements (Books, membership fees, etc.) • Medical Accidental Insurance to employees (spouse and children) • Vehicle Loan (four wheelers) • Management Quota seats	Non-teaching • Revised State Government Pay scales up-to date DA (11.25). • Time-bound promotions • Leave Terminal benefits as per KCSR • Extension of Maternity Leave • Medical (family) Accidental Insurance coverage • Family Welfare Fund (FWF) • Festival advance • Vehicle Loan (two wheelers) • Educational Aid to Children of Non-Teaching Staff • Management Quota seats for the wards of employees • Benefit of VRS to Management employees • Employees Credit Co-operative Society • Management Quota seats for employees wards • Interest free loan for Personal Computers • Employees Credit Co-operative Society • Partial Medical Reimbursement (in major ailments)	Students • The Research Development (R D) Cell to facilitate and encourages research culture among the faculty and students. • Library Information Centre • Placement and Training Centre • Entrepreneur Development Cell • Research and Development Cell (RD) • Industry Institute Interaction Cell • Innovation PROPEL LABS • MOOCs laboratory • Language Laboratory • International Cooperation Division • Melton Foundation, USA • In-campus Hostels Support • Cash incentive to Student Achievers • Student Counseling support • Online student feedback • Proctoring System • Competitive Exam Higher Study Cell • Differently abled Service Cell • Anti-Ragging Measures • Scholarships Freeships • Interest Free Educational Loan • Group Medical Insurance • Professional Bodies: IEEE, IET, IESA etc. • Peer Learning/social learning PHASE SHIFT • Industrial, Field Site visits • Industry supported Labs • Student Fora / Innovation Clubs • Sports and Cultural Forums UTSAV • NCC, NSS ROTARACT • Outreach Activities

for employees wards •
Interest free loan for
Personal Computers •
Employees Credit Co-
operative Society •
Partial Medical
Reimbursement (in major
ailments) • Employees
Credit Co-operative
Society • Extension of
Maternity Leave

6.4 – Financial Management and Resource Mobilization

6.4.1 – Institution conducts internal and external financial audits regularly (with in 100 words each)

The Institute has a mechanism for internal and external audit to ensure financial compliance. The institutional accounts are regularly audited. The internal audit is an ongoing continuous process. A team of qualified auditors from external resources have been permanently appointed to do a thorough quarterly check and verification of accounts. The external auditor appointed by the college performs audit of the financial statements of the college. The audited statement is duly signed by Principal, Chairman and Chartered Accountant. All accounting systems are accrual basis computerized and maintained on Tally. The audited financial statements are published on the website regularly.

6.4.2 – Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

Name of the non government funding agencies /individuals	Funds/ Grnats received in Rs.	Purpose
Alumni Association Fee	5070400	Funds
View File		

6.4.3 – Total corpus fund generated

77535657.00

6.5 – Internal Quality Assurance System

6.5.1 – Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	NBA, AICTE, VTU	Yes	IQAC DEAN ACADEMIC
Administrative	Yes	VTU-LIC Members	Yes	H R Suresh Co., Chartered Accountants

6.5.2 – Activities and support from the Parent – Teacher Association (at least three)

1. Proctor Meetings 2. Feedback on Curriculum 3. Hostel Matters

6.5.3 – Development programmes for support staff (at least three)

• Management Quota seats for the wards of employees • Medical Accidental Insurance coverage to all the employees and their family members • Employees Credit Co-operative Society • Family Welfare Fund (FWF)

6.5.4 – Post Accreditation initiative(s) (mention at least three)

1. The BS Narayan Platinum Jubilee Block was inaugurated on 14.10.2019. The Building houses several departments, class rooms, Language Laboratory etc., In addition to these, one exclusive floor is dedicated to the college central library, two seminar halls with 150 to 250 capacity, several meeting rooms and two basements for parking of two wheelers and four wheelers. 2. The BS Narayan Centre for Nano Materials and Display was established on 30.09.2018. It is a unique lab in the area of Liquid Crystal Displays and Nano Technology. The lab was established at a total cost of Rs.14.00 Crores in collaboration with Gothenburg University, Sweden. 3. Three new Programmes of study were introduced a) UG BE Programme of Aerospace Engineering with an intake of 60 b) PG M.Tech Programme of Thermal Engineering with an intake of 18 c) UG BE Programme of Artificial Engineering Machine Learning with an intake of 60

6.5.5 – Internal Quality Assurance System Details

a) Submission of Data for AISHE portal	Yes
b) Participation in NIRF	Yes
c) ISO certification	No
d) NBA or any other quality audit	Yes

6.5.6 – Number of Quality Initiatives undertaken during the year

Year	Name of quality initiative by IQAC	Date of conducting IQAC	Duration From	Duration To	Number of participants
2019	TEQIP III Sponsored 2 week FDP on IoT and its applications	15/06/2019	24/06/2019	05/07/2019	30
2019	Skill Development Programme on Advanced Manufacturing Techniques	15/06/2019	15/07/2019	26/07/2019	34
2019	TEQIP-III Sponsored, one week Workshop Drone Technology	29/06/2019	19/07/2019	24/07/2019	63
2019	Practical Approaches for Engineering courses from Industry Perspective TEQIP-III Sponsored One week FDP	01/07/2019	22/07/2019	26/07/2019	25
2019	Technology Trends in 2019 and	08/07/2019	03/08/2019	03/08/2019	60

	Beyond				
2019	Workshop session on Alumni Interaction For Mock Interview	01/08/2019	17/08/2019	17/08/2019	50
2019	Workshop on Google Analytics	03/08/2019	24/08/2019	24/08/2019	30
2019	Job Opportunities for Industrial Engineers	22/08/2019	05/09/2019	05/09/2019	50
2019	Phase Shift 2019	18/04/2019	14/09/2019	15/09/2019	2000
2019	Energy Efficiency and Sustainability	14/08/2019	14/09/2019	14/09/2019	200
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CRITERION VII – INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 – Institutional Values and Social Responsibilities

7.1.1 – Gender Equity (Number of gender equity promotion programmes organized by the institution during the year)

Title of the programme	Period from	Period To	Number of Participants	
			Female	Male
Breast Health Awareness Workshop	30/08/2019	30/08/2019	32	Nil
K.S.I. C. Exhibition and Sales	25/09/2019	25/09/2019	88	26
Self defence work shop for First Semester students	21/10/2019	23/10/2019	312	Nil

7.1.2 – Environmental Consciousness and Sustainability/Alternate Energy initiatives such as:

Percentage of power requirement of the University met by the renewable energy sources
9.5

7.1.3 – Differently abled (Divyangjan) friendliness

Item facilities	Yes/No	Number of beneficiaries
Physical facilities	Yes	13
Provision for lift	Yes	27
Ramp/Rails	Yes	14

Braille Software/facilities	Yes	Nil
Rest Rooms	Yes	27
Scribes for examination	Yes	2
Special skill development for differently abled students	Yes	1
Any other similar facility	Yes	2

7.1.4 – Inclusion and Situatedness

Year	Number of initiatives to address locational advantages and disadvantages	Number of initiatives taken to engage with and contribute to local community	Date	Duration	Name of initiative	Issues addressed	Number of participating students and staff
2019	Nil	1	15/08/2019	1	School kit distribution to government school children NSS BMSCE - Govt School	Help a poor child	50
2019	Nil	1	28/08/2019	1	iTeach phase 11 Rotaract Club of BMSCE, Vasavi BBMP School and Rajrajeshwari School	knowledge sharing	200
2019	Nil	1	14/09/2019	1	iTeach-PES Collaboration Rotaract Club of BMSCE with BBMP Vasavi school, Rajrajeshwari Govt .School	knowledge sharing	20
2019	Nil	1	14/09/2019	1	Save Vr		30

			019		ushabhavathi Symposium, NSS BMSCE-YUVA BRIGADE	Symposium on NSS	
2019	Nill	1	22/09/2019	1	Mentors hip Sessions - Rotaract Club of BMSCE with Swav alambhi Trust	Mentoring	80
2019	Nill	1	22/09/2019	1	Run for Vrushabhavathi-NSS BMSCE-YUVA BRIGADE	Environ ment Cons ervation	40
2019	Nill	1	24/09/2019	1	Install ation - Rotaract Club of B MSCE, Rota ract District 3190	To encourage student p articiati on in Community Service A ctivities	30
2019	Nill	1	27/09/2019	1	Book Di stributio n - Rotaract Club of BMSCE with BBMP Vasavi school, R ajarajesh wari Govt. School	Help a poor child	16
2019	Nill	1	27/09/2019	1	World Tourism Day- Cycl athon, Yoga - NSS- NAMMA NIMMA CYCLE FOU NDATION	Tourist Motivatio n	60
2019	Nill	1	29/09/2019	1	Cubbon Park Volu nteering-	Environ ment Cons ervation	70

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7.1.5 – Human Values and Professional Ethics

Title	Date of publication	Follow up(max 100 words)
UG - Electronics Communication programme	08/01/2019	The students of Electronics Communication Engineering discipline have one course in their 8th semester on 'Intellectual Property Rights and Cyber Law' wherein they study the ethical practices to be undertaken in the field of electronics. This course was introduced in 2019 and is pursued in the academic year 2019-20 under the code 19ES8HSIPL.
UG - Electronics Telecommunication	08/01/2019	The students of Electronics Telecommunication Engineering discipline have one course in their 5th semester on 'Human values through Literature'. This course was introduced in 2019 and is pursued in the academic year 2019-20 under the code 19ET5NCHVL.
PG - Thermal Engineering	08/01/2019	The students of MTech Thermal Engineering from the Mechanical stream study one course on Personality Development and Professional Ethics in the second year of post-graduation. The code is 19METHNCPD. This course was introduced in the year 2019 as part of the syllabus revision.
Undergraduate programme - Constitution of India, Professional Ethics and Human Rights	08/01/2019	This course was introduced in 2019 across all UG programmes in the third semester. The

course outcomes are to educate students about the supreme law of the land. The second course outcome is to value human dignity and to save the liberties of the people against discrimination. The third is to raise awareness and consciousness of the issues related to the profession and discusses the issue of liability of institutions and safety at work place. This course 19HS3ICCIP was introduced in the third semester for all the branches of Engineering in the academic year 2019-20.

7.1.6 – Activities conducted for promotion of universal Values and Ethics

Activity	Duration From	Duration To	Number of participants
Paper bag distribution- Induction program- NSS	10/08/2019	10/08/2019	200
Swacch Bharat Drive- Induction program- NSS	10/08/2019	10/08/2019	400
Collection drive for Uttar Karnataka floods- Rotoract	14/08/2019	14/08/2019	10
Independence day, Raksha Bandhan- Rotoract	15/08/2019	15/08/2019	15
Independence Day Celebration- NSS	15/08/2019	15/08/2019	50
Go Green Ganesha- NSS	30/08/2019	30/08/2019	65
Voter ID Registration with ELC- NSS BMSCE- ELECTION COMMISSION	12/10/2019	12/10/2019	20
Khaadhi Exhibition- NSS	07/11/2019	07/11/2019	15
Indian Constitution Day 2019- NSS	26/11/2019	26/11/2019	60
Discuss for change 2.0- Rotoract	10/12/2019	10/12/2019	18

7.1.7 – Initiatives taken by the institution to make the campus eco-friendly (at least five)

- The campus has aesthetically designed buildings, surrounded by greenery creating an eco-friendly campus.
- Waste Water is utilized for gardening area for the entire campus and cleaning of the basement floors in the academic block.
- Rain Water harvesting is being adopted
- Digital Library-E-Learning Centre promotes use of material in soft form and there by reduces paper usage.
- Plantation drives, environmental awareness programs, energy saving initiatives are undertaken to achieve green status within the campus.
- e-Mails are extensively used to ensure that the office is paperless to a large extent.
- The entire campus is Plastic Free Zone
- The NSS, NCC and Rotoract Units conduct many eco-friendly and go-green activities

7.2 – Best Practices

7.2.1 – Describe at least two institutional best practices

Best Practice -I 1. Title of the Practice National Level Technical Symposium – Phase Shift - 2019 2. Objectives of the Practice The two days technical symposium 'Phase Shift' organised every year is to commemorate India's great Engineer's Birthday, aims at bringing different disciplines of Engineering together on a common platform and give the stakeholders an opportunity to exhibit their technical skills. The incremental improvement brought into the technical expertise of the student community with proper handholding from academic fraternity and Industry collaborations can help in developing inquisitive, a better scientific temper among young minds. This enables them to apply both their knowledge and the relevant skills to produce masterpieces well beyond our time. Phase Shift is an annual technical symposium conducted by B.M.S College of Engineering, from 2014 which has seen its earlier five episodes and helped in improving engineering application capability, innovation capacity, cooperation spirit, self-management ability and communication skills. The symposium has also been a medium for effective industry interaction in which the industries collaborated with BMSCE will showcase technical expertise and products exhibits. Over the span of two days, students will witness a competitive and collaborative atmosphere of technical competitions, hands-on training, and workshops based on trending technology, talks by eminent professors and seminars by industry professionals/experts. A symposium of this scale is organized entirely by a dedicated student body under the able guidance of faculty. 3. The Context Phase Shift an annual event is based on a theme and over the years, the themes evolved have been innovative and intriguing. In the year 2019, the focus was on being environmentally responsible. We have been relentlessly exploiting fossil fuels, be it for our commute or generation of electricity. These acts of impulse have landed us in a dire situation. Earlier known as alternative sources of energy, renewable energy today is known to have innumerable benefits. Hence the 6th edition of Phase Shift set its theme as "Energy and Sustainability". The sixth edition of Phase Shift took place on 14th and 15th of September, 2019. More than 4000 students from other institution, 3000 plus BMSCE students took part in 80 plus competitions and 30 plus workshops which were held during the two days. First time in Phase shift, a 36 hours Hackathon on 'Energy Harvesting' was conducted on campus with the financial assistance for Hardware procurement, from TEQIP III and

implementation of energy harvesting were adjudged by a well experienced industry jury from renowned industries who witnessed the event. More than 65 industries were inside BMSCE campus, hosting different workshops, competitions with Alpha Design Technologies taking the main lead.

4. The Practice Phase Shift every year will be conducted for two days to commemorate Engineer's Day. The theme of the Phase Shift will be chosen based on the generic, trending technical, multidisciplinary concept addressing various moderate to complex Engineering problems. The Theme for 2019 Phase Shift was chosen as "Energy and Sustainability". The team comprises of faculty and student core teams, organizing committee members and coordinators. Participating Institutes can decide the team from various streams of UG like Electronics, Instrumentation, Mechanical, Electrical, or Mechatronics, Computer, IT etc. The events comprised of a Hackathon, walkathon and treasure hunt.

5. Evidence of Success This edition of Phase shift was a great success too. Several industries around 65 in no. collaborated, with Alpha Design Technology as the main sponsors. A sum of about Rs. 24 Lakhs was collected from various sponsorships. The total number of events hosted was ninety with thirty industry driven workshops. Around twenty plus colleges participated and had more than 5000 students participation.

6. Problems Encountered and Resources Required The overall event came out as an excellent team work. All the stake holders were involved in successful conduction of the event. The involvement of the departments in terms of bringing out exclusive projects requires improvement.

7. Notes (Optional) The Phase Shift 2019 platform provided the students to Collaborate, Innovate and Excel in the field of Energy and Sustainability. The following are the pictures showcasing the grand annual event in BMSCE. It comprises of the team PS -19, inauguration of the stalls by dignitaries, and the green initiatives taken by the student community.

Best Practice- II

1. Title of the Practice National Level Competition for Factory Automation

2. Objectives of the Practice The Competition aims to improve college students engineering application capability, arouse their interests in learning technology, build up innovation capacity and cooperation spirit, as well as improve their self-management ability and communication skills. It is also intended to embody the learning for practice ideology, review students actual manufacturing and commissioning abilities, and meanwhile enhance exchange and cooperation between university and enterprise.

3. The Context In this competition, students are required to integrate Mitsubishi Electric's factory automation products (including PLC, servo, inverter and human-machine interface, processing machine, etc.), built up and achieve an analogous system of intelligent manufacturing and energy saving management application, based on eeco-f@ctory concept and taking e-f@ctory system as the trunk. Basic set of Mitsubishi Electric FA components (comprising of PLC, HMI and VFD or Servo Drive - Servo Motor set) will be given on returnable basis to the participating institute. All other electro-pneumatic, mechanical, sensor or any other accessory will be in participants/institute's scope. If any team needs additional Mitsubishi Electric hardware, then institute needs to purchase from authorized Channel partners of MEI or arrange by their own. For FA components, only Mitsubishi Electric Make FA components are allowed to use. The basic full score of the competition is 100 points, consisting of basic knowledge (5 points) system design and presentation (90 points bonus 5 points other Mitsubishi Electric FA components in addition to standard package are used) and good behavior (5 points).

4. The Practice The competition provides a challenging platform for the students to Collaborate, Innovate and Excel in the field of Automation which ultimately contributes to the National Mission of Skill Development.

4.1. Flow of Competition The flow of competition is as shown below

- Registration of Teams
- Proposal Submission
- Shortlisting of top 35 teams from the received proposals to participate in final competition
- Dispatch of Mitsubishi Electric FA Components to the shortlisted teams
- Making of model by Teams
- Intermediate Progress Report
- Final Competition

4.2 Team Formation

Participating Institutes can decide the team from various streams of UG PG like Electronics, Instrumentation, Mechanical, Electrical, or Mechatronics, Computer, IT etc. with below criteria: -Maximum No. of member: Four Students (UG PG) -Maximum No. of PG students per team: One -PG student is not mandatory. -Faculty Adviser: 1 No. 4.3 Registration • No Registration Fee for this competition. • Registration must be done through website <http://www.mitsubishielectric.in/fa/mecup/> • No provision for offline registration. • Last date for online registration is 1st September, 2019 • Maximum Two Teams per institute can register 4.4 Procedure being adopted for shortlisting of 35 teams The following selection procedure will be implemented for selecting top 35 teams from the received proposals: a) Proposition Design (20 marks) b) Quality of work (20 marks) c) eeco-F@ctory Concept (10 marks) 4.6 Technical Guidance Training For each selected team, Mitsubishi Electric India will appoint Technical Mentor. 5. Evidence of Success This edition of competition witnessed huge response from 140 colleges across 16 states across the country. We received 279 proposals the highest amongst till now compared to all the previous ME Cup competitions. All the proposals were quite interesting and it was a challenging task for the jury to shortlist the best 35 proposals. In the final event all the selected teams demonstrated their projects and the winners were announced and awarded as per the following • Certificate of Participation and training to all 35 Teams • Prizes ? Winning team -- Prize worth of INR 1,00,000 Winner Trophy ? Runner-up -- Prize worth of INR 75,000 Runner up Trophy ? Third place -- Prize worth of INR 50,000 Trophy ? Appreciation Prize -- Prize worth of INR 10,000 /- ? (Total 15 Nos., in this category) ? Most Popular Team -- Trophy Certificate 6. Problems Encountered and Resources Required The overall conduction of the event comprises of several sections viz. Stalls, Stage, Logistics and Hospitality, Cultural Program, Food, Media Publicity and faculties/students are nominated for each section. 7. Notes (Optional) The competition provides a challenging platform for the students to Collaborate, Innovate and Excel in the field of Automation. This involves knowledge creation and distillation, diffusion and dissemination, and organizational adoption and implementation. Exploring new ideas and relevant findings can be packaged into products that can be put into action—such as specific practice recommendations. Diffusion and dissemination involves partnering with industry to disseminate knowledge that can form the basis of action. Organizational adoption, implementation, and institutionalization are the final stage of the knowledge transfer process. This stage focuses on getting organizations, teams, and individuals to try to adopt these evidence-based projects and innovations in everyday practice.

Upload details of two best practices successfully implemented by the institution as per NAAC format in your institution website, provide the link

<https://bmsce.ac.in/assets/files/aqar/documents/2019-20/7.2.1-%20Best%20Practice%20-I%20&%20II-2019-20.pdf>

7.3 – Institutional Distinctiveness

7.3.1 – Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust in not more than 500 words

The vision statement of the institution is 'Promoting prosperity of mankind by augmenting human resource capital through quality technical education and training'. The institution follows a good number of educational practices. One such practice was the online mode of all academic activities during the pandemic period. This was a challenge for the teachers as well as the students to rise to the occasion to embrace quality education in such circumstances. The departments are well equipped with modern state of the art facilities in the classroom with Smart Board and lecture capture system. Students were attending live lecture session from their home while faculties were teaching from

college. Faculty members used PenTabs like E-scribe, Wacom to write like on a whiteboard and teach live sessions to students during the total lockdown period. Hence it was well managed to protect the learning sessions for the students. Online classes were conducted using platforms like WebEx, Google Classroom, Zoom, GotoMeeting etc. BMSCE acquired licenses to sponsor the students to take courses through Coursera (5000 licenses), edX (5000 Coupons), Future Learn (free digital upgrade), Udemy (coupons), etc. to supplement the teaching. MHRD Virtual labs/ NPTEL/Swayam platforms were also used to complement the online teaching. Online classes also included virtual lab platforms like V-lab Laboratory of NIT-K and Amrita Viswavidyapeetham to demonstrate applications of theory classes. In few courses, the laboratory sessions were video recorded by the instructor/subject teacher and shared with students. Online CIE for UG and PG students were conducted successfully using Learning Management system (Google classroom). CIE were conducted by preparing 3 sets of question paper for UG and 2 sets of question paper for PG. The papers were assigned to students in randomized manner to ensure ethics. All the Final Semester Students for both UG and PG were evaluated through Proctored online Semester End Examination for the even semester 2019-20. For the slow learners of final semester (UG and PG), online preparatory classes was conducted for about 15 days in order to clear their doubts before they appear for their final semester end examination. e-Library resources were also made available in the college website. Faculty hosted several webinars, events, workshops, FDPs Placement training. Project work evaluation (UG/PG) was done online for the final year students. PhD research scholar comprehensive viva and PhD defense, open seminars were also conducted online. Thus the performance of the institution to promote quality technical education and training during the pandemic period was well accomplished. The online teaching platforms, virtual laboratories, learning management systems for conduction of tests and proctored online semester end examinations were a success. Access to library resources and conduction of several events for knowledge enhancement for the faculties was also possible on the online mode. The project work and the PhD evaluation were possible and successfully done through the online platforms.

Provide the weblink of the institution

<https://bmsce.ac.in/assets/files/aqar/documents/2019-20/7.3.1-Performance%20of%20the%20Inst-One%20area%20distinctive.pdf>

8.Future Plans of Actions for Next Academic Year

B.M.S. College of Engineering being one of the prestigious institutions in the state as well as in the country aims to be in the forefront with regard to the implementation of the National Education Policy rolled out by the Government of India. The college being one of the higher education institutes is keen to adopt the NEP which has been introduced in 2020. The major emphasis of the NEP is to promote quality education at all levels of learning from elementary education to higher education. The main aim of the policy is to transform the education system by 2021. It proposes a 4-year multi-disciplinary bachelor's degree in an undergraduate programme with multiple exit options. This will include professional and vocational areas. The college being an autonomous institution for more than a decade is planning to open up with the NEP for its undergraduate programmes. The guided autonomy gives the freedom to frame its own syllabus and thus this advantage makes it easy to adopt the NEP. The college campus also houses the college of architecture and the law college in addition to the engineering stream in the same premises. The first step is to integrate courses related to law and architecture thereby promoting interdisciplinary courses that can be offered. This will thus introduce fine arts, legal aspects into the engineering stream. The college having the human resources in the vicinity makes it more comfortable to go ahead with the NEP. The college also plans to adopt the ERP in a full-fledged manner. Presently the various divisions such as the

admission section, accounts, establishment and examination sections have developed their in-house software to run their activities on the campus. The college also has set up an e-governance cell which looks into the departmental activities and coordinates it with the administrative sections. An Enterprise Resource Planning will be advantage to handle the mammoth of the data in a huge institution like BMSCE. An ERP requires hardware requirements like a dedicated server with an internet connection to support the information. The college plans to have the required software such as CentOS, Virtualization enabled CPU and good web load management software. Hence it is planned to have the required infrastructure to roll out the ERP. The college thus plans to adopt the National Education Policy (NEP - 2020) to promote quality higher education as envisaged by the Government of India. The growth of the institution demands an ERP to integrate, coordinate and compile huge volumes of data as well as promote smooth conduction of its activities in a seamless manner.