

SELF STUDY REPORT

FOR

1st CYCLE OF ACCREDITATION

MVJ COLLEGE OF ENGINEERING

NEAR ITPB, WHITEFIELD, BANGALORE

560067

www.mvjce.edu.in

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Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

M. V. Jayaraman College of Engineering (MVJCE) is the flagship of Venkatesha Education society established in the year 1982 by Dr. M. V. Jayaraman, a veteran educationist and a well-known visionary, who foresaw the need for the academic community growing in strength to play key roles in defining the destiny of our nation. The motive for establishing this Institution was to provide quality education of world class standard as a gesture 'to give back to society' that nurtured him. The Institution which is being run on "not for profit basis", is located on a sprawling campus of 15 acres of on Channasandra Road, Near ITPL, Bangalore. The Institution is recognised as a Tamil linguistic minority Institution.

The Institution, approved by the Government of Karnataka and All India Council of Technical Education, New Delhi is presently affiliated to the Visvesvaraya Technological University (VTU).

Vision

To become an institute of academic excellence with international standards.

Mission

- Impart quality education along with industrial exposure
- Provide world class facilities to undertake research activities relevant to industrial and professional needs
- Promote entrepreneurship and value added education that is socially relevant with economic benefits

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- World class infrastructure.
- MVJCE is proud to claim to be a safe, ragging free and beautiful green campus with ultra-modern facilities to learn and live.
- Experienced, dedicated and highly qualified faculty members.
- Excellent campus placements
- Technology driven instructional methodology with EDUSAT and NPTEL supported teaching videos.
- Excellent facilities for sports
- 160 hours of targeted training for all students. The training and development programmes are designed to improve confidence levels, analytical thoughts, presentation skills, communication skills and technical knowhow.
- On campus learning centers in collaboration with companies such as M/s National Instruments, M/s Robolab Technologies.
- Infosys Campus connect Programme trains entry-level engineers from heterogeneous backgrounds and

disciplines to deliver world-class projects to global customers.

- Collaboration with IIT Bombay for spoken tutorial to learn new technologies.
- Indo US collaboration for Engineering Education (IUCEE) to build a solid base for engineering education and research by strengthening Learner-centric teaching, Outcomes based quality supported by accreditation, Research excellence.
- Aero modelling club, Department Technical clubs, Astronomy club, Robotics lab and UAV lab to promote students' passion for technology.
- Tomorrow's Engineers club and Tinkering Lab to explore ideas and experience the process of creation of technology from ideation to prototype.
- Student Platform for Engineering Education Development (SPEED) to motivate students to create an impact on future development of Engineering education and its effect on society and environment.
- Fine arts club to develop students' interests in these areas.

Institutional Weakness

- Lack of International Collaborations.
- Fewer number of patents.
- Less consultancy work.
- Funded Research Projects.

Institutional Opportunity

- Participation of students in various clubs and Technical activities.
- Interaction with Industries.
- Potential placement opportunities being located in IT hub.

Institutional Challenge

- Acquiring more number of Research projects
- Placements in core industries.
- Initiating consultancy services from the industries
- Industry ready graduates.
- Creating Entrepreneurs.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

In this section, the Curriculum Planning and Implementation with the associated academic flexibility, enrichment and feedback system at MVJCE is described.

The action plan also has provisions to cater to the extra resource requirements arising to the various academic flexibility options specified by the University. This includes conducting mandatory non-credit courses such as Constitution of India, Professional Ethics & Human Rights (CPH) & Environmental Studies (CIV), Bridge

Courses such as Advanced Mathematics III & IV for lateral entry students, Crash courses for extricating semester scheme, Parallel old scheme courses, etc. These courses are incorporated into the regular time table itself at MVJCE, with assessments and monitoring.

At the first year level, all the students study common courses. Students can continue branch-specific courses from second year onwards. However, they can change the branch, if they want at the second year level. At third year and final year level students can opt the courses of their choice from the available options under elective courses category as per VTU norms. For PG degree also some advanced and industry - offered electives courses are opted.

The college offers skill-development and value-addition courses to enrich curriculum at no cost or at a very low cost. Technical activities of professional societies, department clubs, Robotics lab, UAV club, Tinkering lab, Virtual lab, IIT Bombay spoken tutorial and Infosys campus connect helps students to widen their perspectives of knowledge.

Teaching-learning and Evaluation

Karnataka state government regulates engineering admissions for UG and PG in Karnataka through centralized admission procedure. Admissions are based on the entrance examination conducted by the state government as well as test conducted at national level. Admissions for the Ph. D. programs are as per the directives of VTU norms.

The teaching schedule in-line with the University's Calendar of Events is meticulously planned. To enhance the learning occurring at different paces for different students, flexibility is in - built in the planning to develop and implement custom made learning methodologies (collaborative, individual, experiential, problem solving, etc.). To ensure the quality of teaching, learning and evaluation processes both the knowledge as well as the cognition dimension of the revised Bloom's taxonomy is referred by the college.

We have centralized Examination committee to conduct internal test and semester end examinations. Fair practices and transparency are maintained in the examination and evaluation processes. Due to the efforts taken by the faculty members and students, most of the students complete their engineering program in the stipulated time with good percentage.

Research, Innovations and Extension

MVJCE recognizes the importance of promoting the creative and scientific temper among its students. In this regard, MVJCE has encouraged its faculty and students to establish linkages with industry and community. Research facilities are created through Grants obtained. Road map review activities are undertaken every month in order to plan research activities effectively.

Good number of sanctioned and executed students' projects is an indication of the research culture exhibited in MVJCE. The college provides incentives to the faculty for their research contribution. Research meeting is conducted once in a month to discuss the all aspects of research activities to promote quality research.

The continuation and improvement in these activities at MVJCE is ensured by the establishment of eight VTU recognized Research Centers, MoUs with industries/Institutions, regular conduction of conferences/seminars promoting research activities.

Infrastructure and Learning Resources

The state-of-the-art infrastructure augments learning which significant concern of the institution. Each academic block has well ventilated, spacious classrooms, tutorial room's laboratories catering to the complete VTU syllabus and beyond, staff rooms, rest rooms, etc. to meet all the curriculum, staff and student requirements. The infrastructural facilities are augmented in-line with the increased demand. The vibrant environment coupled with the clean-Green campus ensures the all-round development of the students. The infrastructure also boasts of extensive sports facilities and well equipped gymnasium caters to the complete range of the students' sports requirements. MVJCE also has from day one a qualified Physical Education Director and regularly organizes state and VTU tournaments on campus. Our students also have won many prizes in inter-collegiate and state level competitions.

Our central library is well equipped with modern facilities including wi-fi technology and CCTV. The library at MVJCE with TWO separate sections efficiently facilitates the reference needs (with browsing facility, newspapers section, CD section, reference text books and sufficient seating) and book issuing process (ICT enabled). Our library also has tie-up with VTU e-consortium and an institutional repository of NPTEL Video Lectures, Previous year question papers, project reports, manuals, etc. catering to different needs of the students and staff.

Student Support and Progression

Student Support and Progression

The placement record achieved by our students is described. A brief description of the innumerable co-curricular and extracurricular activities, the corresponding events and the support provided by the College is presented.

The institute conducts soft-skill development, career counseling, and personal enhancement sessions for the students by inviting external experts. For the overall development of students the institute encourages student participation in co-curricular and extra-curricular activities by providing the required support.

Training and placement cell provides pre-placement guidance to the students for placement activities. The cell coordinates internship and placement activities.

The student representatives are the members of IQAC, anti-ragging committee and hostel committee. The institute collects feedback on support services from all the final year students as well as from the student representatives in order to improve these services. Department encourages students to participate in national and international level events.

Governance, Leadership and Management

The Management of our college is assisted by the Principal, Vice-principal, registrar and Heads of the Departments. The management actively takes parts in the working of institution and to oversee the day-to-day working of the college

The Internal Quality Assurance Cell (IQAC) at MVJCE responsible for the overall monitoring of the system, setting/ revising guidelines for improved performance, carrying out the Academic Audit of faculty, and facilitating interactions with industry and community. The Management looks after the faculty requirement, infrastructure and financial expenditure and provides the fund for different developmental activities taking place in the campus. The HODs of various departments will identify and address the needs of the departments. Also day-to-day activities of the departments will be discussed with Principal and Vice –Principal.

Institutional Values and Best Practices

The college has unique association with industry in day-to-day functioning as well as in long-term planning. This has enabled the college to incorporate innovative functioning ways such as employability enhancement program for students, and interaction with industry leadership. The college takes efforts to bring in innovations in teaching-learning process such as adopting revised Bloom's Taxonomy, use of social platforms, use of modern teaching tools.

The college follows many best practices for students and staff. Some of the examples include - employability enhancement program and soft-skill development program for students at no cost, student mentoring; various schemes aiming at faculty development such as paid study leave for pursuing Ph. D., incentives for quality publications and for funded research, medical insurance for staff and students.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	MVJ college of Engineering
Address	Near ITPB, Whitefield, Bangalore
City	Bangalore
State	Karnataka
Pin	560067
Website	www.mvjce.edu.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	N Gunasekaran	080-42991002	7899397735	080-28452443	principalengg@mvjce.edu.in
Associate Professor	M Brindha	080-42991056	9632773981	-	mvjce@gmail.com

Status of the Institution	
Institution Status	Private

Type of Institution	
By Gender	Co-education
By Shift	Regular

Recognized Minority institution	
If it is a recognized minority institution	Yes
If Yes, Specify minority status	
Religious	
Linguistic	Tamil
Any Other	

Establishment Details				
Date of establishment of the college	02-08-1982			
University to which the college is affiliated/ or which governs the college (if it is a constituent college)				
State	University name	Document		
Karnataka	Visvesvaraya Technological University	View Document		
Details of UGC recognition				
Under Section	Date			
2f of UGC	04-03-2010			
12B of UGC				
Details of recognition/approval by stationary/regulatory bodies like AICTE, NCTE, MCI, DCI, PCI, RCI etc (other than UGC)				
Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day, Month and year (dd-mm-yyyy)	Validity in months	Remarks
AICTE	View Document	10-04-2017	12	

Details of autonomy	
Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?	No

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

Location and Area of Campus				
Campus Type	Address	Location*	Campus Area in Acres	Built up Area in sq.mts.
Main campus area	Near ITPB, Whitefield, Bangalore	Urban	15	58448

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Programme/Course	Duration in Months	Entry Qualification	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BE,Aeronautical Engineering	48	XII	English	120	118
UG	BE,Chemical Engineering	48	XII	English	60	44
UG	BE,Civil Engineering	48	XII	English	120	79
UG	BE,Computer Science Engineering	48	XII	English	180	170
UG	BE,Information Science Engineering	48	XII	English	60	55
UG	BE,Mechanical Engineering	48	XII	English	180	139
UG	BE,Medical Electronics	48	XII	English	30	16

	Engineering					
UG	BE,Electronics And Communication Engineering	48	XII	English	180	146
UG	BE,Computer Science Engineering Ii Shift	48	XII	English	60	52
UG	BE,Electrical And Electronics Engineering	48	XII	English	60	37
PG	MBA,Master Of Business Administration	24	B.Sc B.B.A B.E	English	120	58
PG	Mtech,Aeronautical Engineering	24	B.E B.TECH	English	18	9
PG	Mtech,Computer Science Engineering	24	B.E B.TECH	English	18	13
PG	Mtech,Structural Engineering	24	B.E B.TECH	English	18	5
PG	Mtech,Transportation Engineering	24	B.E B.TECH	English	18	0
PG	Mtech,Digital Electronics And Communication	24	B.E B.TECH	English	18	2
PG	Mtech,Thermal Power Engineering	24	B.E B.TECH	English	18	0
PG	Mtech,Engineering Analysis And Design	24	B.E B.TECH	English	18	0

Doctoral (Ph.D)	PhD or DPhil, Master Of Business Administration	72	MBA	English	1	0
Doctoral (Ph.D)	PhD or DPhil, Civil Engineering	72	M.E M.TECH	English	1	0
Doctoral (Ph.D)	PhD or DPhil, Computer Science Engineering	72	M.E M.TECH	English	1	0
Doctoral (Ph.D)	PhD or DPhil, Mechanical Engineering	72	M.E M.TECH	English	3	3
Doctoral (Ph.D)	PhD or DPhil, Aeronautical	72	M.E M.TECH	English	1	0
Doctoral (Ph.D)	PhD or DPhil, Electronics And Communication Engineering	72	M.E M.TECH	English	2	2
Doctoral (Ph.D)	PhD or DPhil, Physics	72	M.Sc	English	3	3
Doctoral (Ph.D)	PhD or DPhil, Chemistry	72	M.Sc	English	1	1

Position Details of Faculty & Staff in the College

Teaching Faculty												
	Professor				Associate Professor				Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	18				36				209			
Recruited	16	2	0	18	17	19	0	36	75	134	0	209
Yet to Recruit	0				0				0			
Sanctioned by the Management/Society or Other Authorized Bodies	0				0				0			
Recruited	0	0	0	0	0	0	0	0	0	0	0	0
Yet to Recruit	0				0				0			

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				157
Recruited	76	81	0	157
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				0
Recruited	0	0	0	0
Yet to Recruit				0

Technical Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				52
Recruited	42	10	0	52
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				0
Recruited	0	0	0	0
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	15	2	0	5	5	0	2	1	0	30
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	1	0	0	12	14	0	73	133	0	233

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

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

Details of Visting/Guest Faculties				
Number of Visiting/Guest Faculty engaged with the college?	Male	Female	Others	Total
		2	1	0

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

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
Doctoral (Ph.D)	Male	2	0	0	0	2
	Female	7	0	0	0	7
	Others	0	0	0	0	0
UG	Male	460	161	0	0	621
	Female	245	41	0	0	286
	Others	0	0	0	0	0
PG	Male	39	1	0	0	40
	Female	54	3	0	0	57
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years

Programme		Year 1	Year 2	Year 3	Year 4
SC	Male	37	32	38	39
	Female	28	30	24	24
	Others	0	0	0	0
ST	Male	9	12	9	11
	Female	5	6	6	3
	Others	0	0	0	0
OBC	Male	98	189	236	215
	Female	78	108	102	92
	Others	0	0	0	0
General	Male	517	392	420	396
	Female	232	170	141	163
	Others	0	0	0	0
Others	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
Total		1004	939	976	943

3. Extended Profile

3.1 Programme

Number of courses offered by the institution across all programs during the last five years

Response : 2139

Number of self-financed Programmes offered by college

Response : 26

Number of new programmes introduced in the college during the last five years

Response : 4

3.2 Student

Number of students year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
3859	3778	3742	3369	3063

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

2016-17	2015-16	2014-15	2013-14	2012-13
939	981	943	1037	806

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

2016-17	2015-16	2014-15	2013-14	2012-13
736	752	737	685	751

Total number of outgoing / final year students

Response : 736

3.3 Academic

Number of teachers year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
302	285	275	257	241

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

2016-17	2015-16	2014-15	2013-14	2012-13
302	285	275	257	241

Number of sanctioned posts year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
302	285	275	257	241

Total experience of full-time teachers**Response : 1816.9****Number of teachers recognized as guides during the last five years****Response : 23****Number of full time teachers worked in the institution during the last 5 years****Response : 1365****3.4 Institution****Total number of classrooms and seminar halls****Response : 124****Total Expenditure excluding salary year wise during the last five years (INR in Lakhs)**

2016-17	2015-16	2014-15	2013-14	2012-13
1616.367	2378.58284	2070.31595	3554.25986	2878.0808

Number of computers

Response : 1350

Unit cost of education including the salary component(INR in Lakhs)

Response : 70165

Unit cost of education excluding the salary component(INR in Lakhs)

Response : 35387

NAAC

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1 The institution ensures effective curriculum delivery through a well planned and documented process

Response:

MVJ college of engineering, affiliated to VTU, follow the curriculum given by the university. The VTU provide the academic calendar. Based on the VTU academic calendar, college prepares the academic calendar. The academic calendar provides date of commencement of the academic session, duration of semester, period of internal assessment tests, final semester examinations etc. The department allocate subjects to teachers and prepare time table. The teachers prepare the teaching materials and delivery content. The teaching plan is prepared by the individual department under the guidance of concerned staff council.

Various Course Delivery Methods are:

- **Lectures:** Lectures are used to convey information, history, background, theories and equations of engineering practice. Lectures are used to relate engineering practice with ethical issues. Lectures are also used to expose the students to contemporary issues and the need for life-long learning in the appropriate societal context
- **Class presentations:** Presentations are given to illustrate ideas and concepts in intricate graphical and animation form effectively communicate the working of actual engineering solutions and their impact.
- **Tutorials:** The tutorials help the students in developing better understanding

of the subjects and Clarifying their doubts that could not be taken up during lectures and problem solving abilities

- **Lab experimental work:** Laboratory work demonstrates how theory can be verified by experiments through interpretation of results
- **Simulations and experimental exercises:** Simulations are used to explain the concepts in a better way
- **Elearning: identifying online resources for self-learning**
- **Learning management system(LMS) materials, NPTEL videos**
- **Case Studies / Technical reports**
- **Webinar**
- **Edusat**
- **IIT Bombay spoken tutorial**
- **Technology in Education**

The quality of class room teaching is enhanced by giving faculty awareness about pedagogical teaching learning method, blooms taxonomy and Outcome Based Education (OBE) by various workshops and

faculty development programs conducted in the department and Institute. To name a few, the WIPROs MISSION 10X training, NI LabView, summer training, IUCEE's Outcome Based Education training etc

During the course delivery, three internal tests are conducted as per the academic calendar. The quality of the internal test is maintained through following process:

- For every subject, respective faculty prepares question bank that covers equal number of questions from each unit, covering all the topics.
- Questions are framed, such that they adhere to VTU standard.
- Department internal exam coordinator under the guidance of HOD, checks for the standard of the question bank.
- College Internal exam Coordinator along with a Exam team selects the final internal questions for each subject from the question bank.
- Question papers are given to the internal exam coordinators of the department on the day of test, after approval from the Principal.
- Faculty prepares the answer key / Scheme of evaluation.
- Internal exam coordinator ensures smooth conduction of test and proper valuation of internal books.
- A Centralized valuation system is followed.
- After every internal exam, Total Quality Management (TQM) Check is performed to ensure that valuation is done according to Scheme prepared.

Various committees are established to monitor syllabus coverage for each internal exam and hence make sure 100% syllabus is covered.

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

1.1.2 Number of certificate/diploma program introduced during the last five years

Response: 112

1.1.2.1 Number of certificate/diploma programs introduced year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
33	32	18	14	15

File Description	Document
Minutes of relevant Academic Council/BOS meetings	View Document
Details of the certificate/Diploma programs	View Document
Any additional information	View Document

1.1.3 Percentage of participation of full time teachers in various bodies of the Universities/ Autonomous Colleges/ Other Colleges, such as BoS and Academic Council during the last five years

Response: 0.58

1.1.3.1 Number of teachers participating in various bodies of the Institution, such as BoS and Academic Council year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
2	2	2	1	1

File Description	Document
Any additional information	View Document
Details of participation of teachers in various bodies	View Document

1.2 Academic Flexibility

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

Response: 100

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

Response: 2139

File Description	Document
Details of the new courses introduced	View Document
Minutes of relevant Academic Council/BOS meetings.	View Document
Any additional information	View Document

1.2.2 Percentage of programs in which Choice Based Credit System (CBCS)/Elective course system has been implemented**Response:** 65.38

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

Response: 17

File Description	Document
Name of the programs in which CBCS is implemented	View Document
Minutes of relevant Academic Council/BOS meetings.	View Document
Any additional information	View Document

1.2.3 Average percentage of students enrolled in subject related Certificate/ Diploma programs/Add-on programs as against the total number of students during the last five years**Response:** 65.89

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

2016-17	2015-16	2014-15	2013-14	2012-13
2701	2550	2300	2182	2013

File Description	Document
Details of the students enrolled in Subjects related to certificate/Diploma/Add-on programs	View Document
Any additional information	View Document

1.3 Curriculum Enrichment**1.3.1 Institution integrates cross- cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum****Response:**

Name of the course	Course code	Description
Solid waste	10CV757	Importance of solid waste collection, segregation, treatment and disposal

management		various process without disturbance to the environmental sustainability li pollution level	
Air pollution and control	10CV765	Pollution due to different human activities and permissible limits of poll and acid rain pertaining to environmental safety concern	
Municipal and industrial waste water engineering	15CV71	Industrial effluent and influent treatment before disposal and convert product which are abruptly affecting the environmental sustainability	
Environmental impact assessment	10CV847	Assess the condition of sustainable development through physical, chem biological and ecological system of measurement	
Industrial waste water treatment	10CV835	Industrial effluent and influent treatment before disposal and convert product which are abruptly affecting the environmental sustainability	
Environmental studies	10/14/15CIV18/28	The environmental issues , economic productivity ,national security, g warming, the depletion of ozone layer and loss of biodiversity.	
Constitution of India, professional ethics & human rights	10/14/15CIP18/28	Indian constitution, human rights and its implicate to develop inter between society and the educational institutions and values of human and duties.	
Renewable energy resources		Renewable energy resources ,a detailed analysis on the renewable e resources like solar energy, wind energy are analyzed..	
Pollution prevention and control engineering	10CH55	The importance of environment, different types of pollution environmental legislations, water pollutant sampling measurement technic water treatment methods	

Energy technology	10CH64	The conventional and non-conventional energy sources , utilization of energy, biomass conversion technology , wind, ocean and tidal energy conversion methods	
Solid waste management	10CH842	The reduction of solid waste ,collection /storage methods for solid waste. Explain the various techniques to handle hazardous waste.	
Industrial waste water management	15CH561	Waters treatment for contaminated water by anthropogenic, industrial and commercial activities.	
Air pollution & control	15CH562	The principles and design of control of indoor/ particulate /gaseous air pollution and its emerging trends.	
Solid waste management	15CH563	The public health, regulatory, planning, technical, and economic principles that influence the solid waste management system.	
Process safety and environmental management	15CH564	The hazardous conditions and practices affecting people, property and environment, the plant safety and safety regulations, different types of hazards and their control.	
Industrial pollution control	15CH63	Concepts of water usage & importance. Understand about air, soil and water pollution and its control.	
Energy technology	15CH833	The sources of alternative energies, design equations for energy devices.	
Internship professional practice	/15**84	The students should undergo in-plant training in any industry. Each student should submit a report separately, which is evaluated by a committee	
Gender	15CIP18/28	Our college have Women Empowerment Cell. In order to ensure safety and security to the girls students & woman faculties, Internal Compliance committee stays alert all the time to prevent any sexual abuse words to students and female workers. The programs conducted are Karate Training program	

	MVJCE girls, Women Entrepreneurship Development Program ,Guest lecture on breast and cervical cancer awareness	
File Description	Document	
Any Additional Information	View Document	
Link for Additional Information	View Document	

1.3.2 Number of valued added courses imparting transferable and life skills offered during the last five years	
Response: 22	
1.3.2.1 Number of value-added courses imparting transferable and life skills offered during the last five years	
Response: 22	
File Description	Document
Details of the value-added courses imparting transferable and life skills	View Document
Brochure or any other document relating to value added courses.	View Document
Any additional information	View Document

1.3.3 Percentage of students undertaking field projects / internships	
Response: 80.58	
1.3.3.1 Number of students undertaking field projects or internships	
Response: 3024	
File Description	Document
Institutional data in prescribed format	View Document
List of students enrolled	View Document
Any additional information	View Document

1.4 Feedback System

1.4.1 Structured feedback on curriculum obtained from 1) Students 2) Teachers 3) Employers 4)
--

Alumni 5) Parents For design and review of syllabus semester wise/ year wise

A.Any 4 of the above

B.Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

Response: A.Any 4 of the above

File Description	Document
Any additional information	View Document
Action taken report of the Institution on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management	View Document
URL for stakeholder feedback report	View Document

1.4.2 Feedback processes of the institution may be classified as follows:

A. Feedback collected, analysed and action taken and feedback available on website

B. Feedback collected, analysed and action has been taken

C. Feedback collected and analysed

D. Feedback collected

Response: B. Feedback collected, analysed and action has been taken

File Description	Document
Any additional information	View Document
URL for feedback report	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average percentage of students from other States and Countries during the last five years

Response: 29.57

2.1.1.1 Number of students from other states and countries year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1003	1042	1079	1116	990

File Description

Document

List of students (other states and countries)

[View Document](#)

Institutional data in prescribed format

[View Document](#)

Any additional information

[View Document](#)

2.1.2 Average Enrollment percentage (Average of last five years)

Response: 76.25

2.1.2.1 Number of students admitted year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
939	973	943	1037	805

2.1.2.2 Number of sanctioned seats year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1296	1296	1296	1230	1050

File Description

Document

Institutional data in prescribed format

[View Document](#)

Any additional information

[View Document](#)

2.1.3 Average percentage of seats filled against seats reserved for various categories as per applicable reservation policy during the last five years

Response: 99.81

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

2016-17	2015-16	2014-15	2013-14	2012-13
939	973	943	1037	805

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

2.2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students, after admission and organises special programs for advanced learners and slow learners

Response:

The College organizes orientation program for the parents and the students at the commencement of new batch every year. The program would help students and parents to get familiarized with the institution, curricular and co-curricular activities, facilities, rules and regulations etc. Before the commencement of classes, the differential requirements of students are identified and addressed at the earliest by way of a strategic approach.

Every year students are given personality development programs that involves bridge programs like, communication skills, personality development, time management and motivational sessions. Direct second year, diploma students are given special classes for MATDIP I and MATDIP II to gain the knowledge about basics of mathematics. In order to motivate both the slow learners and advanced learners workshops are organized to enhance their skills. Guest Lectures are arranged for the students as to gain the knowledge about the experts to follow.

Advanced learners:

High performing students are identified on the basis of internal assessment, university examination, involvement in classroom.

- Students are encouraged to be members of professional bodies like CSI and organize technical events.
- Advising to participate in group discussions, technical quizzes to develop analytical and problem-

solving abilities in them and thereby, to improve their presentation skills.

- Motivating them to do micro projects to inculcate research orientation and practical awareness in the 2nd year apart from mini and major projects.
- Providing opportunities to develop their creativity by participating and organizing intercollegiate as well as national level technical symposiums.
- Encouraging them with extra care to obtain University ranks.
- Take up competitive exams like GATE, GRE, TOEFL, IELTS, CAT, PG CET etc
- Semester Toppers and University rank holders are provided with certificates and cash prizes by management.

Slow learners:

The Institute practices a robust student academic counselling process. During the time of admission Principal interacts with the parents and the student to assess the need and aspirations. Further during the course of study, group of students are assigned to a faculty for counselling. The counsellors monitor academic performance and interact frequently to understand and assist any student with issues that affect their ability to learn or impeding their academic success. The institute has a system to communicate performance and attendance of students to parents regularly. Care is taken by faculty in monitoring the performance of slow learners. Faculty members do periodic interaction with parents about the performance of slow learners. Departments conduct remedial classes; provide course notes for students who are slow learners and those students who are in the verge of dropping out due to arrear subjects. Those students are given regular class tests in order to improve their performance in the university exam, Further faculty members revise the tough topics as per the students requisition and provide university question bank and discuss the way of presenting the answers in the exam to score marks.

Extra classes are organized to clarify doubts, re-explaining of critical topics for improving performance. Appropriate counselling with additional teaching, eventually helps to attend classes regularly.

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

2.2.2 Student - Full time teacher ratio

Response: 14.27

File Description	Document
Institutional data in prescribed format	View Document

2.2.3 Percentage of differently abled students (Divyangjan) on rolls

Response: 0

2.2.3.1 Number of differently abled students on rolls

File Description	Document
Institutional data in prescribed format	View Document

2.3 Teaching- Learning Process

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

Response:

The following are the various Student centric methods to enhance Teaching- Learning

Course Delivery Methods:

- Lectures
- Class presentations
- Tutorials
- Lab experimental work
- Simulations and experimental exercises
- Written Assignments
- ELearning: identifying online resources for self-learning
- Learning management system(LMS) materials, NPTEL videos
- Case Studies / Technical reports
- EDUSAT
- Webinars
- Virtual lab
- IIT Bombay – spoken tutorial project

The college encourages teachers to use the latest pedagogical teaching technology including audio–visual teaching machines. Student learning is enhanced by adopting approaches / methods such as seminars, conferences and special lectures. The faculty members are encouraged to participate in State / National level seminars for which beneficial assistance is given by the college.

Challenging assignments and projects are given to the students to hone up their intellectual calibre, sharpen their inquisitiveness, induce them to experience the thrill of learning and enjoy the pleasure of achievement

Study material and periodic assignments are also made available to the students . This enables students to come prepared for the classes. This practice has led to better interaction in the classrooms and laboratories.

Invited talks by experts from the industry and academia; and add on courses are organised by the departments, to cover contents beyond the syllabus and recent trends. MOUs are signed with leading industries to bridge the gaps in the curriculum.

Interactive Learning Environment:

- It consists of the interaction between students and interactive e-learning platforms.
- Case study to impart skills and enhance students interaction and involvement in learning process.
- Another mode of providing learning experience to students is arranging guest lectures, invited talks and student's seminars by the Department Associations.

Collaborative Learning

- The Institute also promotes industry sponsored projects and research projects.
- In activity based learning students are encouraged to participate in project competitions, design contests, and various technical festivals.
- Arranging industrial visits and field visits for special surveys.

Independent Learning

- E-learning platforms are provided to facilitate independent learning wherein students can access course contents online. Thus e-learning platforms bridge the gap from classroom learning, and also supplement advanced learning.
- Available e-learning platforms include Edulib, learning resources through CDs and DVDs.
- Wi-Fi facility is available on campus to allow students to access technical resources such as NPTEL Lectures, video clips, etc.

Student-centric learning is provided in the practical sessions. Experiential learning is ensured through individual or group projects. Competitive and Team Spirits are developed through group discussions, debates and panel discussions. Ability of problem solving is attained through algorithmic approach. ICT based learning is promoted through web-assignment, web-quiz. Analytical and presentation skills are shaped through case study. Interest in research is inculcated through paper presentation and publication.

Interactive lectures end with questions and assignments for which students have to consult books, CD ROMS, magazines, selected journals etc. from the library & also surf the internet Topic specific questions are also available for perusal of students. Group assignments are given with eliciting questions for which the learners have to be actively engaged in the library.

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

2.3.2 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc.

Response: 100

2.3.2.1 Number of teachers using ICT

Response: 263

File Description	Document
List of teachers (using ICT for teaching)	View Document
Any additional information	View Document
Provide link for webpage describing the " LMS/ Academic management system"	View Document

2.3.3 Ratio of students to mentor for academic and stress related issues

Response: 14.27

2.3.3.1 Number of mentors

Response: 263

File Description	Document
Any additional information	View Document
Year wise list of number of students, full time teachers and students to mentor ratio	View Document

2.3.4 Innovation and creativity in teaching-learning

Response:

Teaching-Learning is a phenomenon where the teacher and the student are learning. The teacher is refining his/ her subject knowledge and effective teaching skills, where as the student finds it easier to understand the subject and its application. Traditional teaching has been replaced with more innovative and creative ways of disseminating, sharing and facilitating knowledge development in students. The various innovative teaching methods that our teachers follow to make their class more interesting are:

- Brainstorming session
- It is a group creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its members.
- Role play

The goals of a role playing scenario are to expose students to different viewpoints or ways of thinking about a situation, expand their ability to resolve situations, and provide experience within a given context. ... understand the various roles of stake holders in a given context.

- Case study

They are constructed by stating a performance that describes specific knowledge, attitudes, or skills that a student should be able to demonstrate following exposure to a learning activity.

- Discussion Method

Discussion involves two-way communication between participants.

- Audio & Video tools
- Animated presentation
- Simulation software
- Puzzles and Games
- Introduce concepts with a story
- **Real-World Learning**

Linking the lessons to real world learning.

As both are involved with commitment, through this method, an interest has been created in the student and the teacher has to encourage the student to come out with new and innovative ideas In this endeavour, our faculty has been taking pains with interest to demonstrate live / practical/ day-to-day examples, sometimes taking some live examples from the students to discuss a topic, coupled with technology. Newer approaches to teaching and learning such as Outcome-Based Learning (OBE), Student-Centred Learning (SCL, Problem-based learning (PBL), Case Study (CS) have also emerged in recent decade and research has proven that many have positive impact on learning and we have been implementing the above different methods in our endeavour. An innovator will constantly think of better ways of doing things; an innovative educator will constantly formulate new ways and approaches to teaching and learning to maximize the output i.e. learning. The objective is application oriented learning. Both the faculty and student are involved in model making, and discuss in depth. This teaching-learning innovative method would certainly encourage the students to raise questions and sometimes, with working models development, they get answers to their queries. Occasionally, our students have been encouraged to make working models of the topics, they have understood and learnt by using the material available within their vicinity without spending much to display in any exhibition. This kind of support would certainly enhance their innovative

skills and creative ideas.

Our faculty attend various skill development programs like Wipro Mission 10X, FSIPD(Faculty Innovation Product and Skill Development program) to enhanced their teaching learning methods. Every semester new faculty attend Blooms Taxonomy and OBE workshop

File Description	Document
Any additional information	View Document

2.4 Teacher Profile and Quality

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

Response: 100

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years	View Document
Any additional information	View Document

2.4.2 Average percentage of full time teachers with Ph.D. during the last five years

Response: 12.39

2.4.2.1 Number of full time teachers with Ph.D. year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
37	35	39	33	25

File Description	Document
List of number of full time teachers with PhD and number of full time teachers for 5 years	View Document
Any additional information	View Document

2.4.3 Teaching experience of full time teachers in number of years

Response: 6.91

File Description	Document
List of Teachers including their PAN, designation,dept and experience details	View Document

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

Response: 33.89

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

2016-17	2015-16	2014-15	2013-14	2012-13
92	115	104	72	79

File Description	Document
e-copies of award letters (scanned or soft copy)	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

2.4.5 Average percentage of full time teachers from other States against sanctioned posts during the last five years

Response: 51.58

2.4.5.1 Number of full time teachers from other states year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
149	142	143	141	125

File Description	Document
Any additional information	View Document
List of full time teachers from other state and state from which qualifying degree was obtained	View Document

2.5 Evaluation Process and Reforms

2.5.1 Reforms in Continuous Internal Evaluation(CIE) system at the institutional level

Response:

University guidelines are strictly adhered to with respect to evaluation process. There are three internal tests conducted. The schedules of internal assessments are communicated to students and faculty in the beginning of the semester through institute academic calendar which is prepared based on the university academic calendar. Before a week internal exam time table is displayed on the notice board.

- Questions are framed, such that they adhere to VTU standard. It follows the Bloom's Taxonomy and Outcome based Education in which CO's are attained.
- There are 5 Course Outcomes(CO's) for each subject. The first internal test question paper is prepared in which it covers two CO's, second internal test covers another two CO's, third internal test covers another one CO.
- The subject handling faculty prepares question bank that covers equal number of questions from each unit, covering all the topics
- Department internal exam coordinator under the guidance of HOD, checks for the standard of the question bank.
- College Internal exam Coordinator along with a Exam team selects the final internal questions for each subject from the question bank.
- Question papers are given to the internal exam coordinators of the department on the day of test, after approval from the Principal.
- Internal exam coordinator ensures smooth conduction of test and proper valuation of internal books.
- A Centralized valuation system is followed. The head of the Centralized scheme is registrar of the college and marks are entered in Softcopy as well as in hard copy
- Faculty prepares the answer key / Scheme of evaluation and it is documented with a copy of sample question paper for the future reference.
- After every internal exam, Total Quality Management (TQM) Check is performed to ensure that valuation is done according to Scheme prepared.
- The 10 scheme has external marks as 100 and internal marks as 25 marks, which is average of best two internals.
- The University adopts Choice Based Credit System. The syllabi are unitized according to the semester system of teaching. Here 15 marks for internals and 5 marks for assignments/class tests/seminars ,In total 20 marks for Internals and 80 marks for externals.

Internal assessment tests and other measures taken to judge the performance of students is done fairly and in an effective manner. Students are allowed to go through the valued answer scripts of internal assessment tests and doubts regarding evaluation are cleared .Internal Test performance are intimated to the parents in 2 days and Parent Teachers Meeting is conducted within a week to discuss the performance of their ward.

Whenever class tests, internal assessment tests are conducted the results of the students 'performance are used by the faculty to identify slow and advanced learners. Students are encouraged to improve their performance in future by counselling .As mentors and advisors of the students, nearly 20 students are entrusted to each faculty member. The mentors sort out the personal issues, academic and non-academic problems of their mentees and provide counselling and guidance.

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

2.5.2 Mechanism of internal assessment is transparent and robust in terms of frequency and variety

Response:

Institute is affiliated to VTU, Belagavi, the rules and regulations for evaluation process are laid down by the affiliating University and are communicated to students through syllabus copies supplied in the beginning of first year of their academic program.

- The schedules of internal assessments are communicated to students and faculty in the beginning of the semester through institute academic calendar.
- Schedule for end semester examinations will be communicated during the semester as and when schedule is released by the University.
- The internal assessment evaluation process is communicated to students by the respective faculty and also during orientation programme for first year students.
- Students are given general instructions regarding the evaluation methods of University answer scripts. The periodic instructions issued by the university are promptly communicated to the students. Such instructions are read in the classrooms and the copy of the same is displayed on the students notice board.
- The tutors are entrusted with the duty of providing awareness among the students regarding this.
- Further any changes in the evaluation process will be communicated to students and faculty through circulars.
- Syllabus for internal assessment will be communicated to students well in advance.
- Question papers are set based on Course outcomes and are approved by heads of the department. Scheme and Solution are prepared by the faculty on completion of the assessment.
- Evaluation of blue books is based on scheme and solution by the faculty.
- The blue books are given to students after the completion of evaluation for verification of the marks.

Theory subjects are assessed through:

- Three internal tests
- University external test
- Assignments
- Seminars

Practical subjects are assessed through:

- Two internal tests
- University external lab exam
- Mini projects

Projects work assessment:

The project work starts during end of seventh semester. Senior faculty members, HOD and Project Coordinators select one project for each group considering the quality, relevance, University norms. Projects are selected in line with Department mission, vision, PEO, PO and PSOs.

Students submit 3-5 project abstracts to the department project coordinator along with their project group members and area of interest.

The list of previous year projects is displayed in the notice board which ensures no repetition of project work and also encourages students to enhance the previous works.

Faculty members encourage students to do in house projects. They will be provided with necessary hardware and software support. The project assessment is done through:

- Four Internal project reviews
- Final external university project review

We also encourage them to display their projects in Department Project exhibition. Students are also encouraged to present their project ideas in conferences and also publish papers in Journals.

Seminar Assessment:

In final year students have seminar in their curriculum. The students have to select a recent and innovative topic and present in front of seminar coordinator, department faculty and their class students. The seminar presentation are assessed based on:

- Topic selection
- Presentation
- Report preparation

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

2.5.3 Mechanism to deal with examination related grievances is transparent, time-bound and efficient

Response:

At the college level, an examination committee, comprising of a senior teacher as convener and other teaching and non-teaching staff as members, is constituted to handle the issues regarding evaluation process.

- The college follows strictly the guidelines and rules issued by the affiliating university while conducting internals and semester-end examinations.

- Three internal assessment tests are given during each semester,
- Time table for which is prepared well in advance and communicated to the students earlier.
- Seating plan and table marking is followed even for internal assessment tests and it is displayed on the notice board along with the Internal assessment time table.
- After evaluation of internal assessment answer scripts, the scripts are given to students to have an idea of their performance in the test.
- If they come across any doubts, clarification is given which enables them to fare better in future.
- By adopting the criteria as per the direction of affiliating university, complete transparency is maintained in internal assessment tests.
- Students and faculty members are made aware of the transparency to be maintained in the system of assessment.
- This further enhances the transparency and rapport between faculty members and students .
- After preparing the assessments report it is shown to the students, if any grievances is there it can be resolved immediately and submitted by the concerned faculty to the department, the copy of the same is uploaded in the VTU at the end of semester.
- A Centralized exam cell system is followed. The head of the exam cell is registrar of the college where the university exam related queries can be solved.
- Any grievances related to university question paper like out of syllabus, repeated questions, improper split of marks, marks missed, wrong question number during semester exams are addressed to the principal, after making an analysis of day by day university question papers by the subject handling faculties with Department Head in turn he proceeds the same to the university immediately.
- Review on the question papers are made by faculties to find out the percentage of toughness in the question paper and the feedback is given to the department Head.
- University decision or information after resolving the grievances is intimated immediately to the concerned departments, once it is obtained through the principal. It is also conveyed to the students through class coordinators and subject handling faculties.
- If student has any grievances related to evaluation of university answer scripts are intimated to the subject handling faculty and head of the department if necessary.
- The revaluation is applied for answer scripts, in which the re-evaluated marks can be obtained during the announcement of revaluation results of the same semester.
- In order to maintain transparency, students can apply for photo copy of their answer script and they may decide on re-valuation/re-totalling.

Consulting with the subject handling faculty and Department HOD challenge revaluation can also be applied by the students as the last re-evaluation approach.

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

2.5.4 The institution adheres to the academic calendar for the conduct of CIE

Response:

The Institute being affiliated to Visvesvaraya Technological University, the university releases the calendar of events for the affiliated colleges at beginning of every academic semester, which includes start and end dates of the semester and examination schedules. With reference to University calendar IQAC of the Institute prepares the detailed calendar of events at the institute level.

The Academic Calendar, a part of the College Hand book, is prepared by the HODs and Vice-Principals headed by the Principal and provided to all the teachers and students at the beginning of the academic year.

It includes the dates of re-opening, bridge course, orientation course, commencement of internal tests, commencement of semester examinations, important functions of the college and Government, local and institutional holidays etc.

The College announces academic calendar annually in the month of July. The academic calendar provides date of commencement of the academic session, duration of semester, period of internal assessment tests, final semester examinations etc. Striking features of the academic calendar are highlight teaching days, events planned for the semester, State Govt. and local holidays. The teaching plan is prepared by the individual department under the guidance of concerned staff council.

The Action Plan for academic oriented activities like seminars / workshops / conferences to be organized, subject experts to be invited for Guest lectures, Library books and equipment to be purchased, cultural programmes for various activities, schedule of UG and PG project reviews are decided in the respective departments / committees / clubs etc., presented in the Planning and Evaluation Committee meeting and submitted to the Principal before the commencement of the academic year. The evaluation of the action plan is reviewed by Planning and Evaluation Committee at the end of the academic year.

Internal Assessment tests are conducted strictly as per the guidelines of VTU and as per academic calendar. Three internal tests are conducted as per the University norms. After conducting each Internal exam the centralized evaluation should be completed within two days. The internal marks and evaluated books are verified by the students. In a week of internal exam completion the proctors inform the parents about the internal marks and attendance status through postal mail. Parents teachers meeting is also conducted to inform the parents about the internal marks and attendance status after each internal.

Based on the Internal exam marks, weak students are identified and special coaching is given to them. In the special coaching, the teachers explain the tough topics and make the students to write class tests, in which university questions are given to them to prepare.

Students are evaluated continuously based on three Internal exams and made them ready for University exams.

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

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 on website and communicated to teachers and students

Response:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design / development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

SAMPLE PSO's of CSE

PSO1:Programming: Ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, DBMS, and networking for efficient design of computer-based systems of varying complexity.

PSO2:Practical Solution: Ability to practically provide solutions for real world problems with a broad range of programming language and open source platforms in various computing domains.

Description of Mechanism of Communication

- 1.College website : In the department page of www.mvjce.edu.in
- 2.Prominently displayed on department notice boards and laboratories
- 3.Lab manuals
- 4.Disseminated in Placement trainings
- 5.Disseminated during student seminars and orientation program
- 6.Department Handbook
- 7.Survey Forms
- 8.Academic Calendar

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

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

Response:

In the Outcome Based Education (OBE), assessment is done through one or more than one processes, carried out by the institution, that identify, collect, and prepare data to evaluate the achievement of course outcomes (CO's).

CO Assessment Processes

Assessment tools are categorized into two methods to assess the course outcomes as:

Direct assessment can be done with the academic performance, placement training, Achievements, Contributions.

List of direct assessment tools:

- Three Internal assessment
- Quiz
- Project work for final year students
- Seminar for final year students
- VTU end semester exam
- COCAT-Course Outcome Attainment Test
- POCAT-Program Outcome Attainment Test
- Target levels of attainment of Course Outcomes (COs) are set; Course is delivered; actual attainment of COs is determined using internal assessment test 1, 2, 3 and VTU exams.
- The loop is closed either by increasing the target level for the next offering of the course or by planning suitable improvements in the teaching /learning process to increase the actual attainment so as to reach the target.
- The performance of students in different assessments (IA, VTU exams) is evaluated for the attainment of POs.
- The Evaluation of attainment of POs and PSOs based on the mappings from COs to POs and PSOs.
- The POs & PSOs Attainment level will be 80% of direct assessment.

The target levels set by DAC for course assessment are:

LEVEL 1	55% OF STUDENTS SCORING 15 & ABOVE OUT OF 25 IN INTERNALS
	55% OF STUDENTS SCORING 35 & ABOVE OUT OF 100 IN EXTERNALS
	55% OF STUDENTS SCORING 50 & ABOVE OUT OF 125
LEVEL 2	60% OF STUDENTS SCORING 15 & ABOVE OUT OF 25 IN INTERNALS
	60% OF STUDENTS SCORING 35 & ABOVE OUT OF 100 IN EXTERNALS
	60% OF STUDENTS SCORING 50 & ABOVE OUT OF 125
LEVEL 3	65% OF STUDENTS SCORING 15 & ABOVE OUT OF 25 IN INTERNALS
	65% OF STUDENTS SCORING 35 & ABOVE OUT OF 100 IN EXTERNALS
	65% OF STUDENTS SCORING 50 & ABOVE OUT OF 125

As per the target levels fixed by DAC, the following table gives the attained target levels for the last 3 academic years. We have achieved the set target levels for all the subjects. We calculated the pass

percentage for all the subjects as follows:

Course Outcome Attainment:

YEAR OF STUDY	TARGET LEVEL	ATTAINED LEVEL	
2010-14	LEVEL 1	LEVEL 3	
2011-2015	LEVEL 2	LEVEL 3	
2012-2016	LEVEL 3	LEVEL 3	

Attainment of Program Outcomes and Program Specific Outcomes

DIRECT METHOD:

- The performance of students in different assessments (IA, VTU exams) is evaluated for the attainment of COs.
- The Evaluation of attainment of POs and PSOs based on the mappings from COs to POs and PSOs.
- The POs & PSOs Attainment level will be 80% of direct assessment.

INDIRECT METHODS:

- Program Exit Surveys, Alumni Surveys, Faculty surveys, Professional body surveys and Employer Surveys are used to evaluate the attainment of POs and PSOs.
- The POs & PSOs Attainment level will be 20% of indirect assessment.

File Description	Document
Link for Additional Information	View Document

2.6.3 Average pass percentage of Students

Response: 94.08

2.6.3.1 Total number of final year students who passed the university examination

Response: 3654

2.6.3.2 Total number of final year students who appeared for the examination

Response: 3884

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

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response:

File Description	Document
Database of all currently enrolled students	View Document

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1 Grants for research projects sponsored by government/non government sources such as industry ,corporate houses, international bodies, endowment, chairs in the institution during the last five years

Response: 64.97

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

2016-17	2015-16	2014-15	2013-14	2012-13
21.0095	2.92	2.225	6.54	32.28

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

3.1.2 Percentage of teachers recognised as research guides at present

Response: 8.75

3.1.2.1 Number of teachers recognised as research guides

Response: 23

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

3.1.3 Average number of research projects per teacher funded by government and non government agencies during the last five years

Response: 0.03

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

Response: 45	
File Description	Document
Supporting document from Funding Agency	View Document
List of research projects and funding details	View Document
Any additional information	View Document
Funding agency website URL	View Document

3.2 Innovation Ecosystem

3.2.1 Institution has created an ecosystem for innovations including incubation centre and other initiatives for creation and transfer of knowledge

Response:

The institution has created an ecosystem for innovation including incubation centre and other initiatives for creation and transfer of knowledge. The faculty members are empowered to take up research activities utilizing the existing facilities. The college has a Research and Development Cell to motivate the faculty members to write feasibility studies and research projects from various funding agencies like DRDO, DST, AICTE, DBT, KSCST, VGST, etc.,. And also helps to create research culture among faculty members and students.

Entrepreneur Development Cell (EDC) initiated various activities for the career enhancement of students at different medium like self employment, start up initiatives, collaboration with research institutions and other industrial manufacturing related careers are enriched through various training programmes. EDC has created a platform like IDEABOX through which different perspectives of students' research ideas are received. On the basis of qualitative and quantitative outcome based, ideas are shortlisted and suggested for incubation and development. EDC encourages on establishing different clubs constituted by the students thereby favouring the students by providing guidance on healthy innovation interactive sessions. Further these discussions are converted into innovative projects and other development activity in the research context. EDC organized a three day Entrepreneurship Awareness Camp. The programme was funded by National Science and Technology Development Board, under DST-NIMAT project of Department of Science and Technology, Government of India supported by Entrepreneurship Development Institute of India. The participants of the camp were higher semester students from science and technology background. The programme included sessions on different aspects of entrepreneurship including a factory visit to a small scale industry. The resource persons included entrepreneurs, intrapreneurs and people from eminent government body like SIDBI.

EDC also helps the students to organize various events like seminars, workshops, national conferences, entrepreneurial awareness programmes, inter/intra college competitions by enriching innovative ideas from the students. EDC inculcate the culture of innovative research practice, social issues identification, entrepreneurship qualities, creative ideas, business strategies, science and technological development and support to society on Nation building. EDC provides extensive ideas on real time projects by visiting various industries through in-plant training, industrial visit and internship for prospective learners. Also

EDC guides both faculty and students on Intellectual Property Rights, Patentable research & Skill based training programmes for lifelong learning. Over and above the institution is having various verticals on research establishment by starting up incubation centres, R & D Councils, Research laboratories and social needs as and when addressed through converting research into a reality by proper systematic provisions.

The institute also has active Industry Institute Partnership Cell (IIPC) which helps to reduce gap between industry and academics by organizing various events like skill development programs, Industry – Academia meets , guest lecture , etc., under the cell. Awareness programs of various schemes under Karnataka State Small Industry Development Corporation, Digital India , Make in India were conducted under IIPC .

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

3.2.2 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the last five years

Response: 47

3.2.2.1 Total number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
20	13	4	6	4

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

3.3 Research Publications and Awards

3.3.1 The institution has a stated Code of Ethics to check malpractices and plagiarism in Research

Response: Yes

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

3.3.2 The institution provides incentives to teachers who receive state, national and international recognition/awards

Response: Yes

File Description	Document
List of Awardees and Award details	View Document
e- copies of the letters of awards	View Document
Any additional information	View Document

3.3.3 Number of Ph.D.s awarded per teacher during the last five years

Response: 0.61

3.3.3.1 How many Ph.Ds awarded within last five years

Response: 14

File Description	Document
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	View Document
Any additional information	View Document

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

Response: 0.19

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

2016-17	2015-16	2014-15	2013-14	2012-13
100	53	55	46	9

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

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

Response: 0.14

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

2016-17	2015-16	2014-15	2013-14	2012-13
42	13	30	67	36

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

3.4 Extension Activities

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

Response:

The college is taking various initiatives to improve the quality of life of people surrounding the institution. The institution insists all the students to be a part of representing various social issues through parallel activities in various students club. These steps are taken with the help of various clubs and different units in the college, which include Health & Hygiene Club, National Service Scheme, CSR, Eco club. The main objective of Health and Hygiene Club is to create awareness among the faculty, students and supporting staff members about the food consciousness and healthy living habits.

The College NSS Unit also has arranged blood donation camps in collaboration with Indian Red Cross Society. The Eco club is creating the awareness among the students of the institute regarding road safety, pollution free celebration of Deepavali, Hazards of Plastic Use. Institution is taking at most care on neighbourhood development without much scarcity in terms of basic needs and other relevant needs of the society. One of such representation is the students of MVJ Engineering College have actively participated and provided their effective inputs in the project "Light up resolution" in which nearly 219 houses are

benefitted with the help of the organization YUVA in and around Kadra, Puttur and HD Kote. A two day Shramadhanaprogram was conducted by NSS MVJCE at Medahalli village on 26 & 27 February 2013 in which 50 students participated. First day task was to clean the village and make it plastic free. Second day the task was to plant 100 saplings on the both sides of road leading to the village and fencing them. A brief census of village was also done during these two days. 340 students and 18 Staff members participated in the rally which started from MVJCE ground to Kadugudi and then back to MVJCE campus covering around 6km

Survey on hope form traffic survey was conducted by the NSS volunteers with the co ordination with the traffic inspectors so as we can make a constant effort on minimizing the traffic. Plastic Free Zone “we win if we get rid of plastics”, NSS unit, MVJCE initiative to create awareness on harmful effects of plastic on the environment, with an aim to make the college and its surrounding area as plastic Free. Anti Tobacco Rally was organized by NSS unit of MVJ College of Engineering. The event started with inauguration function in M V Jayaram auditorium at 3:30pm with chief guest 'Sri U T Khader' , Honorable minister for health and family welfare, Govt. of Karnataka and Dr. Vishal Rao, Surgical Oncologist and 1000 members participated.

Nadavathi – Health Survey, Nadavathi is a remote village in the vicinity of Channasandra which is known for its scenery beauty and eye pleasing agricultural fields . Earth Day was celebrated with a tag line “Go Green For Tomorrow”. Prakruthi Seva”, on the occasion of World’s Earth Day on 22nd April have taken an initiative of plant about 50 saplings through our volunteers in the vicinity of their residence.

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

3.4.2 Number of awards and recognition received for extension activities from Government /recognised bodies during the last five years

Response: 7

3.4.2.1 Total number of awards and recognition received for extension activities from Government /recognised bodies year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
2	1	1	2	1

File Description	Document
Number of awards for extension activities in last 5 years	View Document
e-copy of the award letters	View Document
Any additional information	View Document

3.4.3 Number of extension and outreach programs conducted in collaboration with industry, community and Non-Government Organisations through NSS/NCC/Red cross/YRC etc., during the last five years

Response: 51

3.4.3.1 Number of extension and outreach programs conducted in collaboration with industry, community and Non-Government Organisations through NSS/NCC/Red cross/YRC etc., year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
13	10	8	10	10

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

3.4.4 Average percentage of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the last five years

Response: 84.73

3.4.4.1 Total number of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
3405	3539	2720	2912	2530

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

3.5 Collaboration

3.5.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc during the last five years

Response: 92

3.5.1.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
16	42	6	18	10

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

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

Response: 16

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

2016-17	2015-16	2014-15	2013-14	2012-13
4	5	4	1	2

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

NAAC

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

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

Response:

MVJ college engineering established in the year 1982 is one among top 10 colleges in Karnataka. The college is situated in 15 acre campus with 5, 00,000sq. ft built up area, and is permanently affiliated to Visvesvaraya Technological University. The college is conducting 9 undergraduate and 8 post graduate programs. MVJCE has state of the art infrastructure, creating an environment for progressive learning and development. We have well equipped classrooms and laboratories as per the AICTE requirements to cater for the academic needs of the students. Eight departments of MVJCE are VTU recognized research Centre. Each lab is handled by one faculty supported by a co faculty. Also, every lab has a lab instructors/ technical assistant, who provides constant support and ensures maintenance of the laboratories

Apart from regular labs, we have R&D Labs, industry tie up laboratories like MIC, Infosys campus connect lab, UAV lab, NI lab etc. in order to fill the gap between the curriculum and industry. Every equipment in the lab is barcoded and the records of the same are maintained. Systems are protected with antivirus software. All computers are always maintained in working condition .All equipment are always checked for wear and tear and replaced with new or repaired one every semester. Before the commencement of every semester faculties used to ensure the availability of required software/equipment for the smooth conduction of the labs. Labs are equipped with sufficient hardware and licensed software to run program specific curriculum and off program curriculum Enough number of personal computers are available for the smooth conduction of the lab .The number and area of the class rooms and labs are as per the AICTE norms.

The faculty innovations in teaching and learning are as follows

1.Learning management system(LMS Modules)

LMS of MVJCE is a student centric learning facility for the students to refer the study materials anytime within the campus premises. It is a centralized source for notes and slide based presentation for all the branches.

2.NPTEL Materials

For each subject there is one hour NPTEL session allocated per week. The prerecorded NPTEL videos are projected to the students during NPTEL hour. The relevant study materials can be accessed from NPTEL.ac.in &NPTEL video. in

3.Scope of self-learning/learning beyond syllabus

Students are given assignments and practical projects to promote self-learning VTU - EDUSAT, NPTEL and internet resources help in self-learning.

The facilities available for teaching learning in MVJCE can be summarized as follows

Type of facility	Area/Size	No.of rooms	Year of Establishment	User Rate
Class Rooms(UG)	66 Sq.m	67	1982	Daily
Class Rooms(PG)	33 Sq.m	13	1982	Daily
Class Rooms(UG)	69 Sq.m	9	1982	Daily
Tutorial Rooms(UG)	33 Sq.m	19	1982	Daily
Drawing Hall	132 Sq.m	1	1982	Daily
Seminar Halls	138sq.m	12	1982	Daily
Seminar Hall	66 sq.m	4	1982	Daily
Labs	20 sq.m	1	1982	Daily
Labs	(65-68) sq.m	35	1982	Daily
Labs	(70-75)sq.m	5	1982	Daily
Labs	(100-110)sq.m	3	1982	Daily
Labs	(130-134)sq.m	12	1982	Daily
Labs	(150/212)sq.m	2	1982	Daily
Special Labs	72/85 Sq.m	2	2013	Daily
Special Labs	97/102.4 Sq.m	2	2016	Daily
Work shop	75/244/320Sq.m	3	1982	Daily
Data Centre	40.47Sq.m	1	2013	Daily

All facilities are optimally utilized as per academic schedule

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

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

Response:

A sound mind coupled with a strong physique is the key to success. Sports activities occupy a significant part of the college curriculum in MVJ College of engineering. Large playing fields support a wide variety of games, such as Cricket, Football, Volleyball, Hockey and Kho-Kho. There are also dedicated spaces for Indoor sport, including Table Tennis, Badminton, Weight Lifting, Power Lifting, Chess, and Caroms. Our Outdoor facilities include a 200-metre athletic track and courts for Basketball, Volleyball, Handball, and Throw Ball. MVJCE also has a large indoor gymnasium facility with areas marked for Yoga, Weight Training and Cardio exercises. We host Dr. M.V Jayaraman memorial cricket tournament and Smt Raja Lakshmi Jayaraman inter collegiate volleyball tournament every year. In 2009-10 we were honored by VTU for excellence in sports. (<http://www.mvjce.edu.in/sports/>)

Students with a passion for music and dance are encouraged to perform/take up training in these arts.

Faculty with skill in any of these arts ably support students through campus festivals and motivate them for competitions held outside. Established fusion and contemporary dance groups in the city also hold classes at MVJCE. For those wishing to explore photography a club brings together students to organize nature walks and other such events. SPICMACAY (society for promotion of Indian classical music and culture among youth) has a very strong presence at MVJCE. We have very active theatre club to support students those who have a passion in scripting, acting designing sets or producing a play. The literary club of MVJCE brings together avid book lovers from all around the campus. (<http://www.mvjce.edu.in/gallery/>)

Description of facilities for sports, games cultural activities

Type of Facility		Area/Size	Year of Establishment	
Indoor Games	Chess	1000Sq.Ft	1982	
	Table Tennis		1982	
	Wrestling&Judo		1982	
	Carrom		1982	
Outdoor Games	Basket Ball	Length 50 Mts Width 20 Mts	1982	
	Volley Ball		1982	
	Hand Ball		1982	
	Kabaddi		1982	
	Throw Ball		1982	
	Foot Ball	3627 Sq.M	1982	
	Cricket		1982	
	Kho-Kho		1982	
Gymnasium(Boys/Girls/faculties)		209Sq.M	2013	
Cultural Activities	Rajalakshmi Seminar hall	415Sq.m	2011	
	Auditorium	1420 Sq.m	2011	

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

4.1.3 Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc

Response: 100

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 124

File Description	Document
Number of classrooms and seminar halls with ICT enabled facilities	View Document
Link for additional information which is optional	View Document

4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.

Response: 40.26

4.1.4.1 Budget allocation for infrastructure augmentation, excluding salary year wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
94.5	374.5	801.50	2306.50	2190.4

File Description	Document
Details of budget allocation, excluding salary during the last five years	View Document
Audited utilization statements	View Document

4.2 Library as a Learning Resource

4.2.1 Library is automated using Integrated Library Management System (ILMS)

Response:

Library Automation

Library is **fully automated** and **Libsoft(version 12.0.0 web version using ASP.Net)** is the software used for Circulation, Procurement, OPAC and Project Reports. All the library documents are bar-coded and books are issued to users by reading the barcode of the document.

Libsoft is very versatile and is extensively used for generating all the reports that are required in day to day requirements of the Library.

Library Networking [Intranet and Internet]

Since the Library is fully automated, the holdings of the Library could be searched using OPAC. The holdings include the books and Journals, syllabus, question papers and Project reports.

The library is member of the DELNET since last 5 years. It is being extensively used for ILL and searching the database of other member libraries

The Library has become the member of the NDL to access the vast e-resources that are available on Delnet database

The Library has the internet facility through which the e-resources could be accessed.

On an average around 200 students make use of the Library resources as most of the day time the students are attending the classes (Reference section). A register is maintained in order to know the number of users make use of the reference section.

Apart from the reference section more than 800 students uses the circulation section. A good number of staff makes use of the vast resources available in the Library

The Central Library is a member of the VTU E-Resources Consortia. The users of the Library can access publications of all major publishers like Elsevier, Springer, ASCE, IEEE etc. The users can access around 13,000 E-books and 11,611 International journals. The user has access to around 18,100 journals for which only abstract is available.

The Central Library is also a member of DELNET which gives access to E-Books and 5000 full text E-journals both National and International.

The Central Library is also a member of NDL which has a collection of more than 6 lakh e-books which the students and staff are making use of.

Library is a Life member of the Indian Science Academy and hence, we get Current Science in print form regularly.

Back volumes of journals, Project Reports, Question Banks, Syllabus sets

The journals that are being subscribed are bound as back volumes. There are about 413 titles and 1493 bound volumes.

Library also maintains Project reports submitted by the students as part of their course curriculum. There are 3250 project reports which are being used extensively by the student community. Now these reports are digitised. Libraries maintain software through which the softcopy of the reports could be uploaded, searched and downloaded.

Library Facilities & Services

Reprography and Scanners facility

A high end Canon Xerox machine is available in library which has the facilities like copying (both colour and black and white), scanning, and printing.

Library Classification and Cataloguing in standard Classification format.

Library is making use of DDC classification (23rd edition) for all its documents. For cataloguing the library is making use of MARC II format.

Open Access of arrangement of print and non-book materials.

Right from the inception of the Library, it is following the open access to all its documents housed in it that includes books. Bound volumes, reports and other reading material.

Library bay guides to locate the materials easily

The library has good bay guides which helps the readers to easily locate the books and other reading material even without the help of Library staff. The departmental books are arranged subject-wise and an index is pasted on each rack.

Stock verification reports

There is regular stock verification process carried out by the library. The latest stock verification was done in the month of July 2017 A file is maintained which contains the stock verification reports carried out at different intervals.

Library Advisory committee meetings minutes implementations

There is a Library advisory committee which helps in guiding the library for effective services. The library committee meets at regular intervals for selection of books and other Library material. They also suggest ways and means to improve the services.

Well Maintain Library Registers and Files

The files relevant to Library and Library services are well maintained and labelled for easy access to any of the Library staff.

Display of New Arrivals

All the new books and journals are kept in the new arrival racks for a period of two weeks or till the arrival of next lot of new books or journals

Display boards of library data and services

There are library data boards which give information about the collection and services offered and staff details.

Library Orientation Programs. Seminars

Whenever a new batch of students join the college, a counseling program is carried out in which details about the Library collection, services, timing and doubts of students if any are cleared.

Power back up (UPS)

The Library has its own power back up. Efforts are also being made to get the support of the central UPS which caters to the institute.

Drinking water facility

On the first floor of the Library, there is water filter which has both normal and cold water facility.

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

4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resources for library enrichment

Response:

The central Library of MVJ College of Engineering is the treasure house of information and the mission of the library is to provide information services and access to bibliographical and full text digital and printed resources to support the scholarly and informational needs of college community. Details of the collection of some of the rare books, costly books etc are given below.

Sl no	Name of the book	Publisher	Author	No.o
1	Wings of Fire:An Autobiography	Universities press India Ltd	Dr.A.P.J.Abdul Kalam	1
2	Envisioning an Empowered nation	TMH	Dr.A.P.J.Abdul Kalam &Shivathanu Pillai	2
3	Indomitable Sprit	Rajpal &Sons	Dr.A.P.J.Abdul Kalam	1
4	India 2020-A Vision for new millenium	Penguin Books	Dr.A.P.J.Abdul Kalam &Rajan O.S	1
5	The family and the nation	Harpar Collins Publishing Company	Mahapragya Acarya & Dr.A.P.J.Abdul Kalam	1
6	Thoughts and vision	Hegde 75 feliciation committee	Ramakrishna hegde	2
7	Evaluations of Personality in pictures	Hegde 75 feliciation committee	Ramakrishna hegde	1
8	Autobiography of a yogi	Jaico Pub house	Yogananda prasamahamsa	1
9	Envision an Empowered Nation Technology for Societal Transformation	TataMacgraw Hill pub	APJ Abdul Kalam with A Sivathanu Pillai	2
10	Human Development	TataMacgraw Hill pub	Papalia Diane e	2

11		Go clown	Shatrugna vadwlas	Shatrugna vadwlas	1
12		Yong tech India :vtu Inspiring young minds		Ramanujam c s	8
13		Current Trends in Engineering Praclice	Narosa publising	Cv ramakrishnan	1
14		Inseparable twins, paired principles to inspire young minds	Loan Tree Books	Naveen lakkur	1
15		The kalam Effect	Harper collins pub india	P M nair	1
16		Children ask kalam children & apj Abdul kalam	Pearson Education	Design & illustration rohit kathusia	5
Costly Books					
Sl no		Name of the book	Publisher	Author	No.o
17		Design of Aircraft	Pretice Hall	Corke Thomas.C	8
18		Toxicology of pesticides in animals	CRC Press	Dikshith.T.S.S	1
19		Plant Layout and Design	The Mc-Million Company	Moore James	2
20		High performance Concrete	Taylor&Francis	Aitcin.P.C	1
21		Geosynthetics in Civil Engg	Woodhead Publication Ltd	Sarsby.R.W	1
22		In Organic Reactions and Methods Volume 18	wiley VCH	ZUCKERMAN JJ ATWOOD JD	1
23		Scaleup of Chemical Processes	John Wiley and Sons Inc	BISIO ATTILIO and KABEL ROBERT L	1
24		Theories and Applications of Plate Analysis	John Wiley and Sons, Inc.	SZILARD RUDOLPH	3
25		Earthquake- Resistant Concrete Structures	Taylor and Francis	PENELIS GEORGE G and KAPPOS ANDREAS J	2
26		Properties of Aluminum Alloys	ASM International	KAUFMAN J GILBERT	1
27		Hazardous Waste Management	Waveland Press In Co	LAGREGA MICHAEL D, BUCKINGHAM PHILLIP L and EVANS JEFFREY	2
Encyclopedia, Dictionaries, year book, Almanac and Some General Books					
Sl no		Name of the book	Publisher	Author	No.o
28		Manorama Year Book	Malayala Manorama Press	MATHEW MAMMEN	2
29		New Standard Encyclopeida Vol-14	Standard Education Corporator	DOWNEY DOUGLES & OTHERS	14
30		The University Desk Encyclopedia	Elsevier Publication	NERMAN FRIENHOFF & BEN LENTHALL B A	1
31		The New Webster,s Encyclopedia Dictionary of the English Laguage	Random House Valu Pub	WEB	1
32		World Reference	Octopus Book Publishers	BALLAMY DAVID &	1

				OTHERS	
33	Encyclopedia Collins Consise Encyclopedia	Oxford and IBH Pub		JAMES MOLLER AND GRAVELL G R	1
34	Encyclopedia Engineering	of McGraw Hill Publication		PAREKAR S P	1
35	The Encyclopedia Electronic Circuits	of B P B Publisher		GRAF RUDOLF F	3
36	The Times of India Dictionary and Year Book	The Times of India Press		JAIN GIRILAL	1
37	Competition Success Review Yearbook 2003	Competition Success Review Pvt Lt d		SACHDEVA S K	1
38	General Knowledge Almanac 2012	Competition Success Review Pvt Lt d		COMPETATION SUCCESS REVIEW	1
39	Chambers Consise Dictionary 20th Century	Allied Publishres		DAVIDSON & OTHERS	1
40	Dictionary of Geology	Penguin Books		WHITTEN D G A AND BROOKS	1
41	Dictionary of Geology	Anmol Publication		CHATWAL M	1
42	Dictionary of Civil Engineering Abbreviations Signs and Symbols	The Odyssey Scientific Libray		POLON DAVID D & OTHERS	1
43	Collins Dictionary of the English Language	William Collisns sons		HANKS PATRICK	1
44	Webster's Ninth New Collegiate Dictionary	Meriam Webster inc		WEBSTER A MERRIAM	1
45	McGraw Hill Dictionary Electronics and Computer Technology	Mc Graw Hill Book Company		PARKER SYBIL P	4
46	Mathematic Dictionary	CBS Publication		JAMES AND JAMES	1
47	Dictionary Microbiology and Molecular Biology	John Wiley and Sons Inc		SINGLETON PAUL and SAINSBURY DIANA	1
48	Dictionary of Bioscience	TMH Publication		TMH	2
49	Agro's Dictionary Microbiology	of Agrobiox		KRISHNAN A	1
50	Dictionary Biotechnology	of Bioteck books		DINESH ARORA	1
51	Biotech's Dictionary Plant Breeding and Genetics	Boitech Books		JAIN J B and SUMIT JAIN	1
52	Dictionary of Mechanical Engineering Terms	Oxford and IBH Pub		HORNER J C and GRAHAME WHITE	1
53	Guinness Book of Records	Guinness Superlative Ltd		MCWHITER N O, STOWE M F, MAHHEWS P J, WAITES B and SMITH C	1
54	Britannica Ready Encyclopedia	Britannica		BRITANNICA	10

		Reference Encyclopedia Pvt Ltd Vol 1 to 10		
55		The 21st Century World Atlas	Trident Press International	TPI
56		English - English - Kannada Dictionary	-Subhas Stores	SESHAGIRI RAO L S
57		20th Century Day by Day-100 Year of News	DKUK	DANIEL CLIFTON
58		the illustrated Atlas of the Universe	Weldon Owen Pty Ltd	GARLICK MARK A Star Maps TIRION WIL
59		Kannada - English Dictionary	Asian Education Services	KITTEL F
60		Science & Technical Writing : A Manual of style	Routledge	RUBENS PHILIP
61		Concise Oxford English Dictionary	Oxford University Press	CATHERINE SOANES ANGUS STEVENSON

File Description	Document
Link for Additional Information	View Document

4.2.3 Does the institution have the following:

- 1.e-journals
- 2.e-ShodhSindhu
- 3.Shodhganga Membership
- 4.e-books
- 5.Databases

A. Any 4 of the above

B. Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

Response: B. Any 3 of the above

File Description	Document
Details of subscriptions like e-journals,e-ShodhSindhu,Shodhganga Membership etc.	View Document
Any additional information	View Document

4.2.4 Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)**Response:** 16.49**4.2.4.1 Annual expenditure for purchase of books and journals year wise during the last five years (INR in Lakhs)**

2016-17	2015-16	2014-15	2013-14	2012-13
18.12422	28.24649	22.62602	8.44675	5.00674

File Description	Document
Details of annual expenditure for purchase of books and journals during the last five years	View Document
Audited statements of accounts	View Document

4.2.5 Availability of remote access to e-resources of the library**Response:** Yes

File Description	Document
Any additional information	View Document
Details of remote access to e-resources of the library	View Document

4.2.6 Percentage per day usage of library by teachers and students**Response:** 50.05**4.2.6.1 Average number of teachers and students using library per day over last one year**

Response: 2010

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

4.3 IT Infrastructure**4.3.1 Institution frequently updates its IT facilities including Wi-Fi**

Response:**Description of IT facilities**

The IT facilities available in our college can be summarized as follows,

LAN Facility

There are 38 data network switches (Giga byte), 18 POE network switches (Gb) for access points, CCTV cameras, Intercoms and 1 SOPHOS Cyberoam fire wall for content filtering for 2500 users simultaneously. 100 Mbps of internet connectivity is shared across the campus, where 50 Mbps is shared for the students

Server configurations in Data Centre

There are 14 servers with Xeon E-5 version-2, 32 GB RAM, 1.2 TB hard drive, which are served as Domain Controller (DC), Additional Domain Controller (ADC), student biometric server, faculty biometric server and application servers.

Storage server-2TB*5=10 TB

Back up device-3TB for critical server back up

Work station:

1240 desktops are provided to all the department labs with configurations of core i3 3Generation 4GB, 500 GB hard disk with LAN connectivity. 140 desktops with configurations of core i3 4GB, 500GB and dual core 250 GB, 2GB hard disk are available to carry out academic and administrative work.

Software:

850 genuine windows licenses, with window 7pro and windows XP. 375 Microsoft office standard and professional editions for departments are also available. We also use open source operating systems such as Fedora, Ubuntu and CentOS. All windows systems are protected with Sophos end protection anti-virus

Printers:

48 Laser jet printers, 4 Xerox work centers and 5 scanners are provided across the campus for academic and administrative purposes.

Updates and up gradation:

Updates are maintained regularly through WSUS (Windows Server Update Service) and anti-viruses are updated through cloud portal. Around 200 desktops with Pentium 4, 1GB RAM, 80GB hard disk was replaced with an upgraded configuration of core i3 3Generation 4GB, 500 GB hard disk with LAN connectivity

Wi-Fi:

69 Extendable Wi-Fi access points are placed in various places like Library, corridors, Labs, hostel, Canteen and outdoor. Wi-Fi access is provided to all the students which is monitored and controlled by SOPHOS Cyberoam fire wall at the IT department for secure content access. All access points are routed to a Wi-Fi controller in the Data Centre where configuration and updates are maintained in a centralized fashion.

A comparison of IT facilities including Wi-Fi, in 2012-13 and 2016-17 can be summarized as follows

Sl.No	Items	2012-13	2016-17
1	No. of Computers	750	1350
2	Bandwidth	60Mbps	100Mbps
3	No. of Software	100	390
4	Desktop Configuration	Pentium 4	Core i3
5	Accessories (Printers)	25	48

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

4.3.2 Student - Computer ratio

Response: 2.78

File Description	Document
Student - Computer ratio	View Document

4.3.3 Available bandwidth of internet connection in the Institution (Lease line)

<5 MBPS

5-20 MBPS

20-35 MBPS

35-50 MBPS

Response: >=50 MBPS

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

4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)

Response: Yes

File Description	Document
Facilities for e-content development such as Media Centre, Recording facility,LCS	View Document
Link to photographs	View Document

4.4 Maintenance of Campus Infrastructure

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

Response: 17.23

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

2016-17	2015-16	2014-15	2013-14	2012-13
487.07163	595.40580	349.41812	315.00871	150.36

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

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

Response:

The institution has the structured system for maintaining and utilizing the facilities available. MVJCE

Facility management team maintains the physical and academic support facilities. The various responsibilities of the team are housekeeping activities, maintenance of Garden, pest control, entire campus snag work etc. MVJCE deployed four location supervisors across the campus. Each location supervisor will report to the maintenance manager regarding his observations on electrical, plumbing, and housekeeping related issues/complaints. A logbook is maintained for the same. The college provides transportation facilities for its faculties and students. A transport committee is constituted to address and rectify any transport related issues. The security of the institute is taken care by in house security guards with the help of an external private agency in two shifts round the clock.

Classroom and Sports facility Maintenance

The sports facilities of MVJCE are maintained by physical education department. A stock register and an issue register are maintained to ensure the proper handling of the sports items. Stock verification of the sports items is conducted at the beginning of each semester. Regular maintenance of the play area is conducted under the supervision of Physical education director and faculty sports coordinator.

At the beginning of each semester the readiness of the classrooms and labs are checked by the facility management team. Regular inspection, maintenance of the furniture's and classroom equipments is done on a regular basis.

IT Maintenance

IT help desk is functioning in the campus for resolving the issues like hard ware trouble shooting, software installation, Maintaining Biometric devices and network related issues are monitored and maintained. The complaints are posted through E-mail are addressed and resolved immediately.

Library maintenance

There is regular stock verification process carried out by the library. A file is maintained which contains the stock verification reports carried out at different intervals. Physical verification of the library stock is the process by which the accession register is tallied with the books in the library. It gives the overall picture of the available documents in the library. Stock verification provides opportunities to weed out long unused, very old editions of the books from the library. It also leads to the cleaning and dusting of books and thus preventing their deterioration. All the torn and old books which could not be used for circulation has been kept separately. There is a Library advisory committee which helps in guiding the library for effective services. The library committee meets at regular intervals for selection of books and other Library material. They also suggest ways and means to improve the services. The files relevant to Library and Library services are well maintained and labeled for easy access to any of the Library staff. All the new books and journals are kept in the new arrival racks for a period of two weeks or till the arrival of next lot of new books or journals. Because of the strict vigilance from library staff and the security personal, the percentage of loss from the library is negligible.

Laboratory Maintenance

All the laboratories are spacious and well-lit. Do's and Don'ts/safety precautions are displayed in each laboratory. Every equipment in the lab is bar-coded and records of the same are maintained. All necessary software like Microsoft office, browser, lab software, antivirus software are installed and maintained. IT HELP DESK, of MVJCE maintains the computers. Periodical maintenance is carried out in all

laboratories. In house servicing of the lab instruments are done every six months. Major repairs are outsourced by following the procedure of the institute. Consumables will be purchased every six months. Instruments are calibrated wherever required. Lab assistant & faculty members are trained to do the repairs as applicable. All electrical wirings and grounding are done as per the norms. First aid box, fire extinguisher and hand gloves, welding goggles are provided wherever necessary. The institution has outdoor and indoor doctor of its own. Hence any sort of medical emergency can be immediately addressed.

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

NAAC

Criterion 5 - Student Support and Progression

5.1 Student Support

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

Response: 33.34

5.1.1.1 Number of students benefited by scholarships and freeships provided by the Government year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1537	1568	1220	1006	702

File Description

Document

Any additional information

[View Document](#)

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

[View Document](#)

5.1.2 Average percentage of students benefited by scholarships, freeships, etc. provided by the institution besides government schemes during the last five years

Response: 1.89

5.1.2.1 Total number of students benefited by scholarships, freeships, etc provided by the institution besides government schemes year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
107	82	44	50	56

File Description

Document

Number of students benefited by scholarships and freeships besides government schemes in last 5 years

[View Document](#)

Any additional information

[View Document](#)

5.1.3 Number of capability enhancement and development schemes –

1. For competitive examinations
2. Career counselling
3. Soft skill development
4. Remedial coaching
5. Language lab
6. Bridge courses
7. Yoga and meditation
8. Personal Counselling

A. 7 or more of the above

B. Any 6 of the above

C. Any 5 of the above

D. Any 4 of the above

Response: A. 7 or more of the above

File Description	Document
Any additional information	View Document
Details of capability enhancement and development schemes	View Document
Link to Institutional website	View Document

5.1.4 Average percentage of student benefited by guidance for competitive examinations and career counselling offered by the institution during the last five years

Response: 100

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

2016-17	2015-16	2014-15	2013-14	2012-13
3859	3778	3742	3369	3063

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

5.1.5 Average percentage of students benefited by Vocational Education and Training (VET) during the last five years**Response:** 100

5.1.5.1 Number of students attending VET year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
3859	3778	3742	3369	3063

File Description	Document
Any additional information	View Document
Details of the students benefited by VET	View Document

5.1.6 The institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases**Response:** Yes

File Description	Document
Details of student grievances including sexual harassment and ragging cases	View Document
Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee	View Document

5.2 Student Progression**5.2.1 Average percentage of placement of outgoing students during the last five years****Response:** 89.98

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

2016-17	2015-16	2014-15	2013-14	2012-13
704	643	637	605	706

File Description	Document
Any additional information	View Document
Details of student placement during the last five years	View Document

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

Response: 4.35

5.2.2.1 Number of outgoing students progressing to higher education

Response: 32

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

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

Response: 63.31

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

2016-17	2015-16	2014-15	2013-14	2012-13
32	35	45	44	38

5.2.3.2 Number of students who have appeared for the exams year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
32	109	100	80	45

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

5.3 Student Participation and Activities

File Description	Document										
<p>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) during the last five years.</p> <p>Response: 100</p> <p>5.3.1.1 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 wise during the last five years</p> <table border="1"> <thead> <tr> <th>2016-17</th> <th>2015-16</th> <th>2014-15</th> <th>2013-14</th> <th>2012-13</th> </tr> </thead> <tbody> <tr> <td>41</td> <td>29</td> <td>17</td> <td>5</td> <td>8</td> </tr> </tbody> </table>	2016-17	2015-16	2014-15	2013-14	2012-13	41	29	17	5	8	View Document
2016-17	2015-16	2014-15	2013-14	2012-13							
41	29	17	5	8							
Any additional information	View Document										
Number of awards/medals for outstanding performance in sports/cultural activities at national/international level during the last five years	View Document										
e-copies of award letters and certificates	View Document										

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

Response:

STUDENTS PARTICIPATION IN ACTIVITIES

The institution does not have a student council, but there are societies / clubs the heads of which are part of council which oversee all the cultural activities MVJCE. Similarly, the head of the technical clubs are responsible for all technical activities at MVJCE. The objective is to make the students participate in the development of the institute as well as in the process develop their personality, organizational skills and career through interactive programs with the faculty, administration and society. The goal of the student council is to provide a common platform to students for co-curricular and extra-curricular activities. It is

responsible for all the major technical, cultural, literary and sports activities organized in the college premises. Activities under the council will be well supported by a team of faculty members.

Every class has a class committee which consists of the students and faculty members. Class committee sets the rules and regulations for the class behavior. It serves as the voice of the students in front of faculty and has say in academic matter such as conduct of test and so on.

Class committee meets twice a semester.

The institution also provides avenues for the development of technical skills, updating knowledge, personality development and service to the society through various technical clubs/societies

ANTI-RAGGING COMMITTEE

Institution imparting technical education shall constitute a Committee to be known as the Anti-ragging Committee to be nominated and headed by the Head of the Institution, and consisting of representatives of civil and police administration, local media, Non-Government Organizations involved in youth activities, representatives of faculty members, representatives of parents, representatives of students belonging to the fresher's category as well as senior students, non-teaching staff and shall have a diverse mix of membership in terms of level as well as gender.

The anti-ragging committee of MVJCE is constituted as per the guidelines of All India Council for Technical Education.

The following is the composition of the committee.

- All Head of the Departments
- Hostel chief warden
- Student coordinators
- Inspector of Police, Kadugodi Police station, Bengaluru

The awards and punishments are affected as per the guidelines of AICTE, Government orders and judgments given by courts of India from time to time.

ANTI-SEXUAL HARASSMENT COMMITTEE

The College has constituted anti-sexual harassment committee comprising of senior faculty members and students for preventing any act of sexual harassment.

STUDENT GRIEVANCE REDRESSAL COMMITTEE

A redressal committee functions in the institution. Following are the functions of redressal committee,

- To receive the grievance in person.
- To analyze and examine the nature of grievance.
- To deliberate with the members of committee and call for remarks if necessary
- To resolve the issues impartially

OTHER CLUBS DETAILS:

- IQAC
- DAC

- Software Development club
- Astronomy club
- Women Empowerment Cell
- Internal Compliance Committee
- Tomorrows Engineers Club
- Sports committee
- Anti-ragging Committee
- Entrepreneur Development Cell (EDC)
- Hostel Committee
- Health and Hygiene Club
- Music Club
- Dance Club
- Theater Club
- IEEE student Chapter
- IETE
- Literary Club

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

5.3.3 Average number of sports and cultural activities/ competitions organised at the institution level per year

Response: 3

5.3.3.1 Number of sports and cultural activities / competitions organised at the institution level year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
4	2	2	3	4

File Description	Document
Any additional information	View Document
Number of sports and cultural activities / competitions organised per year	View Document
Report of the event	View Document

5.4 Alumni Engagement

5.4.1 The Alumni Association/Chapters (registered and functional) contributes significantly to the development of the institution through financial and non financial means during the last five years

Response:

MVJCE Alumni Association

The 2nd Saturday of May is earmarked as MVJCE Alumni Day. This is an all-day meet creating an opportunity for alumni, current students and faculty to interact and bond. This day is celebrated with a mixture of cultural events and talks by alumni, students and faculty. Discussion on industry trends, opportunities and Institute development initiatives form the crux of the talk. It is also a day for alumni to relive their days at the Institute and share memories and experiences during their stay at the college and post their graduation.

The MVJCE Alumni Association is a formally registered body. Membership is automatic upon completion of courses under any programme at the MVJCE campus. MVJCE Alumni Association creates and maintains a life-long connection between the Institute and its alumni, who number more than 10000.

This meeting was attended more than 10000 alumni representing the 1st batch of 1986 till the recent batches of 2017. They had come from all over India and from USA, Australia, and UK. Association members are also invited to campus events like Foundation Day, Convocation Day, and other cultural events on Campus. In addition, there are sports events, and meetings of various special interest groups within the alumni in MVJCE and elsewhere in the country as part of its chapter outreach events.

MVJ College of Engineering has shaped entrepreneurs, engineers, who collectively have a wealth of knowledge and experience. This Alumni Association brings all these outstanding people together on a single platform. This collective excellence is our contribution to the growing generation, the Institute and the society as a whole. “Engage, energize and enhance – keeping this motto in mind”, we seamlessly connect with the Institute, faculty, students and fellow alumni. The MVJ College of Engineering Alumni Association aims to link the alumni to the institution, develop synergistic plans to support the institution and achieve its vision, and to enable the institute to add value to all its stakeholders.

NON-FINANCIAL ACTIVITIES:

- To arrange and support in placement activities for the students
- To encourage the students of the college & members of the Association for research & development work in various fields like Engineering, Computers, Industrialization, etc.

- To conduct workshops, guest lecture, skill development program and FDP.
- To encourage and guide the students of the college on self-employment to become entrepreneurs.
- To Promote the industry-institute interaction to bridge the gap between industry requirements and education offered and enhance students' employability

Alumni of the MVJCE are contributing in the overall development of the students of college which would ensure better professional future for the students.

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

5.4.2 Alumni contribution during the last five years

<1 Lakh

1 Lakh - 3 Lakhs

3 Lakhs - 4 Lakhs

4 Lakhs - 5 Lakhs

Response: <1 Lakh

File Description	Document
Alumni association audited statements	View Document

5.4.3 Number of Alumni Association / Chapters meetings held during the last five years

Response: 6

5.4.3.1 Number of Alumni Association /Chapters meetings held year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
2	1	1	1	1

File Description	Document
Any additional information	View Document
Number of Alumni Association / Chapters meetings conducted during the last five years.	View Document
Report of the event	View Document

NAAC

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

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

Response:

VISION:

To become an institute of academic excellence with international standards.

MISSION:

The vision will be realized by:-

1. Impart quality education along with industrial exposure.
2. Provide world class facilities to undertake research activities relevant to industrial & professional needs.
3. Promote entrepreneurship & value-added education that is socially relevant with economic benefits.

Nature of Governance: The institution is recognized by All India Council for Technical Education, approved by Government of Karnataka and affiliated to Visveswaraiah Technological University. The Governance of the institution is strictly in accordance with the Vision and Mission. The system is effectively decentralized for a better governance and performance. The major decisions which have a bearing on the function and the goal of the college are done by the Governing Council which includes the Chairman of the institution. The staff council of the college headed by the Principal, Vice Principal, and all the HOD as members ensures the proper implementation of the decisions and directions given. The Management gives sufficient freedom to the Principal, who is the academic head of the institution to function in order to fulfill the vision and mission of the institution. HOD is delegated with department-level authority. The responsibilities are communicated to the faculty members through regular staff meetings. The office administration of the College is headed by the Registrar under whom there are Office Superintendents.

The Institute has a **perspective plan** for development. It is developed by Principal with the help of HOD's of various departments under the guidance of Governing Council. Based on the academic schedule given by the affiliating university, academic calendar is prepared. The academic calendar includes the list of pre-planned programs of various departments and examination schedules prepared with the knowledge of HOD's. To ensure development of the Institute, all the planning and execution is monitored regularly. The perspective plan helps to

- streamline various processes like evaluating methodologies of the teaching-learning process, research progress, infrastructure facilities etc.
- Improve Research Competency and to get grants from various government and non-government organizations like VGST , DST, UGC, VTU, AICTE, DRDO, ISRO.
- Learning and growth scope of the institution is also well explored. The institution signs MoUs with the various organization for promoting institute-industry interaction. It also includes the provision

for the development of infrastructure for research activities and motivating the faculties towards Research, Consultancy, Patents, etc.

- Financial perspective is also addressed well. Revenue is generated by conducting national and international conferences, faculty development programs, consultancy grants and funding from research proposal scheme.

The Institute consistently promotes a culture of **participative** management. The Institute follows committee system for implementation of all its decisions and resolutions. The committees comprise of faculty members and students. The Governing Council have representation from faculty. The HODs take the decisions and implement the action plan. The department faculty is involved in implementation of the policies of the department. Hence at all levels there is participative management.

File Description	Document
Link for Additional Information	View Document

6.1.2 The institution practices decentralization and participative management

Response:

The institution defines the **decentralization** in working through delegation of authority. Personnel at different level implement the decisions. The delegation of authority can be organised in the form of a pyramid.

- **Top-level managers** are responsible for controlling and overseeing the entire institution. It includes the Chairman, Governing council, Vice Principal and Principal. The Governing Council assists the Chairman with regard to broad guidelines, policies and framework for the improvement of quality of education in the institution. The management through the Principal involves the faculty members in various activities related to the development of the Institute. The Principal heads the academic and administrative activities of the Institute. He forms various committees and appoints faculty members.
- **Middle-level managers** act as an intermediary between top-level management and low-level management. It includes Head Of the Departments (HOD), Registrar, HR, Librarian, Physical Education Director. They help in the execution of institutional plans.
- **Low-level managers** includes faculty, non teaching staff and others . They help the middle level managers by coordinating the activities delegated to them.

The college does promote a culture of **participative management**. In all academic and non-academic activities , college is following participative management. The Institute follows committee system for implementation of all its decisions. One of the committees is the **Research and Development (R&D)** council, which is taken as the case study for showing, practicing participative management in the institution. The IQAC has initiated the formation of Research and development council in the institution. There is at least one representative from each department. The Research and Development council meetings are held twice in a month.

Based on the recommendations made by the Research and Development Council:

- The committee continuously reviews the work of PhD research scholars.
- Encourages the institute to sign MoU with the industries, thereby bridging the gap between industry and academia. The institute has signed 16 MoUs with industries for research related activities.
- The institute has developed research centers in eight programs: Aeronautical Engineering, Computer Science Engineering, Mechanical Engineering, Civil Engineering, Physics, Chemistry, MBA , Electronics and Communication Engineering.
- Faculty are motivated to enroll as research supervisors. The number of faculty registered as research supervisors is 23.
- The number of faculty members registered for Ph.D in the academic year 2016-2017 is 9.
- Faculty members prepares and submits research proposals to various funding agencies. Internal assessment of the research proposals is done by the advisory experts from Research and Development Council. The number of project submitted to different agencies for funding is steadily increasing every year with the support of R&D council. The college has got grants from different agencies like VGST, KSCST, CSIR, AICTE, DRDO, ISRO, IChE. In the academic year 2016-2017, the institution has received fund of Rs.10,60,000/- from ISRO, Rs.9,55,950/- from DRDO, Rs.40,000/- from VGST, a total of Rs.35,000/- from KSCST, a total of Rs.31,000/- from IChE for conducting projects.

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

6.2 Strategy Development and Deployment

6.2.1 Perspective/Strategic plan and Deployment documents are available in the institution

Response:

The institute has a **strategic plan** which includes getting permanent affiliation for all UG & PG programs by 2015-2016, getting NBA accreditation by 2017, introduction of CERP by 2017, to create centre of excellence , getting NAAC accreditation by 2018, strengthening the campus facility, improving the teaching-learning process, providing Personality development program for the students, providing more Faculty Development Training, enhance the output in research and consultancy ,enhance the industry

institute collaborations.

One of the strategic plans initiated by the IQAC of the institution in the academic year 2012-2013 is to provide personality development for the students. The placement cell runs the **Personality Development Program (PDP)** for the students. The PDP is being conducted for all the students; from the first year to 4th year. Every semester, professional trainers visit our campus to train students of all the departments, semester wise. Students are divided into batches and all the batches are trained in various personality development programs like teamwork, communication skills, vocabulary and attitude beside technical knowledge.

The program gives students an insight into the corporate world and prepares them to apply the skills they learn during the various programs. Besides Soft skills, this program is also enhanced by the other two pillars for successful campus placements ie. Aptitude Training and Technical training.

The PDP for all the students have been organized as follows:

Year	Training Module	Duration	Objective
First Year Students	The seven habits of highly effective students with special emphasis on verbal communication	16 hours	1. To overcome communication 2. To present oneself 3. The stress is in verbal 4. Teamwork 5. Time management 6. Personal Effectiveness 7. Professionalism
Second Year Students	Write to succeed	16 hours	1. The emphasis is on 2. To introduce student Concise, Correct). 3. To develop an unde 4. A readiness for the
Third Year Students	JOB SKILL-Getting Ready for the Corporate	16 hours (classroom training) &	1. To put it altogether 2. To present oneself

		8 hours (mock interviews with External faculty who are practicing HR)	3. Time Management 4. Group Discussions
Fourth Year Students	Corporate Training and Job Skills Refresher	8 hours	1. Grooming/Business 2. Mock interview: w

The **Personality Development Program** helps the students to overcome communication apprehension and to present any topic confidently and positively. It also educates them to manage time and to work as a team. The placement cell also provides guidance for competitive examinations like GATE, GRE, and TOFEL. The average percentage of students going for higher studies and getting placed from the academic year 2012-2013 to 2016-2017 is 90.

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

6.2.2 Organizational structure of the institution including governing body, administrative setup, and functions of various bodies, service rules, procedures, recruitment, promotional policies as well as grievance redressal mechanism

Response:

The **Governing Council** at MVJ College of Engineering is a very active group involved in the monitoring and continuous development of the Institute. The members of this body comprise of people with vast knowledge and experience in the field of academics, research, industry and administration. MVJCE’s Board of Governors has the advantage of having experience in both the educational and corporate environment enabling us to design and implement a system that bridges the gap between education and industry requirements. The Governing Council meets once in three months and interacts with industry experts, faculty, students and corporate to understand the improvement areas and raise the level of

knowledge delivery at MVJCE with the assistance of faculty members and administrators at the Institute.

Governing Council members for the academic year (2016-2017)

Sl No	Title	Name	Designation	Qualification	Profession	Address	Contact Number	E-Mail Id
1	Dr.	B. N. Suresh	Chairman	Ph.D	President INAE	559, BEML layout RR Nagar, Bangalore	9483502002	byranasuresh@gmail.com
2	Mr.	M.J. Balachandar	Member	CA	educationist	MVJCE Bangalore	9845050666	mj_balachandar@yahoo.co.in
3	Dr.	A. Chokalingam	Member	Ph.D	Professor	IISC Bangalore	080-22933156	achockal@ece.iisc.ernet.in
4	Dr.	Umamaheswari	Member	Ph.D	Professor & Chairman	Anna University, Tamilnadu	9444051782	umamahesb@annauniv.edu
5	Dr.	Viraj Kumar	Member	Ph.D	Professor	PES University, Bangalore	8088002595	viraj.kumar@pes.edu
6	Mr.	S. Chandrasekar	Member	MBA	Visiting Chair Professor	NIAS, IISC, Bangalore	9986447998	chandrashekar.schandra@gmail.com
7	Mr.	Vasanth Kumar Narayan	Member	BE MBA	General Manager	Robert Bosch Engineering India, Bangalore	9880508733	VasanthaKumar.N@in.bosch.com
8	Prof	B N Raghunandan	Member	Ph.D	Professor	Dept of Aerospace Engg, IISC, Bangalore	9449004658	raghubn@aero.iisc.ernet.in
9	Dr.	N Gunasekaran	Principal	Ph.D	Principal	MVJCE Bangalore	9894329192	principalengg@mvjce.edu.in
10	Mrs.	Brindha M	Member	M E (Ph.D)	Vice Principal	MVJCE Bangalore	9632773981	viceprincipal@mvjce.edu.in
11	Mrs.	. Sreepriya Kurup	Member	M Tech	Assistant Professor	Dept of ECE, MVJCE, Bangalore	8197836658	Sreepriya.kurup@mvjce.edu.in
12	Mrs	Sanchari Saha	Member	M Tech	Assistant Professor	Dept of CSE, MVJCE, Bangalore	9886079563	Sanchari.Saha@mvjce.edu.in
13	Dr.	Ramesh. U	AICTE Nominee	Ph.D	RO & Director	AICTE SWRO, Bangalore	8022205979	swro@aicte-india.org
14	Dr.	K Ramachandra	VTU Nominee	Ph.D	Former director, GTRE consultant, Honeywell-CADES	NDRF, Bangalore	9448077779	drkrc2006@gmail.com
15	Dr.	H. U. Talawar	DTE nominee	Ph.D	Director	Dept of Technical Education, Bangalore	8022200291	dteacm@hotmail.com

DUTIES AND RESPONSIBILITIES OF VARIOUS ADMINISTRATIVE BODIES:

Principal

- Responsible for overall administration and academic function of the institution in keeping with policies of the management as well as mandatory regulations and stipulations of the related statutory authorities.

Responsible for the following quality specific activities-

- Evolve quality policy, formulate quality system, enforce implementation and adherence, monitor effectiveness, promote quality improvement in teaching, learning, evaluation and support systems
- All the academic activities of the institution including maintaining existing affiliation and recognition and promoting new affiliations and recognition for which the institution is deemed eligible.
- Maintenance of student records, arrangement for examination, arrangement of evaluation of teaching faculty, coordinating with university, statutory authorities and related institutions, campus selection and placement
- Overall administration of institution which includes establishment, account, security and maintenance services.
- Evaluation of vendors and suppliers continuously, maintenance of stores which includes proper storage, optimum utilization and minimum wastage.
- Maintenance of equipment, devices, instruments and accessories, maintenance and up-gradation of library service

Vice Principal

- Assists the Principal in all activities for overall development of the institution.

Head of the Departments (HODs)

- Responsible for effective and systematic working of their departments.
- Making Timetable, ensuring adherence to the same, maintaining attendance of students and staff members, encouraging and employing innovating teaching aids and methods, conducting internal evaluation of students as per stipulations, maintaining the laboratories, current curriculum and syllabus as per the needs of changing priorities and recommending improvements for keeping abreast of the latest trends in knowledge and technology, studying results and feed back to evolve improved teaching systems. Promoting the interests of students in bringing out their talent and skills. Other members in the department assist HOD in the efficient discharge of all the above activities.

Office Registrar

- Responsible for overall administration of the office.
- Monitoring student admission work, examination work, purchase activities, accounts and establishment activities.

Librarian

- Coordination of book selection, purchase and accessioning the same after purchase
- Classification and cataloguing of books
- Ensuring proper maintenance of books, journals, periodicals, newspapers and their periodical procurement
- Ensuring proper lending and return of books
- Answer queries made by customers for books/information
- Train customers in proper handling of books
- Developing a good institutional repository system
- Overall administration of Library

Director – Physical Education

- In charge of sports and extracurricular activities in the college
- Developing student capabilities in sports and games

Student welfare officer

- Communication with parents, guardians or the students, advice performance in regard to tests, internal assessment and attendance
- Liaison with HODs and parents for arranging and counseling advising sessions

In addition to the administrative structure explained above, faculty members act as coordinators for research, projects, exam, internal assessment, IIPC, NBA, EDC, Proctors, Class in-charges, lab in-charges and placements.

For example,

- Exam coordinator takes the responsibility of submitting the student applications for the exam based on the eligibility list, preparing arrears list, distributing hall tickets and marks sheet. He works with exam cell of the institute to complete the examination process smoothly.
- Entrepreneur development cell coordinator identifies the innovative ideas from students and guides them to conduct research work, preparing project reports, obtaining project approvals and getting funds from funding agencies. They also involve in arranging skill development programs, guest lectures to promote self-employment.

The following committees are functioning in the college and meet the day-to-day functions

Sl.No.	Name of the Committee	Frequency of Meeting	Remarks
1	Anti-Ragging Committee	Once in a month	As the case arises
2	Grievance Redressal Committee	Twice in a Year	As the case arises
3	Internal Compliance Committee	Twice in a year	As the case arises

4	Committee for SC/ST	Twice in a year		
5	Governing Council	Once in 3 months		
5	Mentoring and Counseling Cell	Twice in a Year		
6	Purchase Committee	Twice in a Year	As the case arises	
7	Welfare Committee	Twice in a Year		
8	Women Empowerment Cell	Twice in a year		
9	Alumni Association	Once in a year		
10	Placement Cell	Once in a month		
11	Research and Development Council	Twice in a month		
12	Library Advisory Committee	Once in 6 months		
13	Hostel Committee	Once in a month		

RULES, POLICIES, RECRUITMENT PROCEDURES, PROMOTIONAL POLICIES

- Rules and policies are as per the AICTE and MVJCE policies.
- Promotions are given to staff members who excel in academics and research.

Recruitment Procedure

MVJCE follows a recruitment procedure. The Institute attracts a good number of applications for the recruitment. However, sustained efforts are made to continue to attract quality faculty members at all levels.

The recruitment procedure is as follows:

1. Submission of staff requirements by HODs to the Principal.
2. Advertising the staff requirements in leading newspapers.
3. Constitution of the selection committee.
4. Short listing of applications received.
5. Calling eligible candidates for interview.
6. Discussion with candidates to assess their potential and skills.

7. Selection based on the performance of candidates.

8. Issue of appointment orders

9. Reporting to duty on the mentioned date

INTERNAL COMPLIANCE COMMITTEE

The College has constituted anti-sexual harassment committee comprising of senior faculty members and students for preventing any act of sexual harassment.

INTERNAL COMPLIANCE COMMITTEE FOR ACADEMIC YEAR (2016-17)

Title	Name	Designation	Profession
Mrs	Brindha. M	Chair Person	Vice Principal
Mrs.	Santhiya M	Member secretary	AP /CSE
Mrs.	SanchariSaha	Member	ASP/CSE
Mrs	UshaMalini	Member	Foreman/ECE
Mrs.	LathaHarikrishna	Member	Office Superintendent
Ms	Ms.Nikitha	Member	III Year CSE
Ms	Ms.ShreyaSingal	Member	IV Year ISE

STUDENT GRIEVANCE REDRESSAL COMMITTEE

A redressal committee functions in the institution. Following are the functions of redressal committee.

- To receive the grievance in person
- To analyze and examine the nature of grievances
- To deliberate with the members of committee and call for remarks if necessary
- To resolve the issues impartially

GRIEVANCE REDRESSAL COMMITTEE

Following is the composition of the committee:

SL NO	NAME	DESIGNATION	PR
1	Dr. N Gunasekaran	Member	
2	Prof. M.Brindha	Member	Vi
3	Dr. A K Satheesh Babu	Member	

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

6.2.3 Implementation of e-governance in areas of operation: 1.Planning and Development 2. Administration 3. Finance and Accounts 4. Student Admission and Support 5.Examination

A. All 5 of the above

B. Any 4 of the above

C. Any 3 of the above

D. Any 2 of the above

Response: A. All 5 of the above

File Description	Document
Details of implementation of e-governance in areas of operation Planning and Development,Administration etc	View Document
ERP Document	View Document
Screen shots of user interfaces	View Document

6.2.4 Effectiveness of various bodies/cells/committees is evident through minutes of meetings and implementation of their resolutions

Response:

The college has implemented many activities initiated by several bodies and committees. One of the prominent bodies is the Internal Quality Assurance Cell (IQAC). In one of the meetings, the IQAC members has initiated the Outcome Based Education (OBE). The concept of outcome based education has been brought in all departments with the active participation of Department Advisory Committee (DAC) members and the HOD. The faculty and students are given awareness on the importance of Course Outcome (CO), Program Educational Objective (PEO), Program Specific Outcome (PSO) and Program Outcomes (PO).

Teaching learning process is made learner centric by adopting outcome based education (OBE) processes and evaluation methods. OBE gives recognition to the students for the knowledge, skills and attitudes they have acquired. The college clearly defines vision, mission, objectives, outcomes and strategies. The college implements OBE based learning in all the programs by defining respective program objectives, program outcomes and program specific outcomes. All the courses in each program are defined with a set of course objectives and outcomes. Each faculty prepares course file for each course which contains Department vision, mission, course syllabus, individual time table, program objectives, program outcomes, various mapping matrices, lesson plan, unit wise material, direct and indirect assessments, surveys/feedbacks collected from students and CO-PO attainment sheet. The course outcomes were prepared by the action verbs of blooms taxonomy. The assessment tools used to assess the course outcomes are categorized into two as: Direct methods and indirect methods.

- Direct methods develop the student's knowledge and skills from their performance in the continuous internal assessment tests, semester examinations, seminars, and class room and laboratory assignments etc. These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning. The direct assessment tools are Internal assessment (1,2,3), Assignment for numerical subjects, Tutorial for tough subject, Quiz, Project work for final year students, Seminar for final year students, VTU end semester exam. Target levels of attainment of Course Outcomes (COs) are set by the DAC; Course is delivered; actual attainment of COs is determined using internal assessment test 1, 2, 3 and VTU exams. The Evaluation of attainment of POs and PSOs based on the mappings from COs to POs and PSOs. The POs & PSOs Attainment level will be 80% of direct assessment.
- Indirect methods such as surveys ask the stakeholders to reflect on students learning. They assess opinions or thoughts about the graduate's knowledge or skills and their valued by different stakeholders. Program Exit Surveys, Alumni Surveys, Faculty surveys, Professional body surveys and Employer Surveys are used to evaluate the attainment of POs and PSOs. The POs & PSOs Attainment level will be 20% of indirect assessment.

The IQAC and DAC help in evaluating the achievement of PO's, PSOs and PEOs. Hence, by adopting OBE, the college has got NBA accreditation for 4 departments in the academic year 2016-2017.

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

6.3 Faculty Empowerment Strategies

6.3.1 The institution has effective welfare measures for teaching and non-teaching staff

Response:

The following are the welfare measures extended to the *teaching and non-teaching Staff* of the college:

- The faculty members are eligible for availing Casual Leave of 12 days per year. Vacation leave for teaching faculty are 15 days in a semester and for Non-teaching faculty, 7 days in a semester. On duty facility for attending workshops /conferences/seminars. Medical Leave is for 7 days. Paid Maternity leave to the women employees, for a period of 90 days and paid Paternity leaves for 3 days.
- Employees Provident Fund: All the staff who are eligible as per the Staffs' Provident Fund legislation shall be enrolled as members. The College shall contribute 12% of the pay subject to the ceiling of Rs 780 per person, towards the Employer's contribution to the EPF Scheme. The College shall deduct 12% of the pay from the salary of the individual staff every month, towards his/her contribution to the Employer's contribution to the EPF Scheme. The College shall remit both the contributions as stated above to the EPF Scheme authorities. The College shall pass on the annual statements pertaining to the Staff, as released by the EPF authorities, to the concerned staff. The College shall endeavor to correspond with the EPF Scheme authorities to obtain the accumulations with interest from the EPF organization and present the payment to the staff at the time of his/her retirement.
- For teaching staff, financial support is provided for attending conferences, workshops and seminars. Faculty is rewarded Rs. 5000/- per paper, for publications in International journals with impact factor. For consultancy projects, faculty is given 60% of the consultancy fees.
- For non-teaching staff, financial support is provided to pursue skill development. Uniform is also being provided for instructors, drivers, attenders, and securities.
- Group Medical Insurance is provided for teaching and non-teaching staff. In case of any emergency, personal loan is also provided to the staff.
- All teaching and non-teaching staff are eligible for transport on the college bus. For other official purpose, the staff concerned should inform the Transport coordinator and admin in advance, so that he can retain the driver and ensure that vehicle is kept ready.
- Canteen facility and medical facility is also being provided for all staff. ATM facilities are available in the campus.

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

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

Response: 91.38

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

2016-17	2015-16	2014-15	2013-14	2012-13
284	274	250	230	208

File Description	Document
Any additional information	View Document
Details of teachers provided with financial support to attend conferences,workshops etc. during the last five years	View Document

6.3.3 Average number of professional development /administrative training programs organized by the institution for teaching and non teaching staff during the last five years

Response: 19.4

6.3.3.1 Total number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
25	28	16	16	12

File Description	Document
Any additional information	View Document
Details of professional development / administrative training programs organized by the Institution for teaching and non teaching staff	View Document

6.3.4 Average percentage of teachers attending professional development programmes viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programme during the last five years

Response: 44.13

6.3.4.1 Total number of teachers attending professional development programs, viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Programs year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
132	142	110	130	88

File Description	Document
Any additional information	View Document
Details of teachers attending professional development programs during the last five years	View Document

6.3.5 Institution has Performance Appraisal System for teaching and non-teaching staff

Response:

The college follows a systematic Performance Appraisal System for teaching and non-teaching staff. The institution / management evaluates teachers based on teaching, research and participation in development activities and due importance is given to all the activities. The institution evaluates non-teaching staff based on performance in technical work and administration related activities, co-curricular, professional, development related activities, academic contributions, general conduct and qualities.

A structured “**Self-Appraisal Form**” is made use of by each faculty member for this purpose, wherein he/she gives the details of his/her performance and participation in all the activities assigned to him/her by the department /college. The concerned HOD give their remarks on the performance of the faculty member. The faculty performance appraisal system is evaluated in 6 categories namely teaching learning, co-curricular activities, research activities, academic performance- evaluated from the feedback from students, expert review feedback and management feedback. Every category has a maximum score of 150 out of which the minimum requirement is 75.

The management evaluates the faculty members and staff by merit rating based on their performance during the period of evaluation. They are recognized and awarded for academic performances, research proposals, consultancy, patents and publication during the Founder’s Day function each year. In addition, the salary revisions periodically are based on the performances indicated by results, project guidance’s, peer reviewed publications, funded research, patents developed, recognition by professional bodies and contribution towards achieving institutional goals in case of non – teaching staff. The above methodology of merit rating has helped the institution to identify and reward meritorious

employees and to positively motivate them.

File Description	Document
Any additional information	View Document

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

Institution conducts internal and external financial audits regularly. Audit will be conducted at the end of each financial year. The auditors will visit to college at regular intervals, they will verify all financial transaction with the supporting documents and approval of proper authority for each financial transaction. The financial transactions are accounted in Tally ERP by the college. Audit is conducted in accordance with the Auditing standards generally accepted in India. They plan and perform procedure to obtain the reasonable assurance about whether the financial statements are free from material misstatements. Auditor will examine on a test basis evidences, supporting for the amounts and disclosure in the financial statements. It also includes assessing the accounting principles used and management estimates and evaluation of overall financial statements presentation. Based on such audit, will issue audit report of for True and Fair view on the financial statements.

Audit procedures:

1. Source of income verification: Auditor will cross verify the fee collections with approved list of students like:

- List of students with KEA list for the first year CET admission students and list sent to VTU for the first year management admission student.
- Eligibility list of students approved and sent to VTU for higher semester students.
- Other incomes cross verified with the receipts issued to the students.
- Fee amount receivable and amount received will be reconciled.
- Checking Grants received if any.

2. Expenses Vouching:

- Auditor will vouch payment with the approved supporting.
- Correctness of Classification revenue and capital expenses.
- Reconciliation of bank accounts and checking the bank confirmations. Reconfirmation of un reconciled items.
- Calculation of depreciation of fixed assets.
- Status of the old debit/ credit balances.
- Checking of statutory dues payment like PF, TDS, PT and ESI before the due dates.
- Salaries payments with the salary statements.
- Any other statutory compliances verification required as per Income Tax Act.

3. On such verification any discrepancies will be discussed and sorted with the management. Any changes will be incorporated into.

4. One all financial transactions are accounted and based on that financial statements like Balance sheet and Income and Expenditure for the financial year end.

5. Such financial statements will be signed and approved by Auditor and Management. Based on the audited financial statements, auditor will issue “ Audit Report”

File Description	Document
Any additional information	View Document

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

Response: 25

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

2016-17	2015-16	2014-15	2013-14	2012-13
5	4	3	3	10

File Description	Document
Any additional information	View Document
Details of Funds / Grants received from non-government bodies during the last five years	View Document

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

Response:**Sources of funds:**

For the institution the resources of funds are:

- Tuition Fee collections from the students
- Fee collections for the other services rendered to the students Ex Bus fee
- Fines from the students. Ex: ID card loss, hall ticket loss, fee receipt loss
- Collections for workshops and skill enhancement activities
- Grants from ISRO/AICTE/KSCST/IUCET/IICHE/IETE/DRDO

Such collections from the students will be kept as the fixed deposits in the college bank accounts. Part of the fixed deposits will mature for the period of 30 days or less and part of them will be for long term period like 1-2 year.

Mobilizations of funds :

- The short term deposits will be used for the monthly salaries of staff, campus maintenance, resource training, lab consumables, AMC charges for maintenance of Lifts, Air conditioners etc, library books purchases, expenses for workshops, events, club activities, Faculty development and student skill development programmes, admission process, staff welfare, college promotional expenses etc.
- Loan term deposits will be used for the any infrastructure construction or development at the campus.

Funds utilization strategies:

- According to financial requirement of each department, budget amount will be allocated annually such budget will be discussed and
- Monitoring the establishment of the infrastructure, purchase of equipment's for various labs.
- Purchase of educational technology aids.
- An independent committee is constituted to take care of additional constructional work.
- Periodic monitoring the utilization of the funds allocated to the departments.
- Ensure optimal utilization of the resources according to the plan.

File Description	Document
Any additional information	View Document

6.5 Internal Quality Assurance System

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes

Response:

The Internal Quality Assurance Cell (IQAC) is established in the institution to maintain and enhance quality of education. The prime task of IQAC is to develop a system for conscious, consistent and catalytic improvement in the performance of institution. The work of IQAC is the step towards the internalization and institutionalization of quality enhancement.

To ensure efficient functioning of IQAC, coordinator of the IQAC shall interact with various functionaries for effective implementation of IQAC and apprise chairperson of IQAC from time to time for the progress. IQAC will meet at least once in a year and record its deliberation and suggest improvements required if any in academic / administrative functions.

The institute has well defined policy for the quality assurances which is ensured by the effective participation from all the stakeholders. The IQAC plays a vital role in maintaining and enhancing the quality of the institution and suggests quality enhancement measures to be adopted. The quality assurance processes, with regard to academics, administrative, are the integral part of the institutional policy.

Quality Policy:

We aspire for global recognition through systematic and meticulous transformation of our students into highly motivated graduates enriched with professional competence, managerial skills, built in dynamism and humanism.

Quality Objectives are as under:

- Develop quality consciousness among everyone in the institution including students.
- Promote, foster and sustain an environment to achieve academic excellence.
- Maintain a good cooperative and beneficial relationship among all the stakeholders of the institution.

IQAC will meet periodically and record its deliberation and suggest improvements required if any in academic / administrative functions. The composition / members of the IQAC cell is given below:

- (i) **Chair Person** – Principal, MVJ College of Engineering
- (ii) **IQAC Coordinator** - Mr. Muralidhara R, Associate Professor, Civil department
- (iii) **Members from the Institution:**
 - Registrar - MVJ College of Engineering
 - Vice Principal
 - HOD, Department of ECE

HOD, Department of CSE

HOD, Department of Civil Engineering

HOD, Department of Aeronautical Engineering

HOD, Department of Chemical Engineering

Associate Professor – Department of EEE

Associate Professor - Department of Mechanical Engineering

(iv) Management Representative: Chairman, MVJ College Of Engineering

(v) Nominee from IETE Members:

- a. Dr. H S Bhatia, Honorary Secretary, IETE, Bangalore
- b. Dr. M H Khori, Member, IETE, Bangalore

(vi) Student representatives

1. Ms. Prerana Sawant, Electronics and Communication Engineering
2. Mr. Srikanth, Civil Engineering Department

(vii) Members from Industry:

- a. Mr. Prateek, Co-Founder, Robo Technologies, Pune
- b. Mr. Selva Subramaniam, Director, Dell Technologies, Bangalore

(viii) Alumini Members:

- a. Mr. Dilip Gundala, Senior Project Manager, Unisys Pvt. Ltd
- b. Mr. Janardharan Reddy, General Manager, Chaitanya Developers

External members suggested us on various quality issues and practices which helps us to improve the quality of teaching learning process and also to improve the technical and nontechnical skills of the students.

The IQAC has taken many initiatives for the development of the college. Among them the two best practices that has been institutionalized are:

1. Total Quality Management (TQM) was initiated by the IQAC in the academic year 2014-2015

IQAC had initiated the Internal Audit Cell (TQM) in 2014-2015. The members of the TQM shall be nominated by the Head of the Institution, one from each department, in the cadre of Assistant Professor or

Associate Professor. TQM team has a TQM lead, who coordinates and consolidates the activities carried out by the TQM members. Every academic year the TQM members will be doing quality check on different departments allotted by the TQM lead. TQM shall conduct internal academic audit, and produce the required documents and records to the External Auditor on demand.

The quality check involves:

1. Monitoring of classes and reporting the discrepancies (if any) to the higher authorities on a daily basis.
2. Weekly verification of master attendance registers and teacher's diary.
3. Monitoring attendance of students and verification of attendance every two weeks.
4. Verification of proctor records and counselling details after every internal examination - To check whether the marks & attendance have been updated in the proctor card. Also, to check whether counselling has been done during that period.
5. Verification of lab attendance register- To check whether the marks are being allotted according to the lab evaluation process of the institution.
6. Verification of final attendance before submission to VTU. Students having less attendance are informed to the respective proctors and HOD.
7. Verification of marks entry in the pink register after every internal examination.
8. Blue book verification with the answer key- To check whether the marks have been allotted properly, according to the answer key.
9. Verification of final marks before submission to VTU.
10. Verification of Notice board displays periodically - To check whether the current circulars have been displayed or not. Old circulars have to be removed.
11. Verification of Department stock register and barcode of newly purchased equipment in the beginning of every semester.
12. Department library audit in the beginning of every semester.
13. Timetable and workload verification in the beginning of every semester
14. Central Library audit on a yearly basis.

The TQM team suggest the areas of concern and based on this corrective action is initiated by the management and principal and heads of the departments. A sample Audit report is being shown below:

DATE	DEPARTMENT	TQM INCHARGE	DISCRIPAN
23/09/2015	BT,CH	Mr.Sharavana(CSE)	BT Dep Semester - observed t classes are only 2 stud at 8.30 am
	AE	Mrs.Premila Devi.(CSE)	NIL
	CSE	Mr.Hameem.(ECE)	NIL
	CV	Mrs.Sreepriya Kurup.(ECE)	NIL
	ECE	Mrs.AnanthaLakshmi.(ISE)	NIL
	EEE	Mrs.Supriya.(MCA)	NIL
	IEM	Mrs.Nagapadma.(CH)	NIL

	ISE	Mrs.Sindhuja.(CSE)	NIL	
	ME	Mrs.Tamilarasi.(CSE)	NIL	
	TE	Mr.Prashant.(ECE)	NIL	
	MBA	MRS.SHWETHA (ME)	Biometric is	
	MCA	Mrs.Sreedevi.(CSE)	NIL	
	1st Year(Physics)	Mrs.Kumutha(TE)	NIL	
	1st Year(Maths)	Mrs.sreelata (CSE)	NIL	
	1st Year(Chemistry)	Mrs.Premalatha(EEE)	NIL	
	ML	Mrs.Sanchari saha(CSE)	NIL	

2. Industry Institute Partnership Cell (IIPC) was initiated by the IQAC in the academic year 2014-2015

The college has an active Industry Institute Partnership Council functioning which ensure that the graduating students are “Industry Ready” by forging strong interaction with relevant Industries. IIPC in MVJCE is for enhancing the relationship between the institute and industries, thereby increasing the opportunities for the students for internships, live projects and to acquaint the students beforehand with the demands of the corporate atmosphere. The IIPC Cell committee is to identify the industrial expectations and to prepare the students accordingly by facilitating sponsored R&D projects, seminars, workshops and various other industrial training programs. This is also to support different industries at various platforms like Industrial training, Seminars, Symposium, and consultancy work, arrangement of different Faculty Development Programs for solving industrial problems.

The key challenge faced by the engineering education today is the need to constantly adapt to the changing requirements of industry. Both industries and institute are striving hard to increase their competitiveness with many hard to increase their competitiveness with many objectives in common. It is necessary to identify the gap between the industry and academia and to establish linkage between industry and the institute. The major role of the institutes in the industrial sector is to produce quality engineers with fundamental knowledge and the necessary skills for the application of acquired knowledge to real situations to promote the country’s economy. The crucial focus of MVJCE IIPC is to interact with industries in and around Bangalore and nearby states and to extend the efforts in establishing partnership with industries across the globe in near future. All the Stakeholders, namely: Institutions, Industry, Students and Society stand to gain as it can be a win-win partnership.

The IIPC practices in MVJCE includes,

- Arranging industrial training for all the department students.
- An advisory board is functioning under the chairmanship of Principal which is identifying the opportunities for student project work in Industries.
- Encouraging the department level tie-ups or MoUs with Industries for mutual benefit.
- To promote synergistic partnership between Industry and MVJCE for taking up joint research programs.

- To conduct relevant R&D activities with the involvement of students and the faculty of MVJCE under the supervision/guidance of experts from reputed industries.
- Organizing industrial exhibitions.
- To achieve a level of partnership wherein the College can undertake R&D on behalf of the industry in the form of 'Collaborative and Consultative Projects'.

The developments made by the IIPC are:

- MVJCE provided the platform for the students and they were hand-held towards reinforcing the foundation skills.

Mr. Vasanthakumar Narayanan of Robert Bosch conducted a workshop on the Foundation Skills for Integrated Product Development Program to a group of faculty members and subsequently students are trained on product development. Highlight of the program is that the students from different disciplines formed a team and took a product development to meet the market. The products developed are Parking LOT, 24x7 Urban Solutions, E-Blind, E-Strip, Drunk and Drive Alert.

- Industry Institute Partnership Cell of MVJCE organized 2 days workshop "Skill Development in Engineering Sector". Welcome address was followed by lighting of the lamp by chief guest Mr. Ashok Pamidi, Senior Director and Regional Head Karnataka, NASSCOM, Bangalore. Prof. Brindha M, Vice Principal, MVJCE introduced the esteemed chief guest of the function Mr. Ashok Pamidi to the audience. The chief guest inaugurated the workshop with a keynote address on the importance of skill development and stressed on learning, unlearning and relearning in the professional life to be employable. He shared very interesting and thought-provoking facts which exhilarated the audience.
- The interaction between institute and industry is necessary to train and develop the right kind of man power to sustain industrial growth. The IIPC cell has improved the interaction with the industry for providing industrial training and final year projects for students and sharing of academic expertise with industry by training and consultancy. A Memorandum of understanding (MoU) has is being signed between the college and Consortium of Electronics Industries of Karnataka on 08 Dec 17. Similar MoU is being pursued with Karnataka Small Scale Industries Association and similar consortia. All these activities enabled a better placement for the students of the college.
- The industrial visits arranged through IIPC are helping the students to clear the technical rounds during the placements. It is helping us to publish and issue technical bulletins, newsletter and course material with latest technological developments. IIPC in MVJCE has the area of R&D and consultancy. The programs arranged by the IIPC allowed our students to correlate their theoretical knowledge and industrial reality. IIPC reflects in updating knowledge base of professional?s in different emerging sectors through development programs and interactive sections with industry experts. More internship opportunities have got by the motivation and involvement of IIPC in MVJCE.
- To ensure the college is having access to maximum industries in all domains, the college is in the process of obtaining Institutional Membership with Confederation of Indian Industries (CII) and Society of Indian Aerospace Technologies and Industries (SIATI). These memberships would give college opportunities to network with industrialists directly on a professional platform.

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

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

Response:

The IQAC reviews the teaching learning process, structures and methodologies of operations and learning outcomes by introducing several initiatives. Sample suggestion of IQAC are use of innovative teaching methods; organize Workshops, National conferences, and programs on content beyond syllabus; undertake Research Projects and avail Professional bodies funding; Establish Research Journal of the institute; Motivate faculty for registering for Ph.D.

The two examples of institutional reviews and implementation of teaching learning reforms initiated by IQAC discussed here are on Blooms Taxonomy and Activity Based Learning.

1. Blooms Taxonomy was initiated by IQAC in the academic year 2014-2015

Blooms taxonomy was created to provide the classic definition of the levels of educational activity, from the very simple (like memorizing facts) to the more complex (such as analyzing or evaluating information). The three types, or domains, of knowledge they defined are cognitive (knowledge), affective (attitudes) and psychomotor (physical skills). Since it is our mission not just to convey information to our students but to encourage their critical thinking and reasoning skills, we need to encourage higher order thinking skills from the beginning.

In MVJCE, blooms taxonomy was initiated by IQAC in the academic year 2014-2015. Faculty are given awareness to pedagogical teaching learning method, blooms taxonomy and the outcome based education by various workshops and faculty development programs conducted in the department and Institute. Training in Blooms Taxonomy is done to upgrade the teaching skills and formulation of question papers. The question banks which are prepared by respective faculty members will be adhering to Bloom's Taxonomy. Internal assessment 1 will be covering Course Outcome (CO) 1& 2, internal assessment 2 will be covering CO 3&4 and internal assessment 3 will be covering CO5. The question banks have the outcomes covered and the knowledge levels. Internal exam coordinator under the guidance of HOD, checks for the standard of the question bank and will ensure that the questions are covering the course outcomes and as per Bloom's Taxonomy.

Blooms Taxonomy training details:

Topic	No. of Faculties Enrolled	Mentor Details	Date
Instruction Design & delivery	42	Mr.RaviKanth&Mrs.AnanthaLakshmi	08/12/2017

	34	Mr.RaviKanth&Mrs.AnanthaLakshmi	08/07/20
	24	Mr.RaviKanth, Mrs.AnanthaLakshmi, Mr.Jeeva B, Mr.Vinay Reddy	19 20

2. Activity Based Learning(ABL)was initiated by IQAC in the academic year 2016-2017

Activity-based learning (ABL) is becoming an urge for modern day's learner centric, outcome-based education system. These techniques have been adopted within the faculties. The design, development, and implementation of subject ensure that students become more aware of design and team processes.

Activity method is a technique adopted by a faculty to emphasize his or her method of teaching through activity in which the students participate rigorously and bring about efficient learning experiences. It is a student-centered approach. It is a method in which the student is actively involved in participating mentally and physically. Learning by doing is the main focus in this method. Learning by doing is imperative in successful learning since it is well proved that more the senses are stimulated, more a person learns and longer he/she retains. In the process of learning, they experience, memorize and understand. Students need to be provided with data and materials necessary to focus their thinking and interaction in the lesson for the process of analyzing the information. Faculties are actively involved in directing and guiding the students' analysis of the information.

It requires active problem solving by students in finding patterns in the information through their own investigation and analysis. With continued practice in these processes, students learn not the content of the lesson but also develop many other skills.

The advantages of ABL are:

- 1.It enhances creative aspect of experience.
- 2.It gives reality for learning.
- 3.Uses all available resources.
- 4.Provides varied experiences to the students to facilitate the acquisition of knowledge, experience, skills and values.
- 5.Builds the student's self-confidence and develops understanding through work in his/her group.
- 6.Gets experiences, develop interest, enriches vocabulary and provides stimulus for reading.
- 7.Develops happy relationship between students and students, teachers and students.
- 8.A student who lacks in verbal expression can make up through use of ideas in the activity.

MVJCE highly emphasis on experiential learning by introducing Mini-Projects and Industry Internships. The Choice Based Credit System (CBCS) has been introduced by VTU from the academic year 2015-16. Currently the first year, second year and third year students of UG (Engineering) and first year PG students are under CBCS. According to the CBCS scheme, students have to give assignments along with internal assessment tests. The faculties encourage the students to do mini projects and submit them as assignments. Thereby, it provides an opportunity to integrate knowledge and skills acquired in a set of courses belonging

to the curriculum thread to solve complex engineering problems.

File Description	Document
Link for Additional Information	View Document

6.5.3 Average number of quality initiatives by IQAC for promoting quality culture per year

Response: 6.2

6.5.3.1 Number of quality initiatives by IQAC for promoting quality year-wise for the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
9	5	7	6	4

File Description	Document
Any additional information	View Document
Number of quality initiatives by IQAC per year for promoting quality culture	View Document
IQAC link	View Document

6.5.4 Quality assurance initiatives of the institution include:

1. Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback collected, analysed and used for improvements
2. Academic Administrative Audit (AAA) and initiation of follow up action
3. Participation in NIRF
4. ISO Certification
5. NBA or any other quality audit

A. Any 4 of the above

B. Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

Response: A. Any 4 of the above

File Description	Document
Any additional information	View Document
Details of Quality assurance initiatives of the institution	View Document
e-copies of the accreditations and certifications	View Document
Annual reports of institution	View Document

6.5.5 Incremental improvements made during the preceding five years (in case of first cycle) Post accreditation quality initiatives (second and subsequent cycles)

Response:

The IQAC functions in collaboration with college council, exam cell, the college office, the library, placement cell and career guidance and counseling cell for an integrated approach towards quality assurance for the improvement of the institution.

The college Principal is the chairperson of IQAC. All the decisions of IQAC are made with the approval of Principal and all the decisions are implemented in phases. During the meetings of IQAC, the suggestions given by the committee are implemented by the college management. The incremental improvements are made in both academic and administrative fronts during the last five years.

1. Evaluates and monitors the quality of teaching.

The institution monitors the quality of teaching by doing internal auditing. The IQAC had initiated the internal auditing of the following activities for all the departments. By adopting the following measures, the quality of teaching is being improving every academic year.

- Conduct of department meetings to discuss the effectiveness of the teaching learning process and the student's performance.
- Gathering of online feedback from the students after one month from the commencement of the semester.
- Measuring the output through involvement in innovative and constructive projects.
- Compilation of feedback from the students at the end of the semester on every course taught in that semester.
- Collection of exit feedback is collected from the final year students.
- Collection of self-appraisal forms for all the teachers based on many criteria such as results produced and innovative teaching methods adapted, research papers published etc.
- Experts from other colleges and industries are invited for Guest lectures.
- Departments have been provided with computers / projectors and internet facilities.
- Interaction of the faculty with Vice principal/Principal to discuss department requirements if any and other academic related issues.
- Collection of the feedback from the parents through HODs by arranging Parent Teachers Meeting

held separately for each department once in the semester.

- Feedback from alumni is taken held once in the year.
- Feedback from the industries on the students working as their employees and also from the industrial experts visiting the department for guest lectures.

The outcomes of these points are taken to the HODs meeting wherein the remedial measures wherever needed, including the training needed for teachers to improve the subject knowledge and quality of teaching are discussed and finalized.

2. Placement & Training Cell

Placement and training department at MVJCE is continuously in touch with the corporate to make the students employable and stand out in a competitive employment market. The placement cell also helps the students to qualify in the competitive exams. The following table shows the improvement in the number of students placed and the number of students who have passed in the competitive exam for the last five years:

Year	Total No. of outgoing students	Number of students placed	Number of who have pass competitive ex
2012-13	753	706	45
2013-14	690	605	80
2014-15	791	637	100
2015-16	823	643	109
2016-17	946	704	32

3. Research and Development

The Research and Development council helps the faculty members in preparing and submitting research proposals to various funding agencies. Internal assessment of the research proposals is done by the advisory experts from Research and Development Council. The number of project submitted to different agencies for funding is steadily increasing every year with the support of R&D council. The college has got grants for conducting Faculty Development Program (FDP) and for doing projects from different agencies like VGST, KSCST, CSIR, AICTE, DRDO, ISRO, IICe. The number of grants received is increasing for the last five years.

Year of Sanction	No. Of Research Projects funded by Government and non-government agencies	Total Grants for res sponsored by the gov government sources (la

2012-2013	6	32.28	
2013-2014	5	6.54	
2014-2015	5	2.225	
2015-2016	11	2.92	
2016-2017	18	21.009	

4. Memorandum of Understanding (MoU)

MoUs have been signed with several industries during the last five years. This has helped to bridge the gap between industry and academia, thereby increasing the quality of students. The tie ups with various industries has helped in improving the quality of teaching learning process.

Sl.No.	Year	MoU
1.	2011	Infosys Campus Connect
2.	2012	Quest Global
3.	2014	National Instruments (NI lab VIEW)
4.		Microsoft technologies
5.		NASSCOM
6.		Indian Institute of Technology, Bombay (Resource Centre)
7.	2015	IRNSS, SAC Ahmedabad, ISRO
8.		Edgate technologies (Texas Instruments lab)
9.		Robolab Technologies Pvt. Ltd
10.		Spaneous Software Solutions
11.		IUCEE
12.	2016	Avian Aerospace – UAV lab
13.		Regional Training Centre , BSNL, Mysuru
14.		Sansera Engineering
15.		Flow and Force Engineers

5. Well stocked library

- New books in all the Subjects / Courses offered by VTU are added every semester. The library adds more than 2500 books every year. The students also have access to online open journals. Library has institutional membership of NDL and DELNET.

Administrative:

1. CERP

MVJCE introduced CERP system to govern the administrative and academic related activities of MVJCE. This includes management of student attendance, students internal assessment, application of

leaves by faculty, faculty details, student details. This has helped most of the work to be paperless.

2. Digitization of reports

Digitization of the project reports and papers published by faculty in various journal helps more than one person to access document at once and helps to access from anywhere at any time.

NAAC

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Number of gender equity promotion programs organized by the institution during the last five years

Response: 13

7.1.1.1 Number of gender equity promotion programs organized by the institution year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
2	2	4	3	2

File Description

Document

Any additional information

[View Document](#)

Report of the event

[View Document](#)

List of gender equity promotion programs organized by the institution

[View Document](#)

7.1.2

1. Institution shows gender sensitivity in providing facilities such as:

1. Safety and Security
2. Counselling
3. Common Room

Response:

MVJ College of engineering is taking certain specific initiatives to facilitate gender equity and their development and empowerment. Our Gender Positive Initiatives are,

1. Women Empowerment Cell

- To promote general well-being of female students, teaching and non-teaching women staffs of MVJCE.
- To promote a culture of respect and equality for female gender.
- To inculcate entrepreneurial attitude among young girls at the earliest so that they can be “job givers” rather than “job takers”.

2. Internal Compliance committee

- To address any issues regarding the safety and security of girl students and female staffs in the campus.
- The committee members are vigilant all the time and ensure that there is no such incident taking place in campus by creating awareness and having an open dialogue with all the students and female staffs.

3. Anti-Ragging Committee.

- As per the notification in regard to prevention and prohibition of ragging in the University, as per the AICTE notification dated 1st July, 2009 (F.No.37-3/Legal/AICTE/2009) and Letter No. F.1-15/2009 (ARC) pt-III dt: 29th April, 2014, the committee has been constituted to prohibit, prevent and eliminate the scourge of ragging.

The outcome of the specific initiatives is for the promotion of women's development, not only for the students, but also for the faculty, it is necessary to establish equality of opportunity and gender justice, ultimately resulting in the optimum utilization of women's resources.

1. Safety and Security

In order to maintain safety and security to the girls students and woman faculties, a committee has been constituted for redress of grievances. Our Internal Compliances committee stays alert all the time to prevent any sexual abuse to words students and female workers. We also focus on preventing this kind of harassments by using secret monitory services, which keep a keen eye on the entire campus.

1. Deployment of CCTVs across the campus for round-the-clock surveillance.
2. Separate timings for girls to utilize the GYM.
3. Separate lift for girls and lady faculties.

Programming includes the following:

1. Self-Defense Workshop: Karate Training program for MVJCE girls on 8.3.2016.
2. Women Entrepreneurship Development Program in association with Association of Women Entrepreneurs of Karnataka (AWAKE)

b) Counseling:

The major objective of the counseling center is to facilitate Academic, Emotional, Social and cognitive development of the students hence to empower them in their learning and personal development. Other than students, parents and teachers are also getting the benefits from the counselor in order to pave a path to the students inside the campus and in their homes. Here in MVJ college of Engineering we look into the most common reasons college students seek counseling; to achieve this goal college is taking several steps . **Mrs. Srividya Muralikrishna, is available in all Thursdays for counseling.**

1. HOD Counseling Hour.
2. Proctor system
3. Hostel Counseling
4. Availability of counselor and doctor in campus

c) Common Room:

The Common Rooms are not only physical locations within the college, but they are also communities of students and staff.

Common Room for Boys and Girls-

- Both Girls' and Boys' common rooms are spacious and airy. They have various indoor game facilities like table carom and chess.
- Magazines and newspapers are also arranged in the common room.
- They have display boards where the students display notices as well as publish wall magazines where they express their thoughts in various forms like drawing and painting, poems, stories etc.

Common Room for Faculties

The purpose of common room facility for faculty members is to create a stress-free environment. It is open from 8:00 am - 5:00pm every day.

File Description	Document
Any additional information	View Document

7.1.3 Alternate Energy initiatives such as:**1. Percentage of annual power requirement of the Institution met by the renewable energy sources**

Response: 0

7.1.3.1 Annual power requirement met by the renewable energy sources (in KWH)

7.1.3.2 Total annual power requirement (in KWH)

Response: 400

File Description	Document
Details of power requirement of the Institution met by renewable energy sources	View Document

7.1.4 Percentage of annual lighting power requirements met through LED bulbs

Response: 40

7.1.4.1 Annual lighting power requirement met through LED bulbs (in KWH)

Response: 10.92

7.1.4.2 Annual lighting power requirement (in KWH)

Response: 27.3

File Description	Document
Details of lighting power requirements met through LED bulbs	View Document
Any additional information	View Document

7.1.5 Waste Management steps including:

- **Solid waste management**
- **Liquid waste management**
- **E-waste management**

Response:**1. Solid waste management:**

With smart initiatives like Go Green Campus Model, Waste Management is helping our college, to achieve a higher level of environmental performance. All the waste from the campus's hospital, college, canteen and hostel is collected and segregated into wet, dry and plastic waste.

- Biodegradable materials such as Food waste from college hostel and canteen are converted into manure in compost pits which are used as an organic fertilizer for the garden.
- Non-biodegradable materials such as paper and plastic waste are segregated and resold by the college.

b. Liquid waste management:

- The audit committee studied the Water conservation and prevention of water wastage in the campus. The College is contemplating installing the water harvesting. The drinking water in the campus is being analyzed by the College in every week.

WORKING PRINCIPLE OF SEWAGE TREATMENT PLANT IN MVJCE

- The sewage water from entire college and hostel is received through the underground pipe lines.
- Kitchen waste water is passed through automatic grease separator & greasy (Oily substances) materials are removed.
- Then the sewage is transferred to collection tank and again pumping to aeration tank.
- The above treated water is passed through Final treatment tank. Then it is directed to Sludge pumping clarifier tank and then to Sludge drying beds. After the treatment, it is sent to composting pits through leaves barriro filter. The Compost is used as natural organic manure for garden.
- Then the water is flowing into the final tank.
- The filtered water is then collected in a sump and the water is pumped to the entire college garden through overhead tank and sprinkles.

- Treated water is using for garden & we planned to use in flushing in the near future.
- **c. E-waste management:**
 - All e-waste is disposed to the Municipal Corporation.
 - The non-working computer spare parts and other non-working equipment are safely disposed outside.
 - The cartridge of laser printers is refilled outside the college campus.
 - UPS Batteries are recharged / repaired / exchanged by the suppliers.
 - Waste compact discs are used by students in Tinkering Lab.
- **Hazardous Waste Disposal in Chemistry & Chemical Engineering Lab, DG Yard**
 - Disposal of chemical waste is coordinated by the Facility Management Division (MMD).
 - Bottles/containers with chemicals for disposal must have clear labels with details of the contents.

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

7.1.6 Rain water harvesting structures and utilization in the campus

Response:

Rain water tanks are constructed for harvesting rain water to prevent soil erosion and meet the water requirements partially. MVJCE is utilizing Rainwater harvesting technology to collect, convey and store rain water for later use from relatively clean surfaces such as a roof, land surface or rock catchment. RWH is the technique of collecting water from roof, Filtering and storing for further uses. Rainwater Harvesting is a simple technique of catching and holding rainwater where its falls. Either, we can store it in tanks for further use or we can use it to recharge groundwater depending upon the situation. RWH system provides sources of soft, high quality water reduces dependence on well and other sources and in many contexts are cost effective. RWH system is economically cheaper in construction compared to other sources, i.e. well, canal, dam, diversion, etc.

The rain water is channelized towards bore wells to raise the ground water level. Since the college well is much below the road level, water level rises in rainy season.

Water collected from terrace by PVC pipe outlet depends upon the area and number of pipes provided. Water is flowing through the chamber and drainage. The drain wells are constructed for water collection & recharge of surrounding ground. Drain connected from all the building flow towards lower level through external drain. Rain water pit is filled with gravels and sand for percolation of water for recharging the

surrounding ground area. Total 12 numbers 3'0" dia 12'0" depth rain water harvesting pit are available at the campus.

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

7.1.7 Green Practices

- **Students, staff using**
 - a) **Bicycles**
 - b) **Public Transport**
 - c) **Pedestrian friendly roads**
- **Plastic-free campus**
- **Paperless office**
- **Green landscaping with trees and plants**

Response:

Bicycles : MVJCE students and staffs who are staying in nearby college are using bicycle for transportation for reducing both pollution and fuel usage.

Public Transport: Most of the MVJCE students and faculties are availing BMTC buses. College provides bus facilities to the faculty members, non-teaching staff and students.

Pedestrian Friendly Roads: Pedestrian Friendly roads in MVJCE is enabling pedestrians and cyclists to travel safely and freely in the campus. Installation of speed humps in the campus road is done to improve the traffic and pedestrian safety .

Plastic free campus: MVJCE is a plastic free campus. MVJCE has organized programs to create awareness on harmful effects of plastic free zone.

Paperless office: The college gives emphasis on paperless office to save carbon emission in printers. Reuse of one –side paper printouts is also being done. Most of the work is paperless as college has been utilizing CERP software.

Green landscaping with trees and plants: Carbon dioxide neutrality is maintained on the campus by planting different varieties of trees and plants. The green campus concept offers MVJCE to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of the mankind.

Major Green Campus Initiatives

- 1.Green audit of the institute is conducted annually.
- 2.Tree Plantation is done every year through NSS.

3. Recycled water is utilized for maintaining green campus.
4. Rain water harvesting and solid waste management.
5. The college has nurtured number of trees of different variety.
6. MVJCE ECO Club with a tag line "GO GREEN FOR TOMORROW".

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

7.1.8 Average percentage expenditure on green initiatives and waste management excluding salary component during the last five years

Response: 0.6

7.1.8.1 Total expenditure on green initiatives and waste management excluding salary component year wise during the last five years(INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
7.71	9.95	27.63	22.60	4.05

File Description	Document
Any additional information	View Document
Green audit report	View Document
Details of expenditure on green initiatives and waste management during the last five years	View Document

7.1.9 Differently abled (Divyangjan) Friendliness Resources available in the institution:

1. Physical facilities
2. Provision for lift
3. Ramp / Rails
4. Braille Software/facilities
5. Rest Rooms
6. Scribes for examination
7. Special skill development for differently abled students
8. Any other similar facility (Specify)

A. 7 and more of the above

B. At least 6 of the above

C. At least 4 of the above

D. At least 2 of the above

Response: B. At least 6 of the above

File Description	Document
Any additional information	View Document
Resources available in the institution for Divyangjan	View Document
link to photos and videos of facilities for Divyangjan	View Document

7.1.10 Number of Specific initiatives to address locational advantages and disadvantages during the last five years

Response: 24

7.1.10.1 Number of specific initiatives to address locational advantages and disadvantages year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
5	6	4	5	4

File Description	Document
Any additional information	View Document
Number of Specific initiatives to address locational advantages and disadvantages	View Document

7.1.11 Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)

Response: 20

7.1.11.1 Number of initiatives taken to engage with and contribute to local community year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
3	5	4	4	4

File Description	Document
Any additional information	View Document
Details of initiatives taken to engage with local community during the last five years	View Document
Report of the event	View Document

7.1.12

Code of conduct handbook exists for students, teachers, governing body, administration including Vice Chancellor / Director / Principal / Officials and support staff

Response: Yes

File Description	Document
Any additional information	View Document
URL to Handbook on code of conduct for students and teachers , manuals and brochures on human values and professional ethics	View Document

7.1.13 Display of core values in the institution and on its website

Response: Yes

File Description	Document
Any additional information	View Document
Provide URL of website that displays core values	View Document

7.1.14 The institution plans and organizes appropriate activities to increase consciousness about national identities and symbols; Fundamental Duties and Rights of Indian citizens and other constitutional obligations

Response: Yes

File Description	Document
Any additional information	View Document
Details of activities organized to increase consciousness about national identities and symbols	View Document

7.1.15 The institution offers a course on Human Values and professional ethics

Response: Yes

File Description	Document
Any additional information	View Document
Provide link to Courses on Human Values and professional ethics on Institutional website	View Document

7.1.16 The institution functioning is as per professional code of prescribed / suggested by statutory bodies / regulatory authorities for different professions

Response: Yes

File Description	Document
Any additional information	View Document
Provide URL of supporting documents to prove institution functions as per professional code	View Document

7.1.17 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years

Response: 15

File Description	Document
List of activities conducted for promotion of universal values	View Document
Any additional information	View Document

7.1.18 Institution organizes national festivals and birth / death anniversaries of the great Indian personalities

Response:

- Engineers Day is celebrated annually on 15th September as a tribute to greatest Indian Engineer Sir. M [Visvesvaraya](#) every year. Essay competition is also conducting in the campus on this occasion to make the young minds to think the role of engineers in developing India.
- Gandhi Jayanti is celebrated every year on October 2nd to mark the occasion of the birthday of [Mohandas Karamchand Gandhi](#), who is called the "Father of the Nation".
- Independence Day is annually celebrated on 15 August, as a national festival commemorating the nation's independence from the [United Kingdom](#) on 15 August 1947.
- Republic Day honors the date on which the [Constitution of India](#) came into effect on 26 January 1950. Republic day is celebrated on 26th January every year.
- The most loved President APJ Abdul Kalam's birthday is celebrating as Students' day on October 15th.
- National Mathematics Day is celebrated in remembrance of Dr.Ramanujan on December 22nd.

File Description	Document
Any additional information	View Document

7.1.19 The institution maintains complete transparency in its financial, academic, administrative and auxiliary functions

Response:

Financial

All financial transactions of the college relating receipts and payments are through the valid supporting documents, such receipts and Payments are made with approval of respective authorities.

Financial transactions have been accounted on daily basis and the same has been verified by Auditors on yearly basis. Based on the audited transactions, financial statements are prepared and signed by auditor and Management of College. Such financial statements are also filled with the income Tax Department every year.

Academic

For admissions to 4-year BE course, selection of candidates is done on the basis of merit list prepared by the institute based on [KCET](#) score. Candidates seeking admission must possess higher secondary certificate with Physics and Mathematics as compulsory subjects and Chemistry/ Biology/ Biotechnology/ Computer Science/ Electronics as one of the optional subjects. Candidates who hold diploma in Engineering can also apply.

- Minimum required aggregate is 45% for admission to BE program.
- Eligible candidates can apply through the forms available at the college admission office.

For admission to M.Tech program, candidates are admitted on the basis of score in PG Entrance Test,

conducted by the state government. Candidates should have obtained B.Tech/ B.E degree in the relevant field with at least 50% marks (45% in case of reserved category) from an AICTE/ UGC approved institution recognized by the Government of Karnataka as equivalent thereto. Candidates who possess a valid score in [JEE Main](#) need not appear for KCET examination. Applicants must produce valid KCET/ JEE Main score card at the time of filling the applications.

For admission to MBA offered, candidates must possess Bachelor's degree with minimum 50% marks in aggregate in all subjects from a recognized university. The bachelor's degree obtained by candidates must entail a minimum 3 years of education upon completing Higher Secondary Schooling (10+2). Only the candidates, who possess a valid [CAT](#) / MAT / XAT / ATMA / CMAT score are eligible for the further admission process in case of MBA.

Administration

MVJ College of Engineering through its 35 years Journey has transformed from a conventional academic Institute to a very proactive environment for students to hone their technical and behavioral.

MVJ College of Engineering adopts the path of continuous self-improvement by assessing the needs of the Industry and social systems in years to come.

With around 20,000 people graduating till date, MVJ College of Engineering has become a preferred college for students aspiring to pursue their Engineering and Management degrees. MVJ College of Engineering owing to its performance, heritage and location has become a preferred Institute for Companies looking to partner and recruit graduates and Postgraduates.

MVJCE Clubs

All clubs at MVJCE actively participate in intercollegiate festivals, promoting team spirit, originally and hard work.

The various Activities are carried out by the following club's

- Software Development club
- NIC Club
- AERO Modeling Club
- Agniudaya Club
- Intelegenze ClubLiteratti
- Theatre ClubMita Club
- Nic Club
- Srishti Club
- Dynamech Club
- Medlaunchers Club
- Tech-Sas Club
- Spark Eee Club
- E-Forza
- Tomorrow's Engineers Club
- Music Club

Sports

MVJCE encourage and train students to participate in national and international tournaments. A strong dedication to sports extends to hosting the Dr M V Jayaraman Memorial Cricket Tournament and SmtRajalakshmiJayaraman Intercollegiate Volleyball Tournament, both prestigious tournaments on the intercollegiate circuit. MVJCE carefully selected college teams for Cricket, Basketball, Handball, Kho-Kho, Table Tennis, Badminton and Kabaddi, which represent in various competitions across the state and have won many accolades making MVJCE one of the feared competitors in the university.

MVJCE is hosting Dr. M V Jayaraman Memorial Cricket Tournament: This tournament is regarded among the best in the University. State-wide, colleges look forward to participate and take home the coveted and respected Dr M V Jayaraman Memorial Cricket Cup.

SmtRajalakshmiJayaraman Inter-Collegiate Volleyball Tournament: Initiated to develop and support volleyball, the tournament today is witness to participation in extensive numbers.

MVJCE is a fantastic place to train and keep fit. We believe a healthy lifestyle should play a part in every student's life and that opportunities should be created to allow for participation in sport.

Accommodation & Facilities

MVJCE takes care of its faculty and students. Facilities that are both necessary and nice-to-have are in place in an atmosphere that is conducive to learning and development.

File Description	Document
Any additional information	View Document

7.2 Best Practices

7.2.1 Describe at least two institutional best practices (as per NAAC Format)

Response:

Best Practice – 1

Title of the Practice: Centralized Internal Assessment Cell

Objective: The main purpose of introducing Centralized Internal Assessment Cell in MVJCE is to bring transparency in the periodic evaluation of teaching learning process. The Centralized Internal Assessment Cell assesses the performance of students over a well-distributed interval of time within the semester and to make the examination an internal and integral part of the teaching process. It is taking into account a number of essential abilities such as drive and capacity for hard work, leadership and team-work, motivation, quality of imagination, intuition and speculation, skilled use of hands, etc.

The Context: Internal Assessment is a continuous, periodic and internal, in which assessment is done in

relation to certain abilities and skills of the students periodically and continuously. Internal assessment tests will be conducted by college as per University schedule, while end examinations are conducted by the University. Internal assessment is to be assessed by the faculty of the particular course and no external teacher or instructor involved in this. Internal assessment demands the outcome of the students than the ability and the skills of the students. MVJCE Centralized Internal Assessment Cell is basically a well-defined and transparent methodology to evaluate the robustness of internal assessments meant for eradicating the problems relating to our examination system. A good internal evaluation system allows teachers of various courses to evaluate the performance of their students in accordance with the objectives they had set before themselves.

The Practice: Institute is affiliated to VTU, Belagavi, the rules and regulations for evaluation process are laid down by the affiliating University and are communicated to students through syllabus copies supplied in the beginning of first year of their academic program.

MVJCE Centralized Internal Assessment Section is headed by the Principal and assist by Exam Section Co-coordinator. An internal assessment test committee is established in the campus with Principal as the head and representatives from all the departments as IA coordinates. IA Committee Meetings are conducting on regular basis.

The MVJCE Exam Cell is well established in terms of infrastructure, computing, printing and intercom facilities. The schedules of internal assessments are communicated to students and faculty in the beginning of the semester through institute academic calendar. The internal assessment evaluation process is communicated to students by the respective faculty and also during orientation program for first year students.

Syllabus for internal assessment will be communicated to students well in advance. Question papers are set based on Course outcomes and are approved by heads of the department. Scheme and Solution are prepared by the faculty and are displayed on the notice board on completion of the assessment. Evaluation of blue books is based on scheme and solution by the faculty and internal assessment marks are displayed on the notice board. The blue books are given to students after the completion of evaluation for verification of the marks. Any grievances in evaluation will be handled by faculty and Head of the department if necessary.

Internal question paper setting process as follows:

- For every subject, respective faculty prepares question bank that covers equal number of questions from each unit, covering all the topics.
- Department internal exam coordinator under the guidance of HOD, checks for the standard of the question bank.
- College Internal Exam Coordinator along with an Exam team selects the final internal questions for each subject from the question bank.
- Question papers are given to the internal exam coordinators of the department on the day of test, after approval from the Principal.
- Faculty members prepare the answer key / Scheme of evaluation.
- Internal exam coordinator ensures smooth conduction of test and proper valuation of internal books.
- A Centralized valuation system is followed.
- After every internal exam, Total Quality Management (TQM) Check is performed to ensure that

valuation is done according to Scheme prepared.

- Three IA exams are conducted in a semester which includes 3 units of syllabus covered in IA1, another 3 units of syllabus covered in IA2 and last 2 units of syllabus covered in IA3(2 to 3 Cos are assessed in each IA exams)

Evidence of Success: The success rate in the final university exam has been improved after the implementation of the centralized internal assessment cell. Consistent pass percentage (> 85%) as well as the number of University Ranks in UG and PG programs. All internal exams related works are done inside the confidential room like Generation & Photocopying of exam Question papers, storing all unused answer scripts and dispatching of Written Answer scripts from the concerned class rooms to the Centralized Exam Cell. Transparency in exam and there is no chance of malpractice or injustice, since the question paper is reaching the respective exam hall just like the VTU exam. The institution follows a very clear, well-planned calendar which schedules the examination. The faculty members are completing the valuation within a stipulated time so that proctors can pass the student's academic details to parents and they can attend the regular Parent Teacher Meeting. The students with less mark in the respective subjects are identifying by the class in charges and remedial /tutorial classes are given on that basis. This system adopting in MVJCE is producing a good quality professionals, so that with good technical knowledge they are facing the placement interviews.

Problems Encountered: Nil.

Resources Required: A body of dedicated faculties, IA Coordinators and supporting staffs. An academic calendar clearly specifying the date/time of various academic events to take place during the academic session should be notified prior to the commencement of the academic session. An IA committee should be constituted to monitor every program of the institute.

Future plans: Reaching of student IA marks to Parents as SMS.

Best Practice – 2

Title of the Practice: The Tomorrow's Engineers Club

Objectives: The Tomorrow's Engineers club is a college affiliated club which provides opportunities for students to interact with other fellow students from various engineering disciplines and develop team spirit, leadership and practical skills. This is a platform for MVJCE students to be successful inside and outside the class room. The Tomorrow's Engineers club is to take up Engineering studies as a team sport. It is helping to get involved with other fellow students and discover new areas of interest. It is helping our students to think out of the box and enhance problem solving skills. The Tomorrow's Engineer's club is developing practical and leadership skills in students. It is having a network with professionals in and around Bangalore.

The Context: We need more engineers for the betterment of society. For that we need more young students to understand how what they learn at college is used in the real world. Giving young people the chance to talk directly to engineers and engage in hands-on activities that showcase and contextualize engineering is at the heart of the Tomorrow's Engineers approach. We have to explore the young engineering ideas, meet engineering researchers and professionals, and work on a hands-on engineering project. Here Interdisciplinary teaching and learning occurs when practitioners from traditional disciplines join together to work on a common question. Interdisciplinary workshops allow for synthesis of ideas and

the synthesis of characteristics from many disciplines. At the same time, it addresses students' individual differences and helps to develop important, transferable skills. These skills, such as critical thinking, communication and analysis are important and continually developing at all stages of life. Educational systems are serving students best if they enable and encourage students to build their own interdisciplinary pathway. This approach is sure to foster a love of learning, ignite a spark of enthusiasm and address learning differences for students.

The Practice: The Tomorrow's Engineers program brings together the engineering community in a collective drive to build the future generation of engineers needed by the industry. In MVJCE, every semester one workshop is organized by the Tomorrow's Engineer's club so that the students are getting an opportunity to think out of box. The Tomorrows Engineers club conducted a workshop on "The Problem solves skills –An innovative and creative approach".

In that three-day workshop the student participants had an insight of

1. What is engineering? And marvels in engineering field.
2. Importance of problem solving skills, creativity and innovation in engineering.
3. A systematic approach towards problem solving.

For inspiring and encouraging the students in the Tomorrow's Engineer's club, faculties from different departments are giving talk on different topics like, creativity and innovation, real time examples of creativity and innovation etc. Teams are presenting their ideas on the chosen open-ended problems. All the presentations by the students on open ended problems are having a societal impact. Student presentation on problems and the stakeholders are also involved in a problem.

The "Tomorrows Engineers" Club organized a three-day workshop on "**Societal Concerns and contribution to solve societal problems**" "under the workshop series on "Problem Solving skills –An innovative and Creative approach".

In the series of Tomorrow's Engineer's club workshops, the participants understood the importance of problem solving skills and the role of engineer in society. Teams (with interdisciplinary participants) were formed and open ended problems were given to the teams. The participants had an insight on systematic approach to solve a problem. The teams were asked to find the solution for the open ended problem they chose. Then the teams presented their solutions to the jury. Finally the importance of stake holders in problem solving was made clear to the participants. The teams had to choose their own problem and identify stake holders for that problem.

The challenges of sustainability and responding to climatic change define the careers of 21st century engineers. This workshop gave a platform to a new conception of engineers in order to meet these challenges.

The open ended problems discussed in the workshops were.

- Recycling and Conservation

- Life Style tracking system
- Health care system
- Loss of Green cover on earth
- Precision Agriculture
- Drinking water crisis
- Urbanization
- E- learning facility for rural school children
- Cyber hacking or cybercrime.

With the idea of making MVJCE as a “Hub of Innovation”, the college organized a three day intensive technical workshop on “Tomorrow's Engineers” from 11th to 13th March 2016. About 45 students and 15 faculties of MVJ College of Engineering participated in the workshop.

The workshop was inaugurated by Honourable Chief guest Dr. Krishnaswamy Kasturirangan, chief of Indian space research organization (ISRO) between 1994 to 2003. The objective of organizing the event was to inculcate lot of positive thoughts and explore current opportunities. Padma Bhushan Dr. B. N. Suresh, the president of Indian National Academy of Engineering and Chairman of Governing Council of MVJCE, and Dr. Kota Harinarayana, popularly known as Father of India's Light Combat Aircraft (LCA), and Dr. K Sudhakar, Professor, Aerospace Engineering, IIT Bombay were the experts who conducted the workshop.

Evidence of Success: The ‘Tomorrow’s Engineers’ workshop is organizing for student participants from various streams of engineering so that they are allowed to learn by making connections between ideas and concepts across different disciplinary boundaries. Students learning in this way are able to apply the knowledge gained in one discipline to another different discipline as a way to deepen the learning experience. The guests coming for workshops advised our budding engineers to design high-tech solutions in a low cost environment to meet Indian and global challenges. Regarding this approach, we are getting a very good feedback from the MVJCE student community. The Tomorrow’s Engineer’s club is enabling the students to develop complex and innovative thinking skills so that they can solve various open ended societal problems and finally framing them as entrepreneurs. The Tomorrow’s Engineer’s club is enabling the students to work in a team and it is improving the leadership quality of students. Such interaction is in support of the constructivist paradigm which allows for new knowledge construction and a deeper understanding of ideas than disciplinary study. The problems that were selected in the workshops are planning for implementation. Critical thinking skills are used and developed as students look across disciplinary boundaries to consider other viewpoints and also begin to compare and contrast concepts across subject areas. Such interaction has been shown to promote constructivist learning, problem solving and innovative thinking so that our institution is reaching its vision.

Problems Encountered & NIL.

Resources Required: Dedicated students who have creative ideas and faculties from different department to inspire, encourage and to support students in all ways to

Future plans: Changing the projects into innovative business ideas by its implementation in MVJCE campus.

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

7.3 Institutional Distinctiveness

7.3.1 Describe/Explain the performance of the institution in one area distinctive to its vision, priority and thrust

Response:

MVJCE Infrastructure

MVJCE distinguishes itself from peer institutions by offering an affordable, highly personalized, student-centered education to diverse students. MVJ college engineering established in the year 1982 is one among top 10 colleges in Karnataka. The college is situated in 15 acre campus with 5,00,000sq.ft built up area, and is permanently affiliated to Visvesvaraya Technological University. The college is conducting 9 undergraduate and 7 post graduate programs. MVJCE has state of the art infrastructure, creating an environment for progressive learning and development. We have well equipped classrooms and laboratories to cater for the academic needs of the students. Eight departments of MVJCE are VTU recognized research centers. All class rooms and labs /Seminar halls with ICT facilities. In labs and Class rooms LAN facilities are available. All departments are provided with portable LCD projectors.

With inputs from motivated and quality faculty our students display consistently high academic performance which has helped us to reach a pioneer as ranked amongst the top 10 engineering colleges in Bangalore, Karnataka.

MVJCE is regularly ranked among the top engineering colleges in India. It is one of the best engineering colleges in Karnataka which provides unmatched learning experience to students.

Our website: <http://www.mvjce.edu.in/>

MVJ College of engineering have well equipped laboratories as per the AICTE requirements. Each lab is handled by one faculty supported by a co-faculty. Also, every lab has a lab instructors/ technical assistant, who provides constant support and ensures maintenance of the laboratories

Apart from regular labs, we have R&D Labs, industry tie up laboratories like MIC, Infosys campus connect lab, etc. in order to fill the gap between the curriculum and industry. IT-help desk in our college is available all the time to help with maintenance and installation process in the lab. Every equipment in the lab is barcoded and the records of the same are maintained. Systems are protected with antivirus software. All computers are always maintained in working condition. All equipment are always checked for wear and tear and replaced with new or repaired one every semester. Labs are equipped with sufficient hardware and licensed software to run program specific curriculum and off program curriculum. Enough number of personal computers are available for the smooth conduction of the lab. All the software labs are air conditioned. Safety instructions, safety tools including first aid box are provided in all the labs. The number and area of the class rooms and labs are as per the AICTE norms.

Sports in MVJCE

Large playing fields support a wide variety of games, such as Cricket, Football, Volleyball, Hockey and Kho-Kho. There are also dedicated spaces for Indoor sport, including Table Tennis, Badminton, Weight Lifting, Power Lifting, Chess, and Caroms. Our Outdoor facilities include a 200-metre athletic track and courts for Basketball, Volleyball, Handball, and Throw Ball. MVJCE also has a large indoor gymnasium facility with areas marked for Yoga, Weight Training and Cardio exercises. We host Dr.M.VJayaraman memorial cricket tournament and SmtRajalakshmiJayaraman inter collegiate volleyball tournament every year. In 2009-10 we were honored by VTU for excellence in sports.

Central Library

The Central Library is spread over 17,000 sqft, and houses more than 60,000 books and other documents. The Library subscribes to more than 60 national and international journals.

The Library also subscribes to more than 2000 e-Journals through the INDEST-AICTE Consortium – IEL. It is a fully automated Library and one can search the Library database using the college network. The Library has a Circulation section, a Reference section and a spacious Reading room. The Digital Library section houses a good number of computers for browsing, accessing e-journals, e-books and for searching the Library database using OPAC. MVJCE also publishes an online MVJCE journal which covers the activities of R&D in engineering, science and technology management.

Library Automation

Library is fully automated and Libsoft is the software used for Circulation, Procurement, OPAC and Project Reports. All the library documents are bar-coded and books are issued to users by reading the barcode of the document.

IT facilities

The IT facilities available in our college can be summarized as follows,

LAN Facility

We have 38 data network switches (Giga byte), 18 POE network switches (Gb) for access points and IP cameras and phones and 1 fire wall for content filtering for 2500 users simultaneously. 100 mbps of internet connectivity is shared across the campus, where 50 mbps is shared for the students.

Wi-Fi:

MVJCE is an Wi-Fi enabled campus, all students are given access to the Wi-Fi network. Wi-Fi access points across the campus are 69 in number and are placed in corridors, Labs, hostel, Canteen and outdoor with a speed of 50 MBPS distributed among the students group based on application and monitored and controlled by fire wall at IT department for the better content. All access points are routed to a Wi-Fi controller in the data centre to see to that the configuration and updation are centralized.

Dr. M.V. Jayaraman Auditorium:

Our state-of-the-art auditorium has a seating capacity of 1200. The auditorium boasts of high end equipment for sound and video. It also has facilities for video-conferencing and live media streaming. In addition to college functions, the auditorium is offered to companies and organizations to conduct large events and meetings. The auditorium is also supported by large parking spaces, and reception and lobby areas to greet and meet guests.

Smt. RajalakshmiJayaraman Seminar Hall

Smt. RajalakshmiJayaraman seminar hall is located in the ground floor of Dr. M. V. Jayaraman auditorium which is spaciouly built and is centrally air conditioned which has a seating capacity of 300. It is furnished with the necessary audio visual aids such as LCD projectors, CD ROM, Overhead projectors, Digital white boards, etc. enabling multimedia presentations. The Hall provides a special ambience for every event, it makes possible an ideal setting for carrying out various conferences and for delivering lecture. Apart from this we have six more seminar halls with 200 seating capacity is available.

Accommodation

MVJCE has separate hostels for boys and girls with a range of rooms and a variety of services that make living on campus safe, comfortable and affordable.

Residents enjoy the support of committed and caring wardens who are available 24X7. Supporting infrastructure includes a dedicated cafeteria, laundry services, an on-campus ATM, gym, 24-hour power supply, STD & ISD facilities, transport, housekeeping and medical care.

Canteen and Cafe

There is a hygienic, multi-cuisine vegetarian canteen for both resident students and day scholars. A leading café chain has set up its operations on campus to offer variety with coffees, sandwiches, pastries, etc.

Insurance

All MVJCE students and faculty are covered under the group insurance scheme. This includes personal accident and medical expenses extension.

Security and Safety

MVJCE has a large team of professionally-trained security personnel patrolling and guarding the campus 24X7 to ensure safety of students, staff and infrastructure. The complete campus is under CCTV surveillance.

Transportation

MVJCE provides faculty and students with bus services from all parts of the city to the Institute. The buses are comfortable, safe and economical, being subsidised by the Institute.

ATM Facilities in the Campus

There are ATMs set up by the State Bank of India and HDFC Bank on campus to help students and faculty

with banking transactions.

Fitness center:

The air conditioned fitness centre at MVJCE is spread over 3500 sqft, and is comparable to any of the commercial fitness centres in the city. It offers the latest cardio and weight training equipment to its faculty and students.

Medical Centre

Medical facilities are available on campus through a dispensary staffed by a Medical Officer & Nurse.

Temple

Situated at the left to the entrance of the college. The Ganesha temple is a place, for anyone to receive their spiritual perspective.

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

5. CONCLUSION

Additional Information :

The Departments of Aeronautical, CSE, ECE and Mechanical are currently accredited for 3 years with effect from 25.07.2017. Applications have been submitted to NBA, New Delhi for the accreditation of EEE, Chemical and Information Science Engineering.

Being the first College (under VTU) to offer Aeronautical Engineering Courses, having earned 125 University ranks in the last 10 years alone, we enjoy a solid reputation among the student community, particularly those with a passion for engineering. This Institution is positioned 4th in Visvesvaraya Technological University (VTU) for academic performance during the year 2015-16 by securing 21 university ranks.

The Institution has an active Entrepreneur Development Cell which organizes a number of events to promote awareness of entrepreneurship. The Institution inculcates social consciousness among its students through active forums such as NSS, Youth Red Cross unit.

Technical clubs of all the departments, Tomorrow's Engineers club, Software Development club, Robotics lab, UAV lab, Tinkering lab conducts regular interactive workshops, seminars and competitions and provide immense opportunity for the students to practice the principles on a real time application.

Vertechx, a tech fest is a yearly event conducted at National level to bring out and show case the talents across the country on various key Engineering Disciplines. The annual cultural festival hosts over 50 colleges from around the state to compete, display and prove their excellence in extracurricular activities.

MVJCE is positioned 5th in the University in Sports. This Institution hosts Dr. M V Jayaraman Memorial Cricket Tournament and Smt Rajalakshmi Jayaraman Inter-Collegiate Volleyball Tournament.

Concluding Remarks :

M.V. Jayaraman College of Engineering has scaled a rapid growth in terms of quality and quantity since its inception in 1982 with support of vision of the management and governance. The state-of-the-art infrastructure, amenities and other support services provided in the campus has nurtured the student growth as well as the learning process. The institution with its defined vision leading to the objectives has played an important role in the holistic growth of students. The research initiatives, industry-academia interface, extension and outreach programmes by the institution have promoted research culture and establishment of good rapport with the community and industries. In pursuit of excellence, MVJCE looks forward to achieve more heights in the times ahead.

The thrust in academic excellence and holistic growth of the students remain the prime focus of the institution. The faculty members join hands in the Institution's zeal to enhance and sustain quality education flagging way for the attainment of Vision, Mission and Values. The institution's societal commitment provides opportunity for the faculty members and students alike to render services to the society. The institution today can boast of activities and accomplishments with regard to the social responsibility and academic excellence. The Institution promises to itself to do every possible thing to quench its thirst to reach the apex of academic excellence.