CRITERION - III

RESEARCH, CONSULTANCY AND EXTENSION

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RESEARCH, CONSULTANCY AND EXTENSION

3.1. Promotion of Research

3.1.1. Does the institution have recognized research center/s of the affiliating University or any other agency / organization?

Yes, the following departments in the college have been recognized as research centers by Anna University, Chennai for carrying out research work:

1. Chemistry
2. Computer Science& Engineering
3. Electrical and Electronics Engineering
4. Electronics and Communication Engineering
5. English
6. Mathematics
7. Mechanical Engineering
8. Physics

3.1.2. Does the Institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

Yes, there is a Research Committee to facilitate and monitor researchactivities.
The committee consists of
Director of Research
HOD's of All Departments
Research Coordinator from each department
The research committee through periodical meetings has brought out the following recommendations:

- Departments should actively involve in obtaining fund for research from governmental agencies and industries to enhance the research facilities.
- The prepared project proposals could be reviewed by an expert panel to ensure quality before submission for funding.
- Follow up after submission should also be carried out to keep track of the status of the project.
- Teachers holding Ph.D. degrees should design innovative and socially relevant projects.
- Teachers pursuing Ph.D. and planning to do so, should also actively involve themselves in departmental projects
- Investigators should be encouraged to visit reputed laboratories/ industries to help plan their projects.
- Faculty should attend national / international level seminars to update their knowledge in recent developments in the area of their interest.
- The college should also organize such seminars and workshops to bring in expertise from different disciplines.
- It should be made mandatory for every Ph.D. holder to apply for and receive grants for a project.
- Students of UG and PG should be involved in active research

Impacts of Recommendations of research committee respectively:

- Departments have developed their own R&D lab for carrying out their research - To mention a few : UAV lab and DST sponsored project lab in Department of Electronics and Communication Engineering, Robotics Lab in Department of Information Technology and Mechatronics Lab in Department of Mechanical engineering.
- Students' participation and winning awards in project competitions have increased.
- Faculty and students have been motivated to participate and present papers in national/ international seminars and conferences.
- Number of Publications in peer reviewed journals with good impact factors has steadily increased.
- Quite a number of faculty and a few students have received funds fortheir projects

Some of the details are tabulated below:

S.No	Name of the Department	Publications/ presentations in National/International journals and conferences	No. of Events attended by Staff	No. of Events Organized	No. of ongoing funded Projects
1.	Chemistry	35	39	4	-
2.	CIVIL	21	20	14	1
3.	CSE	201	147	25	--
4.	ECE	423	100	30	14
5.	EEE	149	47	35	2
6.	English	42	35	15	--
7.	IT	75	101	24	6
8.	Mathematics	82	66	10	--
9.	Mechanical	124	114	18	9
10.	Physics	12	16	08	--

3.1.3. What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes / projects?

- The college ensures timely disbursal of Funds received from agencies to the Principal Investigators (PI)
- Purchase of equipment and other accessories needed for research are made hassle-free through timely order and procurement by the administrators.
- Faculty members who are PIs of funded research are given reduced teaching load to the tune of 6 hours / week.
- On – duty leave is granted to PIs in order to take up related work in outside agencies/ laboratories
- Inter-departmental sharing of resources (Equipment, space software and expertise) is facilitated.
- Full autonomy is granted to the principal investigator to carry out the project as per the stipulations of the funding agency.
- JRFs are appointed at immediately as per norms of the funding agency.
- Easy access to international journals is ensured through well-equipped

digital library.

- Fast Internet access is made available via a server of speed 32 MBPS. The management also facilitates timely submission of audited statement of account and utilization certificates for yearly submission of project reports.
- The research Committee also offers help and guidance on timely and proper submission of the interim reports for on-going projects.

3.1.4. What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

The Institution spares no effort to inculcate and promote research culture amongst faculty and students.

Inclusion of laboratory work beyond that stipulated by the syllabus is made mandatory in all departments. This gives a primary impetus to investigatory attitude to students.

Carrying out mini projects from the II year onwards is very much encouraged and this enhances the creative skills of the students.

Students are given financial assistance and on –duty absence from classes to participate in international and national level seminars, conferences project/ prototype competitions etc.

Interdisciplinary seminars and workshops are organized to expose the students to the current work going on in various disciplines.

A sample is shown below:

S.No	Department	Number of programs organized in the last four years
1.	CHEMISTRY	4
2.	CIVIL	2
3.	CSE	3
4.	ECE	3
5.	EEE	3
6.	IT	4
7.	MATHS	2
8.	MECHANICAL	4
9.	PHYSICS	4

Site visits and interactions with industrialists are organized to motivate students to contemplate design and execution of innovative projects. This is further made possible by signing MoUs with companies and Industries.

P.G. students are made part of the work related to funded projects

When students win cash awards for projects/prototypes' in competitions, the college honors and encourages the winners by awarding equal prize money in the college Annual Day celebrations.

The following tabulation highlights the students projects executed successfully to show case the efforts taken by the institution to promote research culture among students..

Sample projects implemented by students with guidance of faculty members

S.No	DEPT	Name of Students	Title of the Project	Faculty guide	Year	Significance
1	Civil	U. Abdul Majeed R. LalithAravind Mohamed ThanveerNausath N. SakthiVasanth N	Assessment of strength, durability and shielding properties of building blocks using copper slag as partial replacement	Mr.A.V.Deepan Chakravar thi	2015	Socially relevant project and aims at reduction of exposure to electro-magnetic waves
		D. Aravind M. Mahesh kumar A. SaravanVikash G. UdhayaGowtham	Land slide hazard zonation mapping using geo-spatial technology in Bodimetu Hills, TheniDistict, Tamil Nadu	Dr. T. Naveen Raj	2015	Identificationof parameters influencing soil erosion and formulating remedial measures to minimize the landslide consequences.
2	CSE	Mr.A.Sri Venkateshwaran, Mr. K. Abraham & Mr. N. R. Sivaa	Development of Ground Station with Wireless Telemetry – Institution of Engineers (R&D) Grant-Aid Scheme	Mr.G.Vinoth Chakravarthy	2014	This project investigates methods of using commercial telecommunications service providers to support command and telemetry services -recognized by The Institute of Engineers.
		Ms. D. Iswarya, Ms. R. Vivitha& Ms. J. Brindha	Object Tracking for Autonomous Underwater Vehicle	Dr.S.Poonkuntra n	2014	This project describes a new framework for segmentation of sonar images, tracking of underwater objects and motion estimation.
		Ms. K. Chidambari, Ms. A. Karunya, Ms. P. Ranjitha	Air Pollution Monitoring System using Sensor Grid	Dr.P.Alli	2014	This project presents a distributed infrastructure based on wireless sensors network and Grid computing technology for air pollution monitoring.

3	ECE	M. Pradeep, R. Manikandan, P. Prabu	An intelligent health monitoring system for children and women using a new immune sensor	Mr. A.Suban	2013	This project's aim is to diagnose the immune diseases for the women and children
		G. C. VivekChakravarthy, Mr. B.R. Sathis Kumar Mr. R. P. Ramesh	Mobility Assistance for Blind	Mr. Om prakash	2013	This project's aim is to provide the mobility assistance to the blind people
		S. Arun, M. Diwakar& E. Emmanuel	Automated Attendance System using Biometric with Embedded Web server	Mr. Sankar Kumar	2013	Aim of the developed system is to enhance the security level of access system
4	EEE	M.Saravana Kumar N.T.Sarath Kumar S.Aravind	Internet based Control of Motor using ARDUINO UNO	Dr.N.Karpagam	2014	Useful for remote access. Low Production cost. Easily used by a common man.
		R.Soundaraya P.Akhila A.Harini	Automatic Control of Irrigation System Using a PIC Microcontroller And Wireless Sensor Network	Dr.S.Dhanalakshmi	2014	Used for automatic irrigation. Sensors placed will be helpful for the formers.Pollution free - Green power
		SE.Harshini S.Manidevi R.SynthiyaHarriat	Smart Driving Skill Evaluation System	Ms.T.DeepikaVinothini	2014	Used as an Automatic license system.
		M.Sindhuja	Design of Automatic wiper using optical sensor	Mr.R.J.Venkatesh	2014	Low cost & Effective automatic wiper motor controller.
5	IT	Abdul Rahim.M	Prevent Email Hacking by Providing a Solution via Ethical Hacking	Mrs.D.Anandhavalli	2014	Provide Higher security to the E-mail Users

		AkilaManoharan Sujitha Pavithra	Keep Calm & Drive	Mr.S.Satheeshkumar	2015	Reduce the accidents caused by answering phone calls during driving
		Selvapriya.C	Empirical Study of Electricity Theft Detection for Smart Grids	Dr.R.Perumalraja	2014	To minimize theft of Electricity
		UshaRani.M	Energy Efficient Smart Irrigation System using Wireless Sensor Network for Precision Agriculture	Mr.S.Kamalesh	2014	Used in Agriculture field
5	MECH	R.Karthick J.Ramkumar B.Vishalduraisamy	Natural sisal fiber reinforced hybrid composite chairs and construction bricks	Dr.M.Aruna	2014	Research on natural fiber.
		V.K.Sarang B.Arunprasanth M.Dineshkumar	Equipment for plantation agricultural automation	Dr.V.Anbumalar, Mr.N.Dinesh kumar	2014	Research on Agricultural field.
		C.Mathan Rajesh kanna V.Krishnamoothy M.Arunpandian	Conveyor fed fish scaling machine	Dr.P.Rajesh kanna,,Mr. B.Varunkumar	2014	Research on common trading.
		R.N.Ramprasath B.Arunprasath R.Athavamoothy	Saline bottle level indicator	Mr.A.Mothilal	2014	Research on medical facility.

3.1.5. Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual / collaborative research activity, etc.

Guiding student research:

The faculty members guide student research projects both mini projects taken up the students from the second year onwards and the final year project stipulated by the affiliating university. Faculty are also involved in helping students work on projects / prototypes for project competitions. A sample of the same has been listed above.

Leading Research projects:

Faculty has been actively involved in leading funded research projects as principal investigators. In the past years funded project to the tune of three crores rupees have been sanctioned for the faculty by various central government agencies. The details of these projects are listed below:

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S.No	Department	Name of the Faculty	Title of the Project	Funding Agency	Year
1	CIVIL	Dr.L.Andal	Conductive Concrete Blocks from Industrial wastes as Electromagnetic shielding Material	DST	2012-2013
2	CSE	Dr.P.Alli& Mr.G. Vinoth Chakkaravarthy	Efficient e-waste management through coordinated web service using WS-Dependable space	DST	2012
3		Dr.S.Raj Pandian, Dr.S.Poonkuntran	Robust and Intelligent Control of Underwater Robot Manipulators	DRDO	2014
4	ECE	Dr.N.Sureshkumar Mrs.Rajeswari&Dr.B.Sridevi	Reduction of EMI emission in high frequency circuits of PCB configurable by optimization techniques	DRDO	2011-2014
5		Dr.G.Velmathi& P.Karthikeyan	Design and development of smart monitoring unit for kindergarten children and old age people	DST	2013-2016
6		Dr.N.Suresh Kumar	Conductive Concrete Blocks from Industrial Waste as Electromagnetic Shielding Material	DST	2012-2013
7		Dr.S.Vasuki& S.Sankar Kumar	Intelligent Automated Respiratory Monitoring and Control Unit using LabVIEW	AICTE	2013
8		Dr.S.Vasuki&G.Veerasenthil Kumar	Design and Development of Automated Object detection and Classification Algorithm in Hyperspectral Images for Battlefield Surveillance System	DRDO	2013
9		Dr.S.Vasuki&Dr.A.Babukaruppiah	Decentralised Grid Computing Intrusion Detection System in Wireless Sensor Networks for Military Personnel	DRDO	2014

10	EEE	Dr.J.Karthikeyan Dr. A.Shunmugalatha	DC-DC Converter CSI fed BLDC Motor Drive	DRDO	2010-2011
11		Dr.N.Karpagam Dr. S.Dhanalakshmi	Custom Power Devices for Power Quality Management	AICTE	2012-2013
12	IT	Dr.S.RajPandian	Intelligent Control Methods for Autonomous under water vehicle Manipulator Systems	AICTE	2013 - 2014
13		Dr.S.RajPandian	Robust and Intelligent Control of Underwater Robot Manipulators	DRDO	2013-2014
14	Mathematics	Dr.S.Velammal&Dr.S.Karthikeyan	Mathematics Popularization and Communication – ME3 Series	DST	2014 - 2015
15	MECH	Dr. G. Manikandan	Development of Safe, Human powered and Low cost Multipurpose Machine for fireworks Industry at Sivakasi Cluster	DST	2011
16		Dr. P Rajesh Kanna	Investigation of Conjugate Heat Transfer from a series of blocks mounted over a flat surface in a confined environment	DST	2010
17		Dr. P Rajesh Kanna	Efficient Approach of Coconut Plucking Process	DST	2013
18		Dr. M. Aruna	Natural sisal fibre reinforced hybrid composite chairs and construction bricks	MSME	2014
19		Dr. V. Anbu Malar	Equipment for plantation agricultural automation	MSME	2014
20		Dr. P Rajesh Kanna	Conveyor fed fish scaling machine	MSME	2014
21		Dr. P Rajesh Kanna	Semi-Automatic dish washer for Indian utensils	MSME	2014

22		Mr. A. Mothilal	Saline bottle level indicator	MSME	2014
23		Dr. G. Manikandan	Mechanized step in automatic flushing system without sensor and spring platform (include mobile urinals)	MSME	2014
24		Dr. P Rajesh Kanna	Semi-Automatic rubber tapping machine	MSME	2014
25		Dr. P Rajesh Kanna	Low cost high efficient sugar cane peeler	MSME	2014

Engaged in individual/collaborative research activity:

Anna University has recognized faculty members as research guides and a few faculty have obtained guide recognition from more than one university. The faculty are guiding scholars, both full time and part time, towards acquiring Ph.D. degrees. The details are listed below:

S. No	Department	Name of the faculty Recognized as research guide	University	No. of scholars registered for Ph.D	Status
1	Civil	Dr. L. Andal	Anna University, Madurai	3	Pursuing
2	CSE	Dr.P.Alli	Anna University, Madurai	9	Pursuing
3	ECE	Dr.N.Suresh Kumar	Anna University	6	Degree Awarded - 1 Comprehensive Viva Completed -1 Course Work Completed -2 Pursuing – 2
		Dr.S.Vasuki	Anna University	9	Degree Awarded 1
					Comprehensive viva completed -2
					Course work completed -6
4	EEE	Dr.A. Shunmugalatha	Anna University, Chennai	5	Pursuing
5	English	Dr.T.Smiles	Anna University -Chennai	1	Pursuing
6	Maths	Dr.S.Velammal	Anna University,Chen	2	Pursuing
			PeriyarUniversity		Pursuing
7	MECH	Dr.G. Manikandan	Anna University	1	Comprehensive viva completed
		Dr. V. Anbumalar	Anna University	9	Thesis submitted -1 Comprehensive Viva completed -8
		Dr. P. Rajesh Kanna	Anna University	1	pursuing

8	Physics	Dr. S. John Ethilton	Anna University , Chennai	1	Pursuing

3.1.6. Give details of workshops / training programs / sensitization programs conducted /organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

Eminent scientists like Dr. J. Samathanam fro DST and Dr. Thakoor from DRDO have been invited to address the faculty on how to apply for and receive grants from Central Government Organizations and also interact with PG and final year UG students.

PG students are encouraged to extend their study to pursuing Ph.D.

Many workshops and seminars have been organized and conducted by the college every year in order to expose students and faculty to latest research scenario and motivate them into taking up part time research / full time research.

The data below showcases the efforts taken by the institution for continuously encouraging and motivating faculty and student to develop an aptitude for taking up research.

S. No	Type of Program	2010 - 11	2011 - 12	2012 - 13	2013 – 14	2014 – 15
1	Workshop	12	14	19	15	9
2	Training programs	10	11	8	8	5
3	Sensitization	3	6	4	7	5
Total		**25**	**31**	**31**	**30**	**19**

3.1.7. Provide details of prioritized research areas and the expertise available with the institution.

Almost all departments have been recognized as research centers and each department has faculty members with their own fields of interest in which they have expertise.

The area of specialization and expertise of faculty members are detailed below:

S.No.	Research Area	Faculty Expertise
Department of Civil Engineering		
1.	Concrete Technology	Dr.L.Andal
2.	Water Supply Engineering- , Artificial Intelligence	Dr. K.S. JineshBabu
Department of Computer Science		
3.	Medical Image Processing	Dr.P.Alli
4.	Computer and Information Technology	Dr. S. Poonkuntran
5.	Software testing	Dr.R.Kavitha
6.	Networks	Dr. R. Deepalakshmi
7.	Data Mining	Dr. BazilaBanu

8.	Data Mining	Dr.S.Suriya
Department of ECE		
9.	ElectromagneticInterference/ElectromagneticCompatibility	Dr.N.Suresh Kumar
10.	Image Processing	Dr.S.Vasuki
11.	VLSI &MEMS	Dr.G.Velmathi
12.	Wireless Networks and Network Security	Dr.B.Sridevi
13.	VLSI	Dr.P.SuveethaDhanaselvam
14.	Wireless Sensor Networks	Dr.A.BabuKaruppiah
Department of EEE		
15.	Power System stability Studies	Dr. A.Shunmugalatha
16.	Power Quality improvement	Dr.N.Karpagam
17.	Power System Security	Dr.R.NarmathaBanu
18.	Power System Deregulation	Dr.S.Dhanalakshmi
Department of IT		
19.	Robotics	Dr.S.RajPandian
20.	Wireless Networks	Dr.R.Perumal raja
Department of Mechanical Engineering		
21.	Quality Engineering,Total Quality Management	Dr. G. Manikandan
22.	Production Technology.	Dr. V. Anbumalar
23.	Heat transfer, Computational Fluid Dynamics, Nanomaterials.	Dr. P. Rajesh Kanna
24.	Manufacturing Technology.	Dr. M. Aruna
25.	Machine vision.	Dr. G. Senthil Kumar
Department of Chemistry		
26.	Chemical Kinetics, Photochemistry & Computational Chemistry	Dr.GeethaSivasubramanian
27.	Water Analysis & Treatment	Dr. K. Suganandam
28.	Coordination Chemistry	Dr. R. Shanmugakala
Department of English		
29.	English Language and Literature	Dr. T. Smiles
30.	English Language and Literature	DrR.Ananthbabu
Department of Mathematics		
31.	Graph Theory	Dr.S.Velammal
32.	Functional Analysis, Fuzzy Graph Theory	Dr.S.Karthikeyan
33.	Stochastic Inventory models	Dr.M.Geetharani
34.	Graph Theory	Dr.M.Sivakumar
Department of Physics		
35.	Material Science	Dr. S. John Ethilton
36.	Bio Physics	Dr. T.R.K. Priyadarzini

3.1.8. Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students.

One of the major objectives of organizing seminars / conferences / workshops / association activities, is to bring eminent academicians and scientists to the college to encourage and motivate faculty and students towards research and expose them to the intricacies of designing, planning and executing a project work.

A not so exhaustive list below enumerates the eminent engineers, scientists and academic experts who have been brought to the college from far and near for the benefit of faculty and students.

S.No	Year	Name of the academician / scientist	Designation	Organization	Purpose of Visit
Civil Engineering					
1.	2008	Er. S.Kalirajan	Additional Chief Engineer	Kudankulam Nuclear Power Project, Kudankulam.	Inaugural Address in Modern Construction Practices in Steel and Concrete - MCP '08
2.	2009	Dr. Nagesh R. Iyer	Director	Structural Engineering Research Centre, CSIR Campus, Chennai	Inaugurated MCP '09 and delivered lecture
3.	2009	Dr. Prof.F.A.Olutoge	Postdoctoral fellow from Nigeria	CSIR- TWAS Fellowship, SERC	Delivered Lecture
4.	2009	Er. SrinivasaRaoSarvade	Director (Technical)	Eversendai Construction India (P) Ltd, Chennai	Delivered a lecture on "Modern Engineering Methods for Power Plant Structures".
5.	2009	Dr. V. Saraswathi	Senior Principal Scientist	CSIR-Central Electrochemical Research Institute	Delivered lecture on " Concrete Corrosion"
6.	2009	Dr. Jolly Annie Peter	Assistant Director	Structural Engineering Research Centre, CSIR Campus, Taramani, Chennai	Delivered lecture on "Special Concrete"
Computer Science Engineering					
1.	2010	Dr. Suresh Kumar Thakur	Deputy Director	Naval Research Board, DRDO, New Delhi	Inauguration of Research and Development Cell

2.	2010	Dr. G.J. Samathanam,	Advisor	Department of Science and Technology, New Delhi	National Level Science Exhibition - Science Utsav 2010
Electrical & Electronics Engineering					
1.	2010	Er.V.Ramani	Senior Manager/Training	TNEB	EE Association
2.	2010	G.Maria Justin Mary,	Senior Software Engg.	Honeywell Technology Pvt Limited, Madurai	Guest lecture
3.	2011	Dr. Ramanikalpathi	MD	Power soft systems, Chennai	SEM'11 Special Electrical Machines
4.	2011	Dr.V.Natarajan	Scientist 'F	NPOL,DRDO/Cochin	National Leval Symposium "EWAR-11"
5.	2011	P.G.S. Dinesh Davidson	DGM (opns) Unit Head	Fenner India Ltd, Madurai -16	Invited Talk
6.	2011	Mr.V.AnguSamy	Chief Manager	WindCare India Pvt.Ltd., Coimbatore	Energy Awareness Camp '11
7.	2012	Dr.P.Sivakumar	Director	DRDO, Avadi, Chennai	Invited Talk
8.	2012	Dr.U.Solomon, ,	Scientist	CVRDE, DRDO, Cnennai - 054	Invited Talk
9.	2012	Er.S.SelvaMuthuKumar,	GM	EMMESS Control Pvt.Ltd, SidcoIndl.Estate, Chennai.	"ADS-12"Advanced Technologies in distributed generation systems &Micro grids
10.	2012	Mr.A.Velayutham,	Ex-Member	Maharastra Electricity Regulatory Commission, Tirunelveli	EEE Association
11.	2012	Shri. S.E.S. Syed Ahamed,	Deputy General Manager	Tamilnadu Energy Development Agency, MaduraiRegion	FDP onIRES'12
12.	2013	Dr.AktharKalam	Professor	Victoria University, Australia	Research innovations

13.	2013	N.Murugesan	Director	CPRI	Recent Trends in Power System Scenario
14.	2013	M.Ravindran	Former Professor &Head of Ocean Engg,	IITM Chairman/ NRB	Measuring Instruments in Navy
Electronics & Communication Engineering					
1.	2011	Mr.G.SathishKumar	Scientist	ISRO, ShriharikotaRange,Nellore	Technical symposium RACE '11
2.	2011	Mr.P.ShireenKumar	SAP Architect	IBM India Pvt. Ltd., Hyderabad	Technical symposium - RACE '11
3.	2011	Dr. T. Srinivas	Associate Professor, ECE Department	Indian Institute of Science, Bangalore-560 012	National Seminar (Research issues in Optical Communication Networks)
4.	2011	Dr. D. Sriram Kumar	Associate Professor, ECE Department	National Institute of Technology, Tiruchirappali-	National Seminar (Recent Trends in MEMS and its Applications)
5.	2011	Dr. Rajesh Devadas	Lead- SOA	HP Enterprise, Custom Applications Practice, Bangalore	National Seminar (Mobile Applications- Development in Android)
6.	2012	Dr. M. M. Nayak	Ex. ISRO Director	CeNSe, IISC Bangalore	National Seminar (Recent Trends in MEMS and its Applications)
7.	2012	Shri. Ansul Mishra I.A.S	District Collector, Madurai	District Collector, Madurai	Inauguration-RACE 12
8.	2013	Dr. K. Kulothungan	Professor, Department of Information Science and Technology	College of Engineering, Guindy. Anna University, Chennai.	National Seminar (Recent Development in Wireless Networks)
9.	2013	Er. M. Rajeshwaran	Director	RealTimeTechnosoft, Chennai	National Seminar (Recent Issues in

					Signal Processing)
10.	2013	Dr. B. Jeyaraman	Rtd Chief Engineer	TNEB, Chennai	Guest Lecture: Static VAR Compensation and FACT Devices
11.	2013	Mr. Amarnath	CEO	Embuzz Technologies, Madurai	Guest Lecture Topic: RealTimeImplementation on Systems
12.	2013	Mr. Sharon David	Design Engineer	INTEL, U.S.A	Guest Lecture: Study of VLSI Design and INTEL
13.	2013	Mr. Raja Duraisamy	Director	Director of Mobile Centre of Excellence Bangalore	Guest Lecture on "Recent Advancement in Mobile Technology"
14.	2014	Prof.M. Krishnaswamy	Former Programmer Director of IRS satellites	Indian Space Research Organization (ISRO), Bangalore	National Seminar (Challenges in Satellite Communication)
InformationTechnology					
1.	2011	Dr.S.Prabhakaran	Director&Head	University of Saudi, Saudi Arabia	Inaugurated the IT association
2.	2012	Mr.O.G.Kosal Kumar	CEO	Versata Technologies USA	Inaugurated the IT association
3.	2013	Mr.W.S.Aruldosskanthiah	Outstanding Scientist &Former Director, Heavy Water Board	Dept. of Atomic Energy, Govt.of India, Mumbai	Research Visit
4.	2013	Dr. B. K. Tyagi	Director	ICMR, Madurai	Seminar on "Recent research trends in Indian Council for Medical Research"
5.	2013	Dr.M.Ravindran	Chairman	DRDO, Navel Research Bord,	Research Visit

				Chennai	
6.	2014	Dr.RobertDalling	Instructor in Physics	Louisiana school of math, Science and Arts, Natchitoches, LA,USA	Research Visit
7.	2014	Dr.K.Ramachandra	CEO	National Micro Aerial Vehicles	Research Visit
8.	2014	Mr.R.Swaminathan	CTO	Cogzidal, Madurai	"Mini-Project Competition", Chief guest
9.	2014	Dr.B.J.Pandian,	Director	TNAU Coimbatore	Guest lecture about "Opportunities for Youth in Precision Agriculture"
Mechanical Engineering					
1.	2011	Prof. V. Ramamurti M.E. Ph.D.,	Retired Professor	IIT, Madras	Staff Development Programme
2.	2011	Mr.A.Vasudevan &Mr.D.Dhanuskodi	Head (Education &Trainning)	LUCAS –TVS LIMITED , Chennai &SUN PRESS (P) LTD	National level technical symposium - MECOSPARX 2011
3.	2011	Dr.M.Palaninatharaja	Registrar	TCE, Madurai	Guest Lecture - Guidelines to NBA Accreditation
4.	2012	Shri S. PandianArivudaiNambi &Shri R. Shivarajah,	Head, Innovation &Founder Director,	Fenner (India) Limited, Madurai & Native Lead Foundation, Madurai.	Industry –Institution Interaction (Student Innovations audit)
5.	2012	Mr. S.Manikandan	Senior Manager, Product development	Ashok Leyland Ltd, Chennai,	Mechanical EngineeringAssociation –

					Valediction
6.	2013	Shri.S.Prasanna Shankar, R.Pradeep& B S Sathya Narayanan	Regional Manager, Application Engineer & Field Application Engineer	Trident Techlabs Pvt. Ltd,Chennai	FDP - Technical Advancement in CAD/CAM/CAE & Automation Technologies
7.	2013	Er.I.Razik Raja,	Chief Engineer	Mitsubishi, Japan	Guest Lecture – Combined Power Cycles
8.	2013	Mr.S.Srinivasan,	Proprietor,	Falcon Engineering Works, Sivakasi	VCET Automobile Service Centre Inauguration – VAUTS
9.	2014	Mr.D.J.C.Barnes,	Former HR Professional	Madura Coats Madurai.	Guest lecture on "Basic Etiquette for a Professional".
10.	2014	Mr.B.VivekAravind,	Manager-Service Training,	Ashok Leyland, Chennai	State Level Mini Project Contest m/c-2014.
11.	2014	K.ThirupathiRajan,	CEO,	RAJ EXIM Madurai	Mechanical Engineering Association inauguration – MEXUBERANCE
Chemistry					
1.	2010	Mr. M. B. Nirmal	Founder and Chairman	Exonora International, T Nagar, Chennai	Ministry of Earth Sciences and TNSCST sponsored a one day national seminar on "Global Warming" -
2.	2011	Dr.T. Pradeep	Professor	IIT, Madras	DRDO sponsored Two – Day national level seminar on "Solar Energy Conversion with NanoParticles
3.	2011	Dr. V.N. Mani	Professor	C-MET, Hyderabad	
4.	2012	Dr. S. Arumugam	Senior Professor	Department of Mathematics,	DRDO sponsored Two – Day

				Kalasalingam University	national level seminar on " Chemical Graph Theory"
5.	2012	Dr.P.Venuvanalingam	Professor	Dept. of Chemistry, Bharathidasan University, Tirchy	
6.	2012	Dr. A. K. Madan	Professor	Pt.B.D. Sharma University of Health Sciences, Rohtak, Haryana	
7.	2013	Dr. KamachiMudali,	Professor	HomiBhabha National Institute DAE, Indira Gandhi Centre for Atomic Research, Kalpakkam	CSIR sponsored Two – Day national level seminar on " Recent Trends in Corrosion Studies"
8.	2013	Dr. S. Sathiyanarayanan	Senior Principal Scientist	CECRI, Karaikudi	
9.	2013	Dr. N. Rajendran	Professor	Chemistry Department Anna University, Chennai	
10.	2013	Dr. N. Palaniswamy	Head	Corrosion Protection CECRI, Karaikudi	
11.	2013	Dr. J. Annie Peter	Chief Scientist & Head	Structural Testing Laboratory SERC, Chennai	
12.	2013	Dr. V. Saraswathi	Senior Principal Scientist	CECRI, Karaikudi	
13.	2015	Shri.N.Sivasubramanian	Senior Scientist, & chief general manager (Rtd)	ISRO, Thiruvanandapuram	Chief guest for the national science day function and delivered a lecture on" Applications of Chemistry in Space research"

3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

The Institution provides academic leave facility to the faculty who are required to attend courses at the respective universities / institutions in which they are working towards their doctorate degrees.

The formalities required to be completed at the college end for faculty invited as Visiting Professors / Collaborative researchers are smoothly executed to facilitate their endeavors.

Dr. P. Rajesh Kanna of Mechanical Department visited to Cracow University of Technology, Poland, Europe as Visiting Professor during 2012, 2013 and 2014 and all these absence from has been treated as on-duty.

Dr. Shanmugakala of Chemistry department has been granted on-duty for carrying out her research work during 2014.

3.1.10. Provide details of the initiatives taken up by the institution in creating awareness / advocating / transfer of relative findings of research of the institution and elsewhere to students and community (lab to land)

The findings of students' projects are shared with the student community through presentations and viva voce.

At every seminar / conference organized by the college, a minimum of two sessions are set aside for poster / oral presentation by young researchers to showcase their work. These sessions serve as a knowledge platform for dissemination of research activities.

Similarly, faculty and students of the college present their findings in seminars and conferences organized by other institutions.

Another means of communicating research findings is through publications of methods and results in peer reviewed journals of notable publishers with high impact factor. Faculty regularly publish articles of their research in related national and international journals. Students are also encouraged to publish their work in suitable journals. The fruits of such efforts are seen in the following table:

S.No	Department	Number of Publications/ presentations in the last four years
1.	Chemistry	35
2.	CIVIL	21
3.	CSE	207
4.	ECE	462
5.	EEE	29
6.	English	42
7.	IT	75
8.	Mathematics	82
9.	Physics	12
10.	Mechanical	124

Faculty also willingly share their research findings through invited lectures, special talks etc. A few are listed below:

S.No	Department	Project Name	Faculty	Public awareness
1.	Civil	Conductive concrete blocks from industrial waste as electromagnetic Shielding material	Dr. L.Andal	Demonstration to students
2.	CSE	❖ Efficient e-waste management through coordinated web service using WS-Dependable space ❖ Robust and Intelligent Control of Underwater Robot Manipulators	Dr.P.Alli Mr. G. VinothChakkaravarthy Dr.S.Poonkuntran	Special talk in national conference
3.	ECE	❖ Intelligent Automated Respiratory Monitoring and Control Unit using LabVIEW ❖ Development of automated object definition & classification algorithm in hyper spectral imaginary using evolutionary algorithm for battlefield surveillance system ❖ Reduction of EMI emission in High frequency circuits of PCB configurable by optimization techniques ❖ Design and development of smart monitoring unit for kindergarten children and old age people	Dr.N.Suresh Kumar Dr.S.Vasuki Dr. G.Velmathi	Presentation in international conference ICIECC'14
4.	EEE	❖ DC-DC Converter CSI fed BLDC Motor Drive ❖ Custom power devices for power quality management	Dr. A.Shunmugalatha Dr.N.Karpagam Dr.S.Dhanalakshmi	Presentation in conference

5.	IT	Remote controlled drones	Dr. S. RajPandian	Demonstrations to school students and the public
6.	MECH	❖ Natural sisal fiber reinforced hybrid composite chairs and construction bricks ❖ Equipment for plantation agricultural automation ❖ Conveyor fed fish scaling machine ❖ Semi-Automatic dish washer for Indian utensils ❖ Saline bottle level indicator ❖ Mechanized step in automatic flushing system without sensor and spring platform (include mobile urinals) ❖ Semi-Automatic rubber tapping machine ❖ Low cost high efficient sugar cane peeler	Dr. G. Manikandan Dr. M. Aruna Dr. V. Anbumalar Dr. P. Rajesh Kanna Mr. A. Mothilal	Product Development Exhibited in the 'M/C 2015' - National level mini project contest)

3.2 Resource Mobilization for Research

3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

The Departments while preparing their yearly budget earmark a certain percentage for promotion and sustaining research activities. The Management comprehending the importance and role of research in the development of the institution scrutinizes the budgets and allocates a portion of its budget for research activities. The fund allocated thus is mainly used by the department for purchase of equipment and other accessories needed and for participation and presentation of research findings in international and national conferences and seminars. The year wise budget allotted and utilization by the various departments are indicated in the ensuing table: The data is in lakhs of rupees.

D/Y	2010 – 11		2011 – 12		2012 – 13		2013 – 14		2014 – 15	
	FA	AU	FA	AU	FA	AU	FA	AU	FA	AU
CIVIL	-	-	-	-	-	-	0.1	0.06	0.5	0.36
CSE	0.1	0.1	0.05	0.1	0.3	0.34	0.1	0.04	0.3	0.25
ECE	0.2	0.04	0.6	0.5	1.7	1.59	1.2	0.98	0.7	0.64
EEE	0.5	0.1	0.5	-	0.5	0.31	1.25	1	4.04	3.8
IT	-	-	-	-	2	2	3	2.7	0.15	0.15
MECH	0.1	0.1	1.5	1.47	1	0.79	2.5	2.29	1.5	1.4

D/Y – department / year; FA- Financial Allocation; AU – Actual utilization

3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

Yes. The institution provides seed money to the for research to faculty. The amount disbursed in indicated in lakhs of rupees.

D/Y	2011 – 12		2012 – 13		2013 – 14		2014 – 15	
	A	%	A	%	A	%	A	%
CSE	0.1	10	-	-	0.04	10	-	-
ECE	0.42	10	1.45	20	0,85	20	0,2	10
EEE	0.2	10	0,2	10	-	-	-	-
IT	-	-	0.3	10	.05	10	-	-
MECH	-	-	0.77	20	0.4	10	1.6	Dept

D/Y – department / year; A – Amount disbursed; % - percentage of faculty availed the facility

3.2.3. What are the financial provisions made available to support student research projects?

Socially relevant and deserving projects are supported by the management to Varying degrees – sometimes up to 100%.

The department also facilitates procuring financial assistance from external agencies for projects that are of direst application the community or to a small scale industry.

Details for the last four years may be found below;

Department	**No. of students**	**Amount in Rs. (lakhs)**	**Agency**
ECE	8	0.81	Management
ECE	3	3.15	Avion Aerospace
MECH	7	10.27	MSME

3.2.4. How do the various departments / units / staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing inter-disciplinary research.

The college encourages the departments to undertake inter-disciplinary research. The faculty from collaborating departments work out the strategies for design and implementation of the project clearly defining knowledge and expertise sharing and utilization. The well thought projects have been funded by Governmental funding agencies. The following are some such examples.

S.No	Name of the Faculty & Dept.	Project Title	Agency	Year	Fund (Rs. in lakhs)	Status
1	Dr.L.Andal / Civil &Dr.N.Suresh Kumar / ECE	Conductive Concrete Blocks from Industrial Waste as Electromagnetic Shielding Material	DST	2014	27.59	Ongoing
4	Mr. M. Saravana Mohan / Mech& Dr. S. Rajpandian / IT	Intelligent control methods for autonomous underwater vehicle-manipulator systems	AICTE	2012	5.91	Ongoing
5	Mr. M. Saravana Mohan /Mech& Dr.S.Rajpandian/ IT	Robust and intelligent control of underwater robot manipulators	DRDO	2014	21.47	Ongoing

Planning and executing inter-disciplinary projects do offer challenges – mainly in terms of time and expertise sharing. However, such challenges are intelligently overcome.

3.2.5. How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

Laboratories of each discipline are fully fitted with adequate equipment and accessories. Also special and relevant equipment / instruments have been added through funded projects.

The departments collaborate and corroborate in optimizing the use of resources and expertise.

The equipment and instruments are serviced and maintained regularly either by the department technicians or by the service personnel authorized by the manufacturer.

Available software are also shared and training and help are rendered in the use of the same to whoever and whenever needed.

Duplication of purchases is avoided to augment the resources.

3.2.6.Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If

'yes' give details.

Yes. Based on the expected outcome and benefits of the project work, departments approach industry / beneficiary agency for funds to carry out the project or the agencies contact the college for their requirements which are converted to projects.

Department of ECE has received Rs.3 lakhs from Avian Aerospace, Chennai in 2014 and Department of Mechanical Engineering has received Rs. 8 lakhs from Hyundai, Sriperumbuthur, in 2013 towards their projects.

3.2.7. Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details of ongoing and completed projects and grants received during the last five years.

The faculty are encouraged to submit project proposals to governmental and non-governmental funding agencies. TA and DA are provided to faculty for visiting the agency to submit the proposal, to present their proposal and also to follow up the status of funding.

. Please see the table below which provides details of ongoing and completed funded projects for the last five years.

S.No	Department	Name of the Faculty	Duration	Title of the Project	Funding Agency	Total Grant	
						Sanctioned Amount (Rs. In Lakhs)	Received Amount (Rs. In Lakhs)
1.	Civil	Dr.L.Andal	2012-2015	Conductive Concrete Blocks from Industrial wastes as Electromagnetic shielding Material	DST	27.59	19.05
2.	CSE	Dr.P.Alli &Mr. G. VinothChakkaravarthy	2012-2015	Efficient e-waste management through coordinated web service using WS-Dependable space	DST	30.6	13
3.	ECE	Dr.N.Sureshkumar, Mrs.R.Rajeswari&Dr.B.Sridevi	2011-2014	Reduction of EMI emission in high frequency circuits of PCB configurable by optimization techniques	DRDO	21.21	20.21
4.	ECE	Dr.G.Velmathi&P.Karthikeyan	2013-2016	Design and development of smart monitoring unit for kindergarten children and old age people	DST	38.18	20.55
5.	ECE	Dr.S.Vasuki&S.Sankar Kumar	2013-2016	Intelligent Automated Respiratory Monitoring and Control Unit using LabVIEW	AICTE	10.24	4.08
6.	ECE	Dr.S.Vasuki&G.Veerasenthil Kumar	2013-2015	Design and Development of Automated Object detection and Classification Algorithm in Hyperspectral Images for Battlefield Surveillance System	DRDO	18.86	11.641
7.	ECE	Dr.S.Vasuki&Dr.A.Babukaruppiah	2014-2016	Decentralised Grid Computing Intrusion Detection System in Wireless Sensor Networks for Military Personnel	DRDO	15.4	11.85
8.	ECE	G.Pradeep Kumar &P.Omprakash	2014-2015	Design of Quadcopter for wireless data transmission during disaster management	Avian Aerospace	1.5	1.5

9.	ECE	P.Omprakash&G.Pradeep Kumar	2014-2015	Design of Remotely operated Vehicle for underwater surveillance	Avian Aerospace, Chennai	1.5	1.5
10.	EEE	Dr.J.Karthikeyan Dr.A.Shunmugalatha	2010-2013	DC-DC Converter CSI fed BLDC Motor Drive	DRDO	14.98	14.4
11.	EEE	Dr.N.Karpagam Dr.S,Dhanalakshmi	2013-2016	Custom Power Devices for Power Quality Management	AICTE	8.75	8.41
12.	IT	Dr.S.RajPandian	2013-2016	Intelligent Control Methods for Autonomous under water vehicle Manipulator Systems	AICTE	10.65	7.683
13.	IT, CSE& MECH	Dr.S.RajPandian, Dr.S.Poonkuntran, Mr.M.Saravana Mohan	2014-2016	Robust and Intelligent Control of Underwater Robot Manipulators	DRDO	24.47	14.11
14.	Mathematics	Dr.S.Velammal (PI) Dr.S.Karthikeyan(CO-PI)	2014-2016	Mathematics Popularization and Communication – ME3 Series	DST	3.18	2.5
15.	MECH	Dr. P Rajesh Kanna	2010-2013	Investigation of Conjugate Heat Transfer from a series of blocks mounted over a flat surface in a confined environment	DST	6.24	6.24
16.	MECH	Dr. G. Manikandan	2011-2014	Development of Safe, Human powered and Low cost Multipurpose Machine for fireworks Industry at Sivakasi Cluster	DST	13.81	-
17.	MECH	Dr. P Rajesh Kanna	2013-2016	Efficient Approach of Coconut Plucking Process	DST	23.62	16
18.	MECH	Dr. M. Aruna	2014-2015	Natural sisal fiber reinforced hybrid composite chairs and construction bricks	MSME	6.25	1.87
19.	MECH	Dr. V. Anbu Malar	2014-2015	Equipment for plantation agricultural automation	MSME	5	1.5
20.	MECH	Dr. P Rajesh Kanna	2014-2015	Conveyor fed fish scaling machine	MSME	5	1.5

21.	MECH	Dr. P Rajesh Kanna	2014-2015	Semi-Automatic dish washer for Indian utensils	MSME	5	1.5
22.	MECH	Mr. A. Mothilal	2014-2015	Saline bottle level indicator	MSME	5	1.5
23.	MECH	Dr. G. Manikandan	2014-2015	Mechanized step in automatic flushing system without sensor and spring platform (include mobile urinals)	MSME	4	1.2
24.	MECH	Dr. P Rajesh Kanna	2014-2015	Semi-Automatic rubber tapping machine	MSME	5	1.5
25.	MECH	Dr. P Rajesh Kanna	2014-2015	Low cost high efficient sugar cane peeler	MSME	5.4	1.62

3.3 Research Facilities

3.3.1. What are the research facilities available to the students and research scholars within the campus?

Completing a research project is a part of the curriculum both for the UG and PG students. To facilitate and motivate students in newrealms of investigation, faculty guidance and other support structures are made routinely available to the students. These are

- Computer systems, high speed internet access, printer and photocopy facility
- Laboratories fully equipped with high end instruments and equipment to carry out basic and advanced research
- Uninterrupted power supply through invertors and generators.
- Well-stocked central digital library
- Licensed and open source software for in-silico work.
- Subscription and easy access to e-journals
- Seminar/ Conference Hall and A/C Auditorium to conduct seminars and workshops for knowledge sharing and enhancement.

3.3.2. What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

The strategies for planning, upgrading and creating infrastructural facilities are enumerated below:

1. Each department prepares a budget for laboratory requirements and other equipment required for either upgrading the existing facilities or including new additions to enrich the working environment and facilitate the creative designing of project work.
2. Once the Management approves of the budget, the purchase of the instruments equipment and other requirements is initiated and completed.
3. An inventory of the existing infrastructure is taken at the end of every year and maintenance and repair is undertaken to keep the labs in ship-shape condition
4. The subscription for e- and print journal are renewed and new subscriptions are started to cater to the reference requirement of the researchers.
5. Senior faculty members are encouraged to visit reputed laboratories and R & D departments to get to know the latest techniques applied in research work.

3.3.3. Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities? If 'yes', what are the instruments/ facilities created during the last four years.

YES. The project grants received from funding agencies play a vital role in developing facilities in the institution.

The Department of Mechanical Engineering developed a 'Safe, Human powered Low cost Multipurpose Machine for Firework Industry in Sivakasi for which Sri Kaleeswari Fireworks, Sivakasi granted Rs. 1.836 lakhs for design and development of the machine.

Similarly, Mercury Machine toll, Madurai granted 1.125 lakh rupees for developing A human powered safe mechanical device for coconut plucking.

3.3.4. What are the research facilities made available to the students and research scholars outside the campus/other research laboratories?

Students are encourages and supported in taking up projects in industries.

Summer training programs are arranged to expose the students to real world applications of classroom learning.

Students are selected for internships in companies like WIPRO and Infosys and Amazon and this serves as a platform for real-time research work.

MoUs signed with industries also open up avenues for students to take guidance from Industrial engineers for their research and also use equipment and other facilities available in the organization.

3.3.5. Provide details on the library / information resource centre or any other facilities available specifically for the researchers?

The College has taken institutional membership of IEEE in which all e-

journals and e-books are available to the research scholars.

The college subscribes to most of the major technical journals including IEEE, IEE, IETE, IEI, SME and Science Direct journals for versatile use by the researchers.

The following table highlights the subscription details:

Subjects	**National Journals Subscribed to**	**International Journals Subscribed to**
BE-ECE	06	37
BE-EEE	06	17
BE-CSE	07	22
BE-CIVIL	06	06
B. Tech-IT	06	17
BE-MECH	06	37
Science And Humanities	08	05
ME-Communication Systems	03	05
ME-Power Systems	03	05
ME-Computer Science	03	05
ME-(Networking)	03	05
ME-Manufacturing	04	05

3.3.6 What are the collaborative research facilities developed/ created by the research institutes in the college. For ex. Laboratories, library, instruments, computers, new technology, etc.

Although research facilities have been enhanced and research labs have been established through research projects funded by Governmental research agencies like DST and DRDO, the college is yet to set up research facilities through collaboration with industries / beneficiary agency / industry.

However, initiatives are being taken to establish a high level of rapport with industries and agencies for not only establishing research facilities but also to cater to the needs of the beneficiary agency.

3.4 Research Publications and Awards

3.4.1. Highlight the major research achievements of the staff and students in terms of

(i) Patents obtained and filed (process and product):

List of patents applied for by our faculty

Sl.No	Patent title	Name of faculty	Date filed
CIVIL			
1.	Conductive concrete Blocks from industrial waste as Electromagnetic Shielding material	Dr.L.Andal	Ref: 1876/CHE/2015 (filed)10.04.2015
ECE			
1.	A Smart SanitaryAssistive Device for Kindergarten Children and Elderly People	Dr.G.Velmathi	Ref.No.3900/CHE/2014 (filed)08.08.2014
2.	A ProtectiveIntelligent Innerwear for Children to Safeguard from Sexual Abuse	Dr.G.Velmathi& Dr.B.Sridevi	Ref.No.3901/CHE/2014 (filed)08.08.2014
3.	Analytical Modeling of Quad Material Surrounding Gate MOSFET	Dr.P.SuveethaDhanaselvam	Ref.No.3657/CHE/2014 (filed)28.07.2014
4.	Conductive concrete Blocks from industrial waste as Electromagnetic Shielding material	Dr.N.SureshKumar Mrs.P.Rajeswari,Mr.A.Gobinath	Ref: 1876/CHE/2015 (filed)10.04.2015
EEE			
1.	Intelligent Transport System Version 2.0 for Indian Cities	Dr. A.Shunmugalatha	Ref.No.3917/CHE/2013 (filed)30.04.2013
MECHANICAL			
1.	Automated Trash Collector	Prof. M. SaravanaMohan	Ref: 2136/CHE/2011 June (Filed)
2.	Low Cost Touch Free Flushing System For Urinals For The differently Abled People	Dr. G. Manikandan	Ref: 3493/CHE/2011 October (Filed)

3.	Design And Fabrication Of Envelope Maker	Prof T. Kamatchi	Ref: 1070/CHE/2012 March (Filed)
4.	Design And Fabrication Of Semi-Automatic Fish Scale Remover	Dr. P. Rajesh Kanna	Ref: 1171/CHE/2012 March (Filed)
5.	Green Robot	Prof. N. Dinesh Kumar	Ref: 2990/CHE/2012
6.	Pocket Drafter	Prof G. Senthil Kumar	Ref: 3643/CHE/2012 September 2nd Stage (Filed)
7.	Semi-Automatic Rubber Tapping Machine	Dr. P. Rajesh Kanna	Ref: 3734/CHE/2012 September(Filed)
8.	Design And Fabrication Of Sliding Mini Drafter	Prof Kamatchi	Ref: 3949/CHE/2012 September(Filed)
9.	Mechanized Rubber Taping Machine.	Dr. V. Anbumalar	Ref: 3995/CHE/2012 September(Filed)
10.	Handy Dust Free Duster	Dr. G. Manikandan	Ref: 1251/CHE/2013 March(Filed)
11.	Mosquito Trapping Apparatus Employing Light Attractants And Adhesion Trapping Technique	Dr. P. Rajesh Kanna	Ref: 3039/CHE/2013 July – 2nd Stage(Filed)
12.	Biomass Combustion Smoke Collector And Combustion Performance Enhancing Accessories	Dr. P. Rajesh Kanna	Ref: 3040/CHE/2013 July(Filed)
13.	High Efficiency Domestic/Commercial Gas Burner	Dr. P. Rajesh Kanna	Ref: 3041/CHE/2013 July(Filed)
14.	Semi-Automatic Dishwasher For Indian Utensils	Dr. P. Rajesh Kanna	Ref: 3734/CHE/2013 August(Filed)

15.	Automatic Floor Cleaner-Wireless Wiper	Prof I. Ambrose Edward	4341/CHE/2013 September(Filed)
16.	Wireless Unmanned Machine for Detecting Nuclear Radiation	Prof M. Saravana Mohan	4340/CHE/2013 September(Filed)
17.	Multi lead mechanical pencil	Prof M.Maran	4368/CHE/2013 September (Filed)
18.	Automatic banana slicing machine	Prof M.Maran	4367/CHE/2013 September (Filed)
19.	Door Type Flushing System Of Urinals	Dr. G. Manikandan	Ref: 4482/CHE/2013 October(Filed)
20.	Mechanized Step In Automatic Flushing System Without Sensor And Spring Platform	Dr. G. Manikandan Dr. P. Rajesh Kanna	Ref: 4483/CHE/2013 October(Filed)

(ii) **Original research contributing to product improvement:**

Details of projects focused on product development

S.No.	Department	Product	Funding Agency	Amount in Lakhs	Duration
1.	ECE	Design and development of smart monitoring unit for kindergarten children and old age people	DST, New Delhi	38.18	3 years
2.	ECE	Intelligent Automated Respiratory Monitoring and Control Unit using LABVIEW	AICTE,New Delhi	10.24	3 years
3.	ECE	Decentralized Grid Computing Intrusion Detection System in Wireless Sensor Networks for Military Personnel	DRDO,New Delhi	15.4	2 years
4.	IT	Robust and Intelligent Control of Underwater Robot Manipulators	DRDO	21.47	2 Years
5.	MECH	Development of Safe, Human powered and Low cost Multipurpose Machine for fireworks Industry at Sivakasi Cluster	DST	13. 81	3 Years

6.	MECH	Efficient Approach of Coconut Plucking Process	IDP- DST, and Govt. of India	23.62	3 Years
7.	MECH	Intelligent Control Methods For Autonomous Underwater Vehicle Manipulator System	AICTE –RPS scheme	10.65	3 Years
8.	MECH	Robust and intelligent control of underwater robot manipulators	DRDO-Naval research board	24.47	3 Years
9.	MECH	Natural sisal fiber reinforced hybrid composite chairs and construction bricks	MSME	6.25	1 Year
10.	MECH	Equipment for plantation agricultural automation	MSME	5	1 Year
11.	MECH	Conveyor fed fish scaling machine	MSME	5	1 Year
12.	MECH	Semi-Automatic dish washer for Indian utensils	MSME	5	1 Year
13.	MECH	Saline bottle level indicator	MSME	5	1 Year
14.	MECH	Mechanized step in automatic flushing system without sensor and spring platform (include mobile urinals)	MSME	4	1 Year
15.	MECH	Semi-Automatic rubber tapping machine	MSME	5	1 Year
16.	MECH	Low cost high efficient sugar cane peeler	MSME	5.4	1 Year
17.	EEE	DC-DC Converter CSI fed BLDC Motor Drive	DRDO	14.98	3 Years
18.	EEE	Custom power devices for power quality management	AICTE	8.25	3 Years

- **Research studies or surveys benefiting the community or improving the services:**

Almost all projects listed above are focused towards improving the services to consumers and for the ultimate benefit of the society. Students are actively involved in such research projects to give them awareness on the importance of carrying projects the outcome of which will be of direct use to the society.

- **Research inputs contributing to new initiatives and social development**

As Engineering and Technology related projects have to be oriented towards development of applications that will ultimately benefit the human kind, the selection of problems and planning of solutions are designed to fulfill this need.

Some examples of projects directed towards social needs are

S.No	Department	Name of the Research Project	Contribution/initiative
1.	Civil	Conductive Concrete Blocks from Industrial wastes as Electromagnetic shielding Material	Minimize the electromagnetic wave exposure of residents
2.	CSE	Efficient e-waste management through coordinated web service using WS-Dependable space	E-waste management
5.	ECE	Design and development of smart monitoring unit for kindergarten children and old age people	Final project outcome can be used for individuals and hospitals to monitor the condition of old age people/kinder garten children
6.		Automatic Sanitary napkin disposal and degradation	Environmental safety
7.		Saving siren system from dam water discharge	
8.	EEE	DC-DC Converter CSI fed BLDC Motor Drive	Outcome beneficial to individuals and Power Electronics Industries
9.		Custom power devices for power quality management	For Power Industries

3.4.2. Does the Institute publish or partner in publication of research journal(s)?If 'yes', indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

No. The College does not publish or partner in publication of research journals.

A small beginning has been made in this direction – The selected papers of the International Conference on Innovations in Electronics. Communications and Computing (ICIECC '14) have been published in collaboration with AIRCC (Academy & Industry Research Collaboration Center) . AIRCC is an emerging peer- reviewed, academic open access publisher in engineering fields.

3.4.3. Give details of publications by the faculty and students:

The active research by the faculty and students has resulted in knowledge sharing both by way of publications of findings in peer reviewed journals and conference presentations. Teachers have also contributed to knowledge management through writing books and monograms in the areas of their specialization. The details are listed below:

S.No	Name of faculty	Citation Index	SNIP index (Avg)	SJR (Avg)	Publication With impact factor	Publication in international data base	Publication With h-index
CHEMISTRY							
1.	Dr.R.Shanmugakala	1	0.849	0.476	1.599	1	1
2.	Mr.Gopalakannan	1	1.426	0.861	3.096	1	1
CIVIL							
1.	Dr. L. Andal				1	1	
2.	Dr. K.S. JineshBabu	61(No of citations)	1.817	0.85	4	6	4
CSE							
1.	Dr. P. Alli	23	0.572	0.203	5	19	3
2.	Dr.S.Poonkuntran	5	0.607	0.228	8	9	4
3.	Dr. R. Kavitha	24	0.87	0.25	8	8	24
4.	Mrs. R. Deepalakshmi	23	0.925	0.264	16	16	3
5.	Mr. G. VinothChakkaravarthy	-	0.699	0.15	4	4	
6.	Mrs.A.BazilaBanu		0.713	0.282	4	2	
7.	Mrs. C.B. Selvalakshmi				5	5	
8.	Mrs. S. Padmadevi				2		
9.	Mrs.J.V.Anchitaalagammai	-			4	4	
10.	Mrs. S. Suriya	19	0.77	0.33	9	9	4
11.	Mr. P.N. Karthikayan	-	-	-	3	-	-
12.	Mr. Mallikarjuna Nandi	-	-	-	3	-	-
13.	Mr. K. Azarudeen	-	-	-	2	-	-
14.	Ms. J. ShanthalakshmiRevathy	-	-	-	2	-	-
15.	Ms. S. Kavitha	-	-	-	2	-	-

16.	Ms.P.Aileenchris	-	-	-	1	-	-
ECE							
1.	Dr.N.Suresh Kumar	-	.326	.4	7	09	9
2.	Dr.S.Vasuki	18	-	.537	14	28	2
4.	Dr.B.Sridevi	30	0.882	0.3	8	23	8
5.	Dr.P.SuveethaDhanaselvam	18	1.026	.364	5	5	5
6.	Dr.A.BabuKaruppiah	5	.592	.261	4	5	2
7.	Mrs.P.Rajeswari	-	.0932	.318	3	6	4
8.	Mr.G.Veerasenthil Kumar	-	-	.5373	3	5	-
9.	Mr.P.Karthikeyan	1	-	.5373	2	6	-
10.	Mrs.S.Gandhimathi@Usha	-	-	-	1	1	-
11.	Mrs.S.Kanagamalliga	-	-	-	1	1	-
12.	Mrs.E.Komagal	-	-	-	1	1	-
13	Mr.P.Omprakash	-	-	-	1	1	-
EEE							
1	Dr. A.Shunmugalatha	38	2.389	1.689	8	26	3
2	Dr.N.Karpagam	42	-	-	-	14	3
3	Dr.R.NarmathaBanu	47	0.420	0.158	-	12	4
4	Dr.S.Dhanalakshmi	61	-	-	-	12	3
5	Mrs.D.FathemaFarzana	-	0.089	0.154	-	8	1
6	Ms.S.Senthilrani	-	-	-	4	14	-
7	Ms.A.Radhika	-	-	-	-	8	3
8	Mr.P.Duraipandy	-	0.516	0.31	1	28	2
9	Ms.B.Kiruthiga	-	-	-	2	13	-
10	Ms.J.Rajeswari	-	-	-	1	7	-
ENGLISH							

1	Dr.T. Smiles	1					
2	Dr.SM.Nandhini				1		
3	Dr.R.AnanthBabu				1		5
IT							
1.	Dr.R.Perumalraja	-	-	-	-	-	-
2.	Dr.S.RajPandian	1	-	-	1	-	-
3.	Dr. M. JanakiMeena Professor	1	-	-	1	-	-
4.	Ms.K.C.Aarthi	-	-	-	1	-	-
5.	Ms.M.Prabha	-	-	-	1	-	-
6.	Ms.P.Saraswathi	-	-	-	1	-	-
7.	Mrs.D.Anandhavalli	-	-	-	3	-	-
8.	Ms.N.ShanmugaSundari	-	-	-	1	-	-
MECHANICAL							
1	Dr.G.Manikandan	8	0.636	0.332	6	20	2
2.	Dr.V.Anbumalar	1	0.526	0.274	1	17	1
3.	Dr.P.RajeshKanna	289	3.115	1.519	33	39	10
4.	Dr.M.Aruna	40	0.457	0.296	10	22	3
5.	Mr.G.Senthilkumar	9	2.116	1.227	1	13	1
6.	Mr.M.Saravanamohan	-	-	-	-	07	-
7.	Mr.R.Elilvanan	-	-	-	-	02	-
8.	Mr.T.Kamatchi	-	-	-	-	05	-
9.	Mr.N.Dinehkumar	-	-	-	-	05	-
10.	Mr.S.Senthilkumar	-	-	-	-	0	-
11.	Mr.M.Maran	2			2	12	1

Details of Books published by the faculty during last 5 years.

S.No	Name of faculty	Book Name	Year of Publication	Publisher	ISBN/ISSN no
1.	Dr.S.Poonkundran/CSE	Image Authentication using Watermarking- A Guide for Researchers	2015	Jayalakshmi Publications	ISBN9789384193256
2	Dr.N.Suresh Kumar / ECE	Electronic Devices and Circuits, Fourth edition (for JNTU, Andhra Pradesh)	2008	Tata McGraw Hill	978007132881-4
		Electronic Devices and Circuits, Ed 2	2011.	New Delhi	978933921385-5
		Electronic Devices and Circuits, Ed 2, (As per the latest syllabus of JNTU, Hyderabad, Anantapur, Kakinada)	2012	Tata McGraw Hill	978007132996-5
		Analog Electronic Circuits , Ed 2(As per the latest syllabus of JNTU, Anantapur)	2012	New Delhi	978125906250-6
		Electronic Circuit Analysis, Ed 2,(As per the latest syllabus of JNTU,Hyderabad, Kakinada)	2012	Tata McGraw Hill	978933921941
		Electronic Circuits, Ed 2(As per the latest syllabus of JNTU, Hyderabad)	2012	New Delhi	9781259062483
		Electronic Circuit Analysis,Ed 3(As per the latest syllabus of JNTU,Anantapur)	2013	Tata McGraw Hill	978933921941
		Electronic Circuits,Ed 3(As per the latest syllabus of JNTU, Hyderabad)	2012	New Delhi	1259050874
		Electronic Circuits, Ed 2(As per the latest	2013	Tata McGraw	978933921941-3

		syllabus of JNTU, Hyderabad)		Hill	
3.	Dr.S.Vasuki/ECE	Microwave Engineering	2015	McGraw Hill	ISBN:978-93-392-1949-9
4	Dr.A.Shunmugalatha / EEE	Design of Electrical Machines	2007	Sri Krishna Hitech Publishing Company	ISBN:978-93-80659-70-1
5	Dr.G.Manikandan / MECH	Rejuvenating Acceptance Sampling Plan Using Taguchi's Loss Function Approach		LAP Lambert Academic Publishing	ISBN-13: 978-3844382303
6	Dr.M.Aruna	Design Data- Databook of Engineers (EDITOR)	2013	KalaikathirAchchagam	ISBN: BKS58457
7	Mr.N.Dinehkumar	Design of Transmission systems			ISBN No.:978-93-80686-48-6
8	Mr.Godwin Barnabas	Friction Surfacing and Electroplating		Lambert Publication	ISBN-10: 3659363189 ISBN-13: 978-3659363184.
		Processing Time Minimization for the Production Industry		Lambert Publication	ISBN-10: 3659202401 ISBN-13: 978-3659202407
		Balancing Spare Parts Demand in the Automobile Sector -A Case Study			ISBN-10: 3659213969 ISBN-13: 978-3659213960

Details of Publication /Paper Presentation

S.No	Department	International Journal	National Journal	International Conference	National Conference
1.	Chemistry	4	3	9	19
2.	CIVIL	6	2	10	3
3.	CSE	96	1	70	40
4.	ECE	126	-	280	56
5.	EEE	28	-	60	61
6.	English	07	05	15	15
7.	IT	16	-	42	17
8.	Mathematics	36	08	20	18
9.	Mechanical	67	1	44	12
10.	Physics	2	-	-	10

3.4.4. Provide details (if any)of (i)Research Awards received by the faculty (ii) recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally (iii) incentives given to faculty for receiving state, national and international recognitions for research contributions.

Our faculty members have received the following awards from reputed professional bodies for their services and contributions towards publication and R&D. The various awards received by our faculty are

- IEEE RIO Young Humanitarian Challenger 2014 contest Award received by Mr.A.Suban / ECE from Asia Specific Countries
- Received ISSS (Institute of Smart Structures and Systems) Award for the year 2014 by Mr.A.Suban /ECE From IISC Bangalore on 10-07-2014
- Dr.A.BabuKaruppiah / ECE Shortlisted in the final round for Best Techno teacher Award Contest
- Dr. N. Suresh Kumar, Principal (ECE) received the Eminent Engineer Award from the Institution of Engineers (India), Madurai Local Centre,Madurai on September 15, 2012.
- Best ISTE Chapter Secretary Award bagged by Mr.J.Karthikeyan, AP/EEE on 15.12.2012.
- Best Paper Presentation award received by Dr. B.Sridevi in international conference SEISCON'12 conducted by M.G.R university, Chennai
- Best Paper Award for "Centre for Innovation and Product Development' – Sustainable Institute Industry Partnership (SIIP) – National level conference conducted by Society for Educational and Entrepreneurship Development (SEED) at IIT Madras during 3-4 Apr 2013
- Dr. GeethaSivasubramanian Professor & Mr. V. Gopalakannan Assistant Professor Presented and received the Best Paper Award in the National Conference Renewable Energy Resources – A Gender Perspective in Anna University Trichy 22-23 February 2011

Recognitions from Professional bodies

- Dr.S.Vasuki reviewer for various Journals like Defence science Journal,Journal of Communication software and system.
- Dr.S.Vasuki Expert member for board of studies(PG) in Anna University Chennai.

- Dr.B.Sridevi is reviewer of Journal of Communication and Network Security and Technical program committee member of SNDS,WCI,ICACCI confernces
- Dr.P.Suveetha Dhanaselvam reviewer for Various Journals like Elsevier-Microelectronics Journal, Electronic Networks, Devices and Fields, Taylor & Francis series.
- Mrs.P.Rajeswari Reviewer for Journal like Applied Computational Electromagnetic Society
- Dr.P.Alli reviewer for IAENG - International Journal of Computer Science, CiiT International Journal of Digital Image Processing
- Dr. S. Poonkuntran reviewer for International Journal of Network and Computer Applications
- Dr.A.Shanmugalatha reviewer for Electrical Power Components and Systems-Taylor & Francis
- Dr. N.Karpagam reviewer for European Transactions on Electrical Power Journal of Electrical & Electronics Engineering Research (JEEER),International Research Journal of Engineering Science, Technology, Innovation (IRJESTI),International Transactions on Electrical Energy System (WILEY),Institution of Engineers (I)
- Dr. S.Dhanalakshmi reviewer for International Journal of Electrical Power and Energy Systems (IJEPS),International Journal of Engineering Intelligent Systems (IJEIS)

3.5 Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

- In order to strengthen the Consultancy and Research, Research Project proposals are being submitted by faculty members to establish Industry Institute Partnership Cell (IIPC) to various Funding agencies of Government of India under IIPC scheme.
- Every student is required to undertake internship during semester vacation. The internships are systematically and pragmatically planned for the students.
- MoUs are signed with industries and organizations for collaboration and expertise sharing..Eg. BSNL, Avion Aerospace, CISCO etc.
- Approaches by small / medium scale industries are well received and immediate attention is given to their needs.

3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

The institution has an open policy for promoting consultancy by the faculty as an outcome of their expertise. This is advocated in the following ways:

- The current research work is posted in the college website to enable those interested in consultation to establish contact.
- The work carried out is given due publicity in National and Regional dailies
- The socially relevant projects are telecasted in news channels of the city and the state.

- Faculty and students directly approach the enterprise that may benefit from consultancy
- Students are encouraged to bring their own locality need and problems which can be addressed by the expertise from the College.
- Industrialists are invited to the college on various pretexts to show case the relevant skill and proficiency of the faculty

3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

The Institution supports faculty who extend consultancy to the required by

- permitting the use of infrastructure facilities
- Encouraging student participation in consultancy work
- sharing the consultancy fee with the individual(s) in the ratio 60:40, the higher percentage going to the individual(s).
- Extending On-Duty leave along with both Travelling and daily allowances regardless of number of visits for consultancy work till the endeavor becomes self-supporting.

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

The various departments with their areas of expertise have extended their support to the appropriate agencies by way of consultancy services. These are detailed below;

S. No.	Department	Name of the faculty	Name of the consultancy work	Sanctioned date & Completion date	Revenue generated (in Rs.)	Beneficiary
1.	Civil	Dr. L. Andal	Compressive strength of cubes	Sep. 2014 Mar. 2015 Mar. 2015 Apr. 2015 Apr. 2015	5,298	• Karthiya Construction • Hayakriya Associates and Builders • KVT Concrete • Chettinad Integrated Builders Pvt. Ltd, Dindigul • ThiagarajarScool of Management, Madurai
2.		Mr. M. Sathish Kumar	Compressive strength of bricks	Nov. 2014	900	Palanichamy Bricks, Madurai
3.		Dr. L. Andal	Test on Aggregates	Feb. 2015	8,000	Sakthi Roofing and Ceiling
4.	CSE	CSE Faculty	Staff Training Program in use of software	Jun. 2012	15,000	Chief / Senior Managers of Indian Overseas Bank, Madurai
5.			Computer Assembling and Servicing	2012 - 2015	1,25,000	Velammal Educational Trust
6.					2,80,000	
7.					2,50,000	
8.	IT	Dr.P.Ganeshkumar Mr.S.Kamalesh Mr.G.Saravanan	Soil moisture sensor	Dec. 2011& Sep. 2014	1,00,000	Tamil Nadu Agriculture College and Research Institute, Madurai
9.		Mrs.A.Bazilabanu	Website Creation for	Jan. 2013 &	1,00,000*	Velammal Educational Trust

		Mrs.Rajalavanya	VelammalMedical College	Jul. 2013		
10.	IT	Dr.R.Perumalraja Mr.V.Rajaramanan	RFID	Jun. 2013 & Dec. 2013	1,00,000*	
11.		Mrs.D.Anandhavalli Mrs.M.Seema	SMS for Schools	Jul. 2013 & Dec. 2013	1,00,000*	
12.		Mrs.A.Sumithra Mrs.K.Dhanalakshmi	SMS for VCET	Jul. 2013 & Dec. 2013	1,00,000*	
13.		Dr.S.RajPandian Ms.P.Saraswathi Ms.M.Prabha	CNC Machine	Aug. 2013& Mar. 2014	1,00,000*	
14.		Dr.S.RajPandian Mrs.D.Anandhavalli Ms.K.C.Aarthi	Robot arm / trajectory control	Sep. 2013 & Sep. 2014	1,00,000*	
15.		Dr.M.JanakiMeena Ms.N.ShanmugaSundari	A custom Pharmacy sale software package	Jan. 2014 & Mar. 2014	1,00,000*	
16.	MECH	Dr. G Manikandan, Dr. V. Anbumalar	Design and Fabrication of Automated machine for filling Material	2 years	1,63,000	M/s Sri Kaliswari Fireworks, Sivakasi
17.		Dr. G. Manikandan, Mr. M. Maran Mr.A.Arun Senthil Kumar	Button feeder for the riveting machine for the garment industry	2 years	6,00,000	Penguin apparels
18.	Chemistry	Department	Water Quality testing	regular	-	Velammal Educational Trust and VCET

*value of consultancy.

3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development?

- Reasonable incentive will be sanctioned to the faculty / department involved (normally in the ratio 60:40, the higher amount in favor of the faculty / department)
- Remaining generated fund will be utilized for the institutional / departmental development towards the benefit of students and staff.

3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 How does the institution promote institution-neighbourhood community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?

The extension activities of the college ensure that students are exposed to the societal needs and their social responsibilities. NSS activities play a vital role in involving the students in community work.

Students also form their own networks for social and environmental causes and this is given due recognition.

Regular blood donation camps bring awareness to students on the value of life and their own contribution in saving the same.

Programs on road safety and the ill-effects of alcoholism for students through NSS help them educate themselves on responsible citizenship.

Participation in a variety of sports activities inculcates sportsmanship and team work among students and contributes to holistic development of students.

One day special camp was organized jointly by the NSS and the ISTE in Thirumokur on 4-5-12

Blood donation awareness program held on 27-7-2013.

Blood Donation Camp' held on 05.08.13 at Velammal Medical College and Research Institute

In order to expose school children to some of the latest technologies and thus motivate them towards higher learning, in 2014, demonstration of remote control drones were carried out in rural school premises :

Again focusing on the promising youth for tomorrow's India, Energy Awareness camps have been conducted for four consecutive years for school children

-

ECO Club activities – Sapling Plantation & Collage competition

The ECO Club with its student members (around 250 enroll each year)of the college conducts activities that impart a healthy respect forconservation of the environment and instill responsibility towards preserving the earth. To site a few;

S.No.	Date	Name of the Event	Outcome of the programs	No. of Students participated
1.	19.9.2013	Tree Plantation in Girls and Boys hostels	The event has created an awareness for the need to rejuvenate our environment and create an aesthetic and peaceful surroundings congenial for promoting biodiversity and for humankind	30
2.	5.10.2013	Webinar on 'Good Bye Global Warming and Bye Bye Pollution' organized by ExNora Youth wing	This world- wide webinar was an eye opening exercise for the students on Global warming and its consequences as the seminar covered talks by eminent environmentalists.	66
3.	27.2.14	Collage Competition	This exercise was mainly to help students realize the importance of reuse and recycle of waste. The students came out with creative ideas in reusing and recycling. The prize winning collage posters were displayed in the bulletin boards.	16
4.	17.7.14	Release of Awareness Stickers – Do Not LitterSave water, Save electricity, Save our earth We have nowhere else to go	To create the self-responsibility of keeping the college campus clean, stickers were posted in all the classrooms for students will read the phrases every day and imbibe the same.	50
5.	28.2.15	Painting Competition – My dream My India – Organized by Assist World Record and Record Riser - Pondicherry	This competition brought out the aesthetic talent as well as the patriotism of the students.	30
6.	24.3.15	Oratorical Competition – War for water ; Air Quality – Past, present	These competitions conducted commemorating the World Water day and World Meteorological Day, Accomplished the aim of conduct of such	45

		and future; Global Climate Change	competitions viz- collecting relevant information related to environment and the prime importance of the need for conserving the environment.	

SCIENCE UTSAV - A state- level inter collegiate project competition for showcasing the innovative talents in project works

S.No.	Date	No. of Participants	Outcome
1.	28.07.2010 To 01.08.2010	33	The participants and visitors – school children and the public- viewed the exhibits of engineering and technology innovations. The students of VCET were trained in event management, organization and to professionally display their talents

Nuclear Energy Educational Meet -NEEM DETAILS

S.No.	Date	No. of Internal Participants	No. of External Participants	Contribution	Beneficiary
1.	02.03.12 and 03.03.12	All students of VCET and Velammal Schools, Madurai	Neem Experts – 18 Public – around 500	At the time when Tamil Nadu was facing crippling power crisis and at the same time when there was opposition to Koodankulam Nuclear power plant to become critical , the college deemed it its duty to spread awareness about the immediate need for the available alternate energy source and the safety of nuclear power plants. This Meet helped the students and the general public get a holistic approach to nuclear power generation and its role in economic development and at the same time realize that at least lay man knowledge should be acquired before supporting or protesting against crucial government endeavors.	Students and Public of Madurai

FINE ARTS CLUBACTIVITIES bring out the inner artistic potentials of students and each year preparation for the College day cultural event turns out to be a gala event with the students learning to prioritize, organize, cooperate and to synchronize.

S. No.	Date	Name of the Event	Outcome	No. of Students Enrolled						
				ECE	CSE	IT	MECH	EEE	CIVIL	MBA
1.	24.02.2015	8th College Day – Cultural ODESSEY '15	With each year program having a social theme, the values and ethics are imbibed by the students as they become a part of the cultural show.	42	48	26	36	65	55	-
2.	8.03.2014	7th College Day – Cultural ODESSEY '14		45	24	26	42	66	24	8
3.	31.08.2013	Cultural event for State Level Science Exhibition conducted by TNSTC at VCET		17	6	1	19	41	23	-

Samples of the scintillating cultural show

N.S.S. Activities – 2014- 2015

S.No	Date	Name of the Event	Purpose of the Event	Place of the Event	Outcome
1.	03-08-12	Awareness on Traffic Rules & Road Safety	To create awareness among our students regarding traffic rules and road safety	Velammal College of Engineering and Technology ,Madurai	The students got to know the importance of keeping to traffic rules and the adverse effects of violating the rules. The students learnt to appreciate the need to extend unstinting help.
2.	07-01-12	Road safety	To explain the importance of adhering to traffic rules and the role of students in road safety	Velammal College of Engineering and Technology, Madurai	
3.	19-01-12	Blood Donation	Create an awareness of the importance of blood donation	Apollo Hospital, Madurai	
4.	20-01-12	National voters Day	To conduct various events pertaining to national integration	Velammal College of Engineering and Technology, Madurai	The students became aware of the importance of National Integration
5.	26-01-12	Republic Day Celebration	To organize events like MIME, group song and quiz competition to demonstrate the importance of national integration.	Velammal College of Engineering and Technology, Madurai	
6.	04-05-12	One Day Special Camp	To interact with students of rural area.	Thirumokur (near Othakadai)	The students learnt to appreciate their worth and empathize with students from rural background
7.	26-07-12	Computer Awareness Workshop	To give real time experience to students of rural areas	Government girls higher secondary school, Thirupuvanam	Learning to share knowledge.

8.	13-08-12	Painto-Verse Competition	To create an awareness for a better India.	Velammal College of Engineering and Technology,Madurai	Students showcased their role in nation building
9.	19.1.1230.8.1227.7 .13 and 5.8.13	Blood Donation Awareness	Create an awareness of the importance of blood donation	Apollo Hospitals Madurai & VelammalMedical College Hospital and Research Institute	The students learnt to appreciate the need to extend unstinting help. The volunteers had an opportunity to realize the importance of sharing and the need to value life
10.	10-10-12	Exhibition	To make students became familiar with the various diseases related to them and learned the precautionary measures to be taken. Also students are made aware of the concept of eye donation and its use for blind people.	Aravind Eye Hospital, Madurai	Students come to know the precautionary steps to be taken to avoid diseases and help the community to be diseases free.
11.	21-08-13	Social Awareness Camp	Distribution of note books to government school students	Government High school, Naganakulam	Students learn to empathize and appreciate what they have been bestowed with.

3.6.2 What is the Institutional mechanism to track students' involvement in various social movements / activities which promote citizenship roles?

Students enroll themselves in the clubs run by the college or the departments based on their inclinations and involvement. The club coordinators and / or the mentors obtain information from the students their participation in activities that are directly of use to the society.

Many students are members of Blood donors Clubs of various organizations.

A foundation called Only One Rupee has been started by a student and students who enroll themselves as members market the Help India program, support trans gender education and work on literacy programs.

Students very much interested in sports activity are members of various sports clubs and the Physical Education Director identifies and tracks the achievements of students. To site a few instances

Mr. R.N. Ramprasath, IV B.E. (Mechanical Engineering) -Member of Madurai District Rifle Club. (2011 Batch)

Mr.G.Manoi Kumar, IV B.E. (Civil Engineering) Member of Madurai District Kung Fu Association. (2012 Batch)

Ms. A. Parish Kirutha, III B.E. (Electronics and Communication Engineering) Member of Madurai District Badminton Association. (2013 Batch)

Ms.V.Vaishali I B.E. (Computer Science and Engineering) - Member of Aquatic Association Madurai. (2015 Batch)

Mr.M.Karthick Raja, I B.E. (Mechanical Engineering) Madurai District Carrom Associations (2015 Batch)

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The institution values the opinions and viewpoints of all stake holders.

- Feedback from students on academics and related services is obtained on a regular basis and put into use for the progress of the institution.
- Faculty ideas and opinions are perceived through department and faculty meetings which are further discussed in weekly meetings of the HoD with the Principal and the Vice Chairman/ Chairman of the institution.
- The formal interactions with parents once / twice a year and informal meetings with the mentors, classes-in-charge and the Heads of departments serve as valuable sources of information and suggestions for augmenting the performance and contentment level of all stake holders.
- The alumni feedback is solicited during alumni meet , Graduation day and on informal visits of alumni to the college.
- The employers' constructive criticisms and estimations are welcomed and judiciously put into practice for the betterment of the institution

A consolidation of the above feedbacks encompasses the perception of all the stakeholders on the overall quality and growth of the institution and this perception is accepted, analyzed and mechanisms arrived at and put into practice for enhancing the eminence of the Institution.

3.6.4 How does the institution plan and organize its extension and outreach programs? Providing the budgetary details for last four years, list the major extension and outreach programs and their impact on the overall development of students.

The NSS unit of the college is a self-supporting program and the financial requirements are met by the Management as and when the programs are planned.

The following table shows the expenses incurred in the last four years for the conduct of extension activities under NSS.

S.No	Year	Expenses `
1.	2011-2012	10,000
2.	2012-2013	24,200
3.	2013-2014	9200
4.	2014-2015	13900

Programs conducted by NSS:

Blood Donation camps; Programs on Safety Driving, National Voters' Day, Addiction Free Life, Dengue and Swine Flu awareness, Independence Day Celebrations; Social Awareness Camp at Nagankulam, Computer awareness program for Government school at Thirupuvanam, exhibitions and health Awareness Program for hostel students (girls).

The visible impact of these programs on the students are the change in attitude towards the under privileged, matured outlook towards life, willingness to share resources and expertise and an overall personality change for the better.

3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

The extension activities of the college include not only NSS but other clubs such as ECO club, Quiz club and Participation in Fine ArtsActivities etc.

The Activities of each club is convened / coordinated by a faculty member and additional faculty members opt / are deputed to help in the conduct of the club activities.

The students enroll themselves as members of a club and a student can enroll in more than one club. The membership is valid for one year and the enrolment is renewed every year.

The office bearers of each club are either elected or nominated and the office bearers work in conjunction with the faculty convener to plan and execute the activities. The student members participate in the activities and also contribute by proposing novel ideas for the functioning of the club.

Functions are organized during National days such as Independence Day and Republic Day and students are encouraged to organize and participate in the days' events.

Whenever public awareness programs on social causes are organized by the Corporation or the Government, like rallies and marathons, students are encouraged to participate and permitted on –duty for such participation.

The tangible outcome of promoting such activities is the growth of leadership quality, team building capacity, adaptability and awareness on social illnesses and the role of the individual in addressing the same.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from under-privileged and vulnerable sections of society?

- An one-day special camp was organized jointly by the NSS and the ISTE in Thirumokur (near Othakadai) a village in Madurai city on 4-5-12. The following activities were carried out:
    1. Awareness program on education.
    2. Distribution of note-books to students.
    3. Conduct of games for the children and the villagers.
- NSS and ISTE Staff Chapter together jointly organized a one day, Computer Awareness Camp at Government Girls' higher secondary school, Thirupuvanam on 26.07.2012. The main motive of the camp was to create awareness on the use of computers and their applications.
- Energy Awareness Programs are conducted each year by the EEE department for the Government school students to expose them to energy resources and energy conservation.

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

The prime objectives of the extension activities are

- ❖ To expose the students to real life situations
- ❖ To help students learn to balance academics and socially responsible activities
- ❖ To assist students appreciate what they have and realize the need to share with the under- privileged

The realization of the above objectives and the perceptible attitudinal change in the mindset of the students are the expected outcomes.

Firstly, exposure to the societal needs aids the students to realize the worth of the circumstances from which they hail.

Secondly, the students focus better on the academics and are inspired to innovate and / or work on projects, the outcome of which will ultimately benefit the society.

Thirdly, the awareness created has stimulated students to extend financial and other types of help to the down trodden.

On the whole, such the experiences impact the students' attitudes towards more relevant, realistic and empathetic approach towards life.

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

The extension activities are designed to promote direct interaction between the students and the community.

The NSS camps pave way for the rural student community to interface with professional college students.

Programs like NEEM and Science Utsav are organized to bring in the general public to the institution.

The college volunteers and accepts to host exhibitions like INSPIRE and state tournaments to uphold the society – institution relationship.

The invitation extended to parents / guardians either for a formal meeting or for informal visits during college Annual day celebrations and the Graduation Day ensures a special type of community interaction.

3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

Prior to the inception of Velammal Medical College Hospital and Research Institute, the College had a healthy tie–up with Apollo Hospital, Madurai for the Blood Donation Activity of the NSS.

At present the same noble work is carried out through VMCHRI.

3.6.10 Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

Our institution got the platinum award for giving the highest contribution from the students, of Rs. 20,000/-, as donation for the blind people during 2014-15.

The participation of students in the two mega events (i) mini marathon Organized by Agricultural College and Research Institute from Madura College to Agriculture College and Research Institute for Driving Youth to Agriculture (2015) and (ii) mini marathon organized by the Blood Donors' Club and Madurai Medical College (2015) for the cause of 'take a run to sweat for blood' were widely acclaimed and appreciated for the number of participation- 30 in the first event and 103 in the second event.

3.7. Collaboration

3.7.1. How does the institution collaborate and interact with research laboratories, institutes and industry for research activities. Cite examples and benefits accrued of the initiatives- collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

The college supports various kinds and modes of collaboration with industries and reputed institutions. With this invaluable prop from the management, the departments take the liberty of contacting and interacting with institutes of relevance to their academic area. A few examples are

1. The department of CSE has established good rapport with CISCO and TYCO and as a result **faculty have been trained** and a lab with **networking devices and components**has been set up.
2. Dr. P. RajeshKanna, Professor, Mechanical Department visited Cracow University of Technology, Poland, Europe as a **Visiting Professor** during (i) 04.06.12 to 21.06.12(ii) 28.05.13 to 18.06.13 (iii) 12.05.14 to 04.06.14 as an outcome of collaborative interaction with the University.
3. **Two research papers in networking and in wireless networking** have been **published** by the faculty of IT department as a result of interaction with Department of Systems and Computer Engineering, Carleton University, Canada and ICMR Madurai respectively.

3.7.2 Provide details on the MoUs/ Collaborative arrangements (if any) with institutions of national importance/ other Universities/ industries / Corporate (Corporate entities) etc. and how they have contributed to the development of the institution.

Almost all engineering and technology departments have MoUs / collaborative work with leading industries and institutions for uplifting the quality of teaching-learning process and research work.

S.No	Department	Organization	Year of Establishment	Nature of Collaboration	Outcome
1.	CSE	CISCO	2010	CISCO Academic Interface-Certification on Networking	117 students completed certificaiton
		TYCO	2014	TYCO Academic Interface – Training in Computer Networking and cabling	In progress
		VelammalEducational Trust Madurai &Chennai	2012	.Computer System Assembling and Services	
2.	ECE	Purple leap, Bangalore.	2010	To give training and project guidance for students	PurpleLeap is a Career Center that helps in assessment-training-placement.
		Avian aerospace, Chennai.	2014		Students Project Training on Unmanned Aerial Vehicles
		Beacon Technosoft solutions(P)Ltd, Chennai	2013		Technical Support for Students projects and DST Projects
		BSNL(EETP)	2014		To enhance competence and employability of students by providing skill based training
3.	English	University of Cambridge	2011	BEC certification (Cambridge ESOL Exam Preparation Centre)	Students improve their Communication Skills
4.	IT	Sundaram Business Solutions.	2010 - 2012	To start a Rural BPO	Employment for educated rural youth
		VMCH&RI, Anupanadiand Big A Solutions, Madurai (an Alumni enterprise)	2015 - 2016	Heath Care	Fastest emergency healthcare and ambulance transportation to the nearest appropriate hospital.
		ICTACT, Tamil nadu	2010-2012	International certification program	Students are trained in advanced technologies in cloud computing

5.	MECH	Native leadFoundation	2013-2014	Entrepreneurship development	To foster entrepreneurship among students.
		Confederation of Indian Industry	2015-2016		
6.	ENG	University of Cambridge	2012	Business English Certificate Course	To enhance communication skills of students

3.7.3. Give details (if any) on the industry-institution-community interactions that have contributed to the establishment/ creation / up-gradation of academic facilities, student and staff support, infrastructure facilities of the institution viz. laboratories / library/ new technology /placement services, etc.

The college and the departments have till date have focused on enhancing the facilities / services for the community which by themselves have served as rich learning experiences and developing new technology. For example the Department of Mechanical engineering has devised an appliance for button feeding to the button riveting machine for Penguin Apparels Madurai and a low cost multipurpose machine for Sri Kaliswari Fireworks, Sivakasi.

3.7.4. Highlighting the names of eminent scientists / participants who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

Conducting national level and international level seminars / conferences is a regular practice of the college to enrich the knowledge of students and faculty.

The following are the details of workshops / Faculty Development Programmes / Training Programs organized by various departments during the last five years.

S.No	Year	Name of the Academician / Scientist	Designation	Organization	Purpose of Visit
1.	2008	T. Srinivas	Associate Professor	Department of ECE, IISc Bangalore	One day National Seminar on “Recent Advance in Nanoscience& Technology” - Micro-Nanophotonics”

2.	2008	Dr. V. Rajendran	Director	Centre for Nano science & Technology KSR College of Technology Thiruchencode	One day National Seminar on "Recent Advance in Nano science& Technology" - ."Prospects of Nano Science & Technology"
3.	2008	Dr.T. Prem Kumar	Scientist	Advanced Battery Division CECRI, Karaikudi	One day National Seminar on "Recent Advance in Nanoscience& Technology" -"Nano Batteries"
4.	2008	Dr. V. N. Mani	Scientist – D	C – MET, Government of India, Hyderabad	One day National Seminar on "Recent Advance in Green Chemistry" – "lass Clean Cum Green Material"
5.	2008	Dr. M. Noel	Deputy Director & The Head	Electro Organic Division, CECRI Karaikudi	One day National Seminar on "Recent Advance in Green Chemistry "- Fluorine Chemistry & Environment"
6.	2008	Dr. D. Jeyakumar	The Head	Functional Materials Division, CECRI, Karaikudi	One day National Seminar on "Recent Advance in Green Chemistry "- "Green Chemistry & Catalysis"
7.	2008	Dr. K. Pitchumani	Professor	Department of Natural Products, MKU Madurai	One day National Seminar on "Recent Advance in Green Chemistry "- "Green Solvents & Catalysis"
8.	2008	Dr. N. G. Sethuraman	Professor	Department of Chemistry, Gandhigram Rural University	One day National Seminar on "Recent Advance in Green Chemistry "- "Greener Alternatives"
9.	2009	Mr. G. Yagna Narayanan	Senior Scientist (Retired)	Department of Atomic Energy,Baba Atomic Research Centre, Mumbai.	One day National Seminar on "Emerging Trends in Environmental Science"- Energy resources and environment"
10.	2009	Dr. J. Ankayarkanni,	Head	Department of Microbial Bio Technology, Bharathiyar University, Coimbatore.	One day National Seminar on "Emerging Trends in Environmental Science" - Microbial bio marker in pollution"

11.	2009	Dr. V. Geetha	Professor & Head	Department of Biology, Meenakshi Government College,Madurai.	One day National Seminar on "Emerging Trends in Environmental Science" - "Solid Waste Management"
12.	2009	Dr. P. LakshmanaPerumalsamy	Registrar	,Karpagam University, Coimbatore	One day National Seminar on "Emerging Trends in Environmental Science" - "Global Warming"
13.	2010	Mr. M. B. Nirmal	Founder and Chairman	Exonora International, T Nagar, Chennai	Ministry of Earth Sciences and TNSCST sponsored a one day national seminar on "Global Warming" -
14.	2010	Dr. M Vetrichelvan	Scientific Manager	BIOCON Bangalore	Ministry of Earth Sciences and TNSCST sponsored a one day national seminar on "Global Warming" -
15.	2012	Dr. S. Arumugam	Senior Professor	Department of Mathematics, Kalasalingam University	DRDO sponsored Two – Day national level seminar on " Chemical Graph Theory"
16.	2012	Dr.P.Venuvanalingam	Professor	Dept. of Chemistry, Bharathidasan University, Tirchy	
17.	2012	Dr. A. K. Madan	Professor	Pt.B.D. Sharma University of Health Sciences, Rohtak, Haryana	
18.	2013	Dr. V. SriDevi	Head – UG & Associate Professor	Department of Chemistry, Lady Doak College, Madurai	Faculty Development Programme on Engineering Chemistry – I
19.	2013	Dr. KamachiMudali,	Professor	HomiBhabha National Institute (University), DAE, Kalpakkam	CSIR sponsored Two – Day national level seminar on " Recent Trends in Corrosion Studies"

20.	2013	Dr. S. Sathiyanarayana n	Senior Principal Scientist	CECRI, Karaikudi	
21.	2013	Dr. N. Rajendran	Professor	Chemistry Department Anna University, Chennai	
22.	2013	Dr. N. Palaniswamy	Head	Corrosion Protection CECRI, Karaikudi	
23.	2013	Dr. J. Annie Peter	Chief Scientist & Head	Structural Testing Laboratory SERC, Chennai	
24.	2013	Dr. V. Saraswathi	Senior Principal Scientist	CECRI, Karaikudi	
25.	2008	Er. S.Kalirajan	Additional Chief Engineer	Kudankulam Nuclear Power Project, Kudankulam.	Inaugurated the "Modern Construction Practices in Steel and Concrete - MCP '09 and delivered lecture on "Civil Engineering and sustainable Development"
26.	2009	Dr. Nagesh R. Iyer	Director	Structural Engineering Research Centre, CSIR Campus, Taramani, Chennai	
27.	2009	Dr. Prof. F.A.Olutoge	Postdoctoral fellow from Nigeria	CSIR- TWAS Fellowship, SERC, Chennai	
28.	2009	Er. SrinivasaRaoSar vade	Director (Technical)	Eversendai Construction India (P) Ltd, Chennai	Delivered a lecture on "Modern Engineering Methods for Power Plant Structures".
29.	2009	Er.B.Nagesh	Director	Nagesh Consultants	Delivered a lecture on "Construction Methods in Grade

			(Technical)		Separator Construction"
30.	2013	Dr. V. Saraswathi	Senior Principal Scientist	CSIR-Central Electrochemical Research Institute	Delivered lecture on " Concrete Corrosion"
31.	2013	Dr. Jolly Annie Peter	Assistant Director	Structural Engineering Research Centre, CSIR Campus, Taramani, Chennai	
32.	2010	Dr. Suresh Kumar Thakur	Deputy Director	Naval Research Board, DRDO, New Delhi	Inauguration of Research and Development Cell
33.	2010	Dr. G.J. Samathanam,	Advisor	Department of Science and Technology, New Delhi	National Level Science Exhibition - Science Utsav 2010
34.	2011	Mr.G.Sathish Kumar	Scientist	ISRO, Shriharikota Range, Nellore	Technical symposium - Recent Advancements in communication Engineering RACE '11
35.	2011	Mr.P.ShireenKumar	SAP Architect	IBM India Pvt. Ltd., Hyderabad	
36.	2011	Mr. S. Deepak Ram Prasad	Manager-Project	Thiagarajar Telecom Solutions Ltd	Guest Lecture on Antenna Trends and Technologies for LTE Wireless Applications
37.	2011	Er. B. Aravindhan	Engineer	Nokia Siemens Networks, Coimbatore	Guest Lecture – Mobile Communication Evolution from 2G(GSM) to 4G(LTE)
38.	2011	Dr. T. Srinivas	Associate Professor, ECE	Indian Institute of Science	National Seminar (Research issues in Optical Communication Networks)
39.	2011	Dr. D. Sriram Kumar	Associate Professor	National Institute of Technology, Tiruchirappali-	
40.	2011	Dr. Rajesh	Lead- SOA	Hewlett Packard Enterprise,	

		Devadas		Custom Applications Practice, Bangalore	
41.	2012	Dr. M. M. Nayak	Ex.ISRO Director	CeNSe, IISC Bangalore	
42.	2012	Mr. Thejas	Research Scholar	Center for Nano Science and Engineering, IISC Bangalore	
43.	2012	Shri. Ansul Mishra I.A.S	District Collector, Madurai	District Collector, Madurai	Recent Advancements in Communication Engineering – RACE 12
44.	2013	Dr. K. Kulothungan	Professor	College of Engineering, Guindy. Anna University, Chennai.	National Seminar (Recent Development in Wireless Networks)
45.	2013	Er. M. Rajeshwaran	Director	Real Time Technosoft, Chennai	National Seminar (Recent Issues in Signal Processing)
46.	2013	Er. M. Rajeshwaran	Director	Real Time Technosoft, Chennai	National Seminar (Future Trends in Beagle Boards)
47.	2013	Mr.Rajeswaran	Technical Manager	Real Time Technosoft, Chennai	Guest Lecture: Embedded Systems and Signal Integration using LABVIEW
48.	2013	Mr. Amarnath	CEO	Embuzz Technologies, Madurai	Guest Lecture Topic: RealTimeImplementation on Systems in Embedded Technology
49.	2013	Mr. Sharon David	Design Engineer	INTEL, U.S.A	Guest Lecture: Study of VLSI Design and INTEL
50.	2013	Mr. Raja Duraisamy	Director	Director of Mobile Centre of Excellence, Bangalore	Guest Lecture on “Recent Advancement in Mobile Technology”

51.	2014	Mr. C. Dinesh Kumar	CEO	Avian Aerospace	Work Shop on Unmanned Aerial Vehicle
52.	2014	Prof. M. Krishnaswamy	Former Programmer Director of IRS satellites	Indian Space Research Organization (ISRO), Bangalore- 560 231	National Seminar (Challenges in Satellite Communication)
53.	2014	Er. C. Jeyaganesan	Senior Manager	Cisco Systems India Private Limited, Bangalore- 560 037	National Seminar (Mobile Communication in Future)
54.	2014	Er. C. Jeyaganesan	Senior Manager	Cisco Systems India Private Limited, Bangalore- 560 037	National Seminar (Heterogeneous Deployment in 4G)
55.	2014	Dr. Al-Sakib Khan Pathan,	Professor	International Islamic University Malaysia	ICIECC'14
		Dr.K. Ramachandra	CEO	National Program on MICAV-NDRF Consortium. The Institution of Engineers (India)	
		Dr.AnitaAggarwal	Scientist- "D",	DST,New Delhi	
		Mrs. SellammalShekh	Additional Director,	Directorate of ER & IPR, DRDO, New Delhi	
56.	2010	Mr. R.Bharathidasan	Sr. Manager	TVS Rubber Factory.	Energy Awareness Camp '10

57.	2010	ErA.Sahayaraj	Sr.Manager/Training,	TNEB, Madurai.	Energy Awareness Camp '10
58.	2011	Dr. Ramanikalpathi	MD	Power soft systems, Chennai	SEM'11 Special Electrical Machines
59.	2011	Er. A. Nachatalingam	Chief Engg	TNEB	National Leval Symposium "EWAR-11"
60.	2011	Dr.V.Natarajan	Scientist 'F	NPOL,DRDO/Cochin	National Leval Symposium "EWAR-11"
61.	2011	ErA.Sahayaraj	Sr.Manager/Training	TNEB, Madurai	National Franchisee training programme
62.	2011	Er. S.Vennila	Executive Engineer operation	TNEB Pasumalai Madurai -4	
63.	2011	Er.Rajashree	Senior Manager	TNEB	
64.	2011	Er.R.Maniyan	DGM, Training & Development Institute	TNEB,Madurai	
65.	2012	Er.S.SelvaMuthu Kumar	GM	EMMESS Control Pvt.Ltd, SidcoIndl.Estate, Chennai.	"ADS-12" Advanced Technologies in distributed generation systems &Micro grids
66.	2012	Mr.C.Kannan,	Sr.Manager Trainee	TNEB	
67.	2012	N.Krishnakumar	Technical Manager	Kongsberg Maritime Pvt.Ltd Singapore	E-war '12" National level symposium
68.	2012	R.Arunan	Project Manager	Kongsberg Maritime Pvt.Ltd singapore	E-war '12" National level symposium

69.	2012	Shri. S.E.S. Syed Ahamed,	Deputy General Manager	Tamilnadu Energy Development Agency, Madurai Region	FDP on IRES'12
70.	2013	Dr.AktharKalam	Professor	Victoria University, Australia	Research innovations
71.	2013	Dr. B. K. Tyagi	Director	ICMR, Madurai	Seminar on "Recent research trends in Indian Council for Medical Research"
72.	2014	Mr.R.Swaminathan	CTO	Cogzidal, Madurai	"Mini-Project Competition", Chief guest
73.	2011	Prof. V. Ramamurti M.E. Ph.D.,	Retired Professor	IIT, Madras	Staff Development Programme
74.	2011	Mr.A.Vasudevan Mr.D.Dhanuskodi	Head (Education &Trainning)	LUCAS –TVS LIMITED , Chennai & SUN PRESS (P) LTD	National level technical symposium - MECOSPARX 2011
75.	2013	Shri.S.Prasanna Shankar, R.Pradeep& B S Sathya Narayanan	Regional Manager, Application Engineer & Field Application Engineer	Trident Techlabs Pvt. Ltd,Chennai	FDP - Technical Advancement in CAD/CAM/CAE & Automation Technologies
76.	2013	Mr.S.Srinivasan,	Proprietor,	Falcon Engineering Works, Sivakasi	VCET Automobile Service Centre Inauguration – VAUTS
77.	2014	Mr.B.VivekAravind,	Manager-Service Training,	Ashok Leyland, Chennai	State Level Mini Project Contest m/c-2014.
78.	2011	Dr.Manivel raja	Scientist E	Metallurgical Research	National Seminar

				Development Orgn.Hyderabad	
79.	2011	Dr. V. N. Mani	Scientist E	Head,Nano Materials DivisionHyderabad	
80.	2011	Dr.A.Chandra Bose	Asso.Prof.	Dept.of Physics NIT,Trichy	
81.	2015	Dr. A. Marikani	Professor	MepcoSchlenkEngg. College	Student Technical Symposium

International Conferences Details

S.No.	Department	Conference	Date	Resource persons
1.	CSE,EEE, ECE & IT	International Conference on Computers, Communication and Intelligence- ICCCI' 10	22.07.2010 & 23.07.2010	• Dr.A. SivathanuPillai, Distinguished Scientist & Chief Controller (R & D), DRDO,CEO & MD – Brahmos Aerospace, New Delhi • Dr. R. Murugesan, Vice Chancellor, Anna University of Technology, Madurai • Dr. V. N. RajasekharanPillai, Vice Chancellor – Indira Gandhi National Open University, New Delhi • Dr. K. Ganesh, Global Business Services, IBM India Private Limited
2.	EEE	International Conference on Power & Energy Systems(ICPES'13)	19.12.2013 to 21.12.2013	• Dr.AkhtarKalam, Prof., Victoria University, Australia. • Dr.M.Ravindran, Chairman, Naval Research Board, • Dr. P.S.Kannan,Former Professor, TCE, Madurai. • Dr. M.Geethanjali,Professor, TCE, Madurai.

3.	ECE	International Conference on Innovations in Electronics, Communications and Computing (ICIECC'14)	10.04.2014 & 11.04.2014	• Dr. Al-Sakib Khan Pathan,Professor, International Islamic University, Malaysia. • Dr. K. RamachandraCEO, National Program onMICAV- NDRF Consortium TheInstitutionof Engineers (India). • Dr. Anita Aggarwal, Scientist- "D", DSTNew Delhi • Mrs.SellammalShekhar,Additional Director**,** Directorate of ER & IPRDRDO, New Delhi

3.7.5. How many of the linkages / collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of the established linkages that enhanced and/or facilitated Curriculum development/enrichment

The linkages established with institutions and industries by the departments have contributed to the enhancement of the academic experience of the faculty and the students.

For example, the Department of Computer Science and Engineering has an agreement with CISCO and as per this agreement teachers have been trained in Networking and a value added course is being conducted for the students. The following are the data illustrating the outcome of the agreement:

Number of faculty trained: Five

Number of students who have successfully completed and acquired certificationon Networking

2010-11	2011-12	2012-14	2013-14	2014-15
36	37	25	19	90

A formal MoU has been signed with NCVT for offering skill training to interested students and non-teaching faculty.

The ECE department has a MoU with Avian Aerospace, Chennai and a Center for Unmanned Systems Research Lab has been established as an outcome of the MoU with four ongoing projects on Unmanned Systems.

The Department of English has been certified by the University of Cambridge as a center for Examination Preparation under which the Business Certificate Course is offered to the students.

3.7.6. Detail on the systemic efforts of the institution in planning, establishing and implementing the initiatives of the linkages / collaborations.

The initiatives for linkages / collaboration have been a two-way process – college to the agency and the agency to the college.

The Management lends total support to the departments to plan and establish contact with agencies for fruitful collaboration.

The departments through academic contacts, visiting experts and through contacts in research laboratories /industries constantly endeavor to enter into collaboration the outcome of which will ultimately benefit the students, teachers and the institution. Teachers take efforts to visit the agencies and meet personnel who will be able to decide on the type of collaboration they can offer to the college. Once the arrangements are finalized, the Management finalizes the nature and mode of agreement.

Similarly when external agencies approach the college or the departments, the institution is more than willing to consider the possibility of entering into a collaboration or MoU that will of advantage to the stakeholders of the institution.

To site a few real time instances:

- The Department of CSE realizing the need to expose the faculty and students to network infrastructure and offer a course on Networking(which is not for the curriculum) , approached the Regional Academy of CISCO and implemented the establishment of

the infrastructure facility and a course vale added course on Networking.

- A startup company Big A Solutions (an enterprise of the college Alumni), had obtained a project for vehicular tracking and the Department of IT was also working on Ambulance tracking for VMCH & RI. A collaboration between the two resulted in implementation of the project with technical support of the IT department.
- Sundaram Business Solutions came out with an offer to establish a Rural BPO for the local community and the management immediately agreed to participate in the project.
- The membership in ICT Academy of Tamil Nadu (ICTACT) was the outcome of the interaction between ICT academy and the college for strengthening Industry – Institution relationship.
- Initiatives are on the anvil for collaboration of the CIVIL department with TWAD board for real time water supply analysis – a project awaiting funds from DST.
- The EEE department has successfully contacted EMVEE Solar System Pvt. Ltd., for collaborative work on Solar energy , a project submitted to DST for funding.
- On the same lines, initiatives are being taken to sign anMoU with Steinbeis Solar Research Center, Chennai.

Any other

The college in a short span of time, has made strides in research activities with worth-mentioning funded projects and collaborative work. The departments are also taking earnest measures towards consultancy.

The extension activities contribute to the development of the students and efforts are underway to augment the number of extension activities.

CRITERION IV
INFRASTRUCTURE AND LEARNING RESOURCES

CRITERION IV
INFRASTRUCTURE AND LEARNING RESOURCES

4.1 - Physical Facilities

4.1.1 What is the policy of the Institution for creation and enhancement of infrastructure that facilitate effective teaching and learning?

Just as much as qualified and experienced teachers are essential for a reputed institution, adequate and necessary infrastructure is also necessary. Without well-equipped laboratories and ambient class rooms, and other basic amenities teaching–learning process will not be effective.

The College, therefore has a clear-cut policy with regard to infrastructure facilities, which is

To provide well-quipped laboratories, spacious class rooms and suitable academic and administrative frame work for the smooth functioning of the college and enhance these to keep up with the growth of the college.

In keeping with the policy the sprawling campus of the college houses class rooms, laboratories, spacious library, air-conditioned seminar halls, air-conditioned auditorium, faculty rooms and other basic amenities including hostels and canteen, play area, gymnasium spread over an area of 14.48 acres.

4.1.2 Detail the facilities available for (a) Curricular and co-curricular activities – classrooms, technology enabled learning spaces, seminar halls, tutorial spaces, laboratories, botanical garden, Animal house, specialized facilities and equipment for teaching, learning and research etc.

The majestic façade of VCET

The college is endowed with ample number of class rooms, air-conditioned seminar halls and laboratories to cater to the demand of the teaching learning process. Expansive play area, air-conditioned auditorium and meeting hall gratify the need for sports and other extracurricular activities. The extensive Vivekananda Block with a stretch of green lawn, trees and bushes with the bronze statue that immortalizes the name of Mrs.Velammal– a delight to the on-looker – is captured in the above photograph.

The more prosaic details of the above are tabulated below:

Particulars	Area in Sq.m.
Instructional Area (Class room & Laboratory)	190965.64
Administration Area	985
Amenities	300
Circulation & Common Area	4000
Canteen	300
Auditorium	1672.25
NSS Room	90.25
Meeting Hall	573.59
Seminar Halls (3 No.s)	360.14
Health Care Center	2700
Landscaped Lawn	5977
Placement Office	360
Gender Cell	90.25
Counseling & Grievance Redressal	90.25
Career Guidance	9.70
Library	1090
Hostel	
Men	2928.82
Women	3269.79
In-door games cum common room	1350.00
Kitchen and Mess area	1350.00
Physical Education	
Office	93.5
Gymnasium	93.5
Outdoor play area	2142.50
Indoor games	900
Total Area	**221962.18**

BUILT – UP – AREA

a) Facilities available for curricular and co-curricular activities:

The college Vivekananda Block accommodates 50 well-ventilated class rooms including four tutorial rooms. The class rooms are fitted with convenient a green glass boards, 30 to 40 two-seater benches with space under to keep a few books and note books. In each classroom a bulletin board is also

hung for information dissemination. Some of the class rooms are equipped with overhead LCD projectors to facilitate the teachers to adopt varied teaching methods.

Three air conditioned seminar halls with audio- visual aids are spread out in three floors for easy access for conduct of seminars, conferences, symposia quiz programs, debates, elocution competition, guest lectures, association activities and the like by students and staff members.

Well-equipped laboratories are accommodated in the main block and in the 'workshop block' as it is familiarly called. The photographs and data given below validate these statements.

Class room

Power Electronics Lab

Power System simulation Lab

Networks and Simulation lab

Electronic devices lab

TYCO LAB

Networks Lab

Language Lab

Operating systems/ DBMS lab

Special Machines Lab

CAD /CAM Lab

Fluid mechanics and machinery lab

Strength of materials lab

Chemistry Lab

Physics Lab

Seminar Hall I

CLASS ROOMS/TUTORIAL ROOM		
Description	No.of class rooms including tutorial rooms	Size in sq.m.
Ground floor	14	81
First floor	12	81
Second floor	13	81
Third floor	11	81
LABORATORIES		
ECE	25	1763
EEE	17	1500
CSE	32	1000
MECH	14	2900
IT	19	1359.48
CIVIL	13	1300
Chemistry Lab	1	408
Physics Lab	1	231.26
ENGLISH	2	162
SEMINAR HALLS		

Ground floor	Seminar Hall I	264.92
Second floor	Seminar Hall II	81
Third floor	Seminar Hall III	14.22

Separate laboratories / space are allotted for faculty with funded projects in all departments to augment research activities.

Robotics lab

R&D Lab –EEE Department

R & D Labs – ECE Department

The college boasts of a well-stocked digital library of 1090 sq. m. encompassing ground floor and a part of the first floor. Books, journals, access to e-journals via inter net facility, extended timings to facilitate the learning process of students and faculty.

Library resources

The college provides internet facility with a speed of 32 MBps and wi-fi connections in departments. Students (resident and non-resident) can access internet from 5.30 pm to 7.00 pm on all working days and from 9.00 am to 4.30 pm on Sundays.

Browsing the net

b) Detail the facilities extra –curricular activities – sports, outdoor and indoor games, gymnasium, auditorium, NSS, NCC, cultural activities, Public speaking, communication skills development, yoga, health and hygiene etc.

Just as the academic endeavors address the intellectual development of the students, so do the sports and similar extra-curricular activities feed the physical fitness of the students. The college has developed over the years a plethora of facilities for the students to opt and participate in a variety of sports events. Three physical directors take care of the team sports, field and track events, in-door games and gymnasium maintenance. The laurels won the students decorate the reception lobby.

Outdoor Games

The following courts of prescribed dimensions with the related accessories have been laid over a short span of time to propel the students into energetic activity. The mere availability of these courts motivates the sports enthusiasts to actively engage themselves in tournaments and win shields and coax those who like to spend some time outdoors just for relaxation and recreation.

S.No	Description	Quantity	Size
1	Basketball Court	1	15 m × 28 m
2	Kabaddi Court	2	13 m × 10 m
3	Volleyball Court	2	18 m × 9 m
4	Tennis Court	2	23.77 m × 10.97 m
5	Handball Court	1	40 m × 20 m
6	Ball Badminton	2	24 m × 12 m

7	Badminton court	2	13.40 m × 6.10 m
8	Athletics Track	200mts	
9	Long jump and triple jump pit	1	9 m ×2.75 m

Ball Badminton practice

Kabaddi Court

Basketball Court

Volleyball Court

Indoor Games

There are some who raise their eye brows and patronize those who burn, tan and sweat outdoors and prefer to stay cool indoors, yet engage themselves in tourneys and matches. They also have opportunities to bring out and showcase their talents. The amenities available for in-door games are

S.No	Description	Quantity	Size
1	Table Tennis	3 (tables)	Standard
2	Chess	15 (Boards)	Standard
3	Carom	4(Boards)	Standard

Table Tennis match

Chess tourney

Gymnasium

To develop physical fitness a gymnasium has been set up and made available for use in the mornings and evenings with the following equipment.

S.No	Description of Equipments	Size
1	Body Double Twister	11 m × 8.50 m .
2	Multi Bench With Leg Curl Extension	
3	Abdomen King (Heavy Duty)	
4	Iron Dumbbells (3Kg-4Kg-5Kg-6Kg One Set).	
5	3 Rods (4-5-6 Feet) - Black Rubber Weight Plate (200Kg).	
6	Multi Gym 4 Station a) High Lat Pulley - 80 Kg Weight Loaded Station. b) Bench Press & Shoulder Press - 100 Kg Weight Loaded Station. c) Dipping - Free Weight Loaded. d) Peck - Deck Butterfly- 60 Kg Weight Loaded Station.	

Gymnasium

Auditorium

A recent addition to the college amenities list is the multi- purpose fully air-conditioned Shri K. Kamaraj Auditorium with a seating capacity of 3000 where Annual day Celebrations / graduation day ceremony and the like can be held and national / International conferences can be hosted. Audio and video equipment have been installed exclusively in the auditorium.

S.No.	Description Details	Qty
1.	Area	1672.25 sq.m
2.	Seating Capacity	3000
3.	5100 lumens LCD projector with High gain motorized projector screen	1
4.	55 inches full HD LED TV	9
5.	High quality modernized Audio/Video systems with bose equipment i. IPAD android application software for AMX control with ultra –fast 1600MIPS processor ii. DSP Processor 4 in 12 out digital loud speaker processor iii. Floor monitor speaker iv. 200 watts Wall mounted loud speaker v. High performance flexible bass speaker vi. Amplifier for loud speaker, bass module and floor monitor vii. Multi-purpose mixer 16 channel, 4 channel stereo inputs, 3 EQ bands, 3 aux centre viii. Wire, wireless, gooseneck and collar Mike ix. High quality HDMI 10 : 1 VGA Transmitter, 7 input Video switcher	 1 1 2 16 8 9 1 7 1
6.	Blue star Air conditioner (AC) – 198 ton	9 Nos (each 22 ton)
7.	Generator backup	500KVA

8.	Lift	Carrying capacity -10 adults

The first program in the Auditorium- Graduation Day 2015

National Service Scheme

College has one NSS unit with 100 students enrolled every year. Various socially relevant services are provided by NSS students like providing guidance to students in nearby rural area schools, blood donation camp, awareness programme etc.

S.NO	Description	Size	Location
1	NSS room	90.25 Sq.m	Inside Seminar Hall I

Cultural Activities

Fine Arts club of the college is in charge of planning and staging cultural activities. Prior to the construction of the A/C Auditorium, temporary stage used to be erected for the college Annual Day celebrations but from the year 2015, thanks to the efforts of the management, the A/C auditorium is available for all program including cultural ones, Meeting halls and seminar halls are used for practice sessions.


A sample of the song and dance shows

Public speaking and Communication development program

English department of the college accommodates two laboratories- language lab and Communization Skill lab- and trains the students in communication skills. Public speaking skills are developed by training the students to anchor the college and departmental programs and through elocution competitions.

S.NO	Description	Size	Activities
1	Language Lab	81sq.m	**1. Listening** ➢ **BEC** listening Materials- Individual listening **2. Online Tests** ➢ Grammar Tests ➢ Vocabulary Building ➢ Reading Comprehension **3. Internet Based Learning** ➢ Internet based tests **4. Other Activities** ➢ Collecting materials for Group Discussions and Debates ➢ Preparation of PPT slides for presentation ➢ Use of On-line Dictionaries ➢ Drafting reports, résumés, letters and essays in the standard format.
2	Communication and Skills Development Lab	81sq.m	Watching videos followed by active discussion on ➢ Presentation skills ➢ Group discussion ➢ Soft skills ➢ Movie shows ➢ Mock interview ➢ Job Seekers Unit 1 to 3 ➢ Job Seekers Unit 4 to 6 ➢ Job Seekers Unit 7 to 10

			➢ Job Seekers Unit 10 to 13

Language Lab

Communication and Skills Development Lab

Medical facilities

Velammal Educational Trust has now under its wing Velammal Medical College Hospital and Research Institute.

The Urban Health Center of the hospital is situated within the college campus, A medical officer and two nurses are in attendance from 8.00 am to 3.00 pm. Beyond these hours and / or during emergencies, an ambulance in readiness transports the needy to the Velammal Medical College Hospital, Anuppanadi, about 4 kms away.

S.NO	Description	Size
1	Dispensary	232.25 sq.m
2	Ambulance	1

VMCH &RI – Urban Center

Hygiene

The college lays great emphasis on hygiene and has the following mechanisms in place to ensure that every part of the campus is maintained clean and neat.

R.O water plant supplies purified potable water for all including the hostels. The quality of water is tested regularly by the Chemistry Department of the college.

The water coolers in the college and in the hostels are also washed and maintained, once in 15 days.

The canteen is kept spic and span by the house keeping personnel by cleaning the premises twice a day

The hostel dining hall and kitchen are also spruced up on a daily basis

All the toilets in the college building and the toilets and the bathing bathrooms in the hostels are washed and cleaned twice a day

The class rooms, laboratories and faculty rooms are swept every evening and the garbage cleared on a daily basis and so are the hostel rooms.

4.1.3 How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (Enclose the Master Plan of the Institution / campus and indicate the existing physical infrastructure and the future planned expansions if any).

Prior to the commencement of the first academic year of the college, the management had elaborately planned the infrastructure and had executed the same. The class rooms, furniture and basic laboratories were all in readiness for the beginning of the first academic year 2007-2008. The Vivekanadha block was almost complete in all aspects and the ground floor of the ‘workshop’ block was also being built.

By the second year, the ground and first floors of the ‘workshop’ block was also ready. In the year 2010-11 the second floor .was built and the third floor- the Auditorium- was completed in the year 2015. ‘

Furniture, equipment and accessories were added as the years progressed for the smooth and efficient conduct of the teaching-learning process. Faculty rooms were cabined to yield private space to the teachers and the heads of the departments.

The playground area was steadily equipped with tennis courts, kabbadi courts, volleyball courts and recently with a colorful basketball court.

To cope with the physical well-being of the students, staff and other employees, the institution initially started with a small room with a nurse and a doctor available for the forenoon session only and now there is a full-fledged Urban Health center.

For the ensuing academic year, modifications are being planned to meet the growing needs of the academia.

The progression in the infrastructure facilities during the last seven years isoutlined in the following pages:

INFRASTRUCTURE DETAILS								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
MAIN BLOCK								
Ground floor	I year class rooms, Mechanical department, Physics Chemistry Department, Maths department, English department, Physical Education Department		II year mechanical class room	III year mechanical class room	IV year mechanical class room, Civil department	II year civil class room	III year civil class room	
First floor	Center computing facility lab, CSE department, IT department Drawing hall	ECE,CSE,EEE,IT II year class rooms, MCA department	CSE,EEE,IT III year class rooms, EEE department	CSE,EEEIV year class rooms				
Second floor		ECE department, ECE department lab	ECE II year, III class room, MBA department, MCA department, IT department,	ECEIV year class room				
Third floor			ECE department lab		MBA department, MCA department, ECE PG class rooms, MBA, MCA class rooms, IT department ,IT lab,CAD/CAM lab, II year ,III year,IV year IT class rooms	PG class rooms, English department ,Maths department		

WORKSHOP BLOCK								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Ground floor		EEE department, Civil department, EEE department lab, Mechanical department lab, Civil department lab						
First floor		EEE department lab, Mechanical department lab,						
Second floor					Mechanical department lab	Drawing hall		
Third floor								Auditorium
CANTEEN								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Canteen	Students/Staff canteen							
AUIDTROIUM/SEMINAR HALL/MEETING HALL								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Seminar Hall 1	Seminar hall1							
Seminar Hall 2			Seminar hall 2					
Meeting hall 1		Meeting hall 1						
Meeting hall 2					Meeting hall 2			
Auditorium								Auditorium
HOSTEL								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014

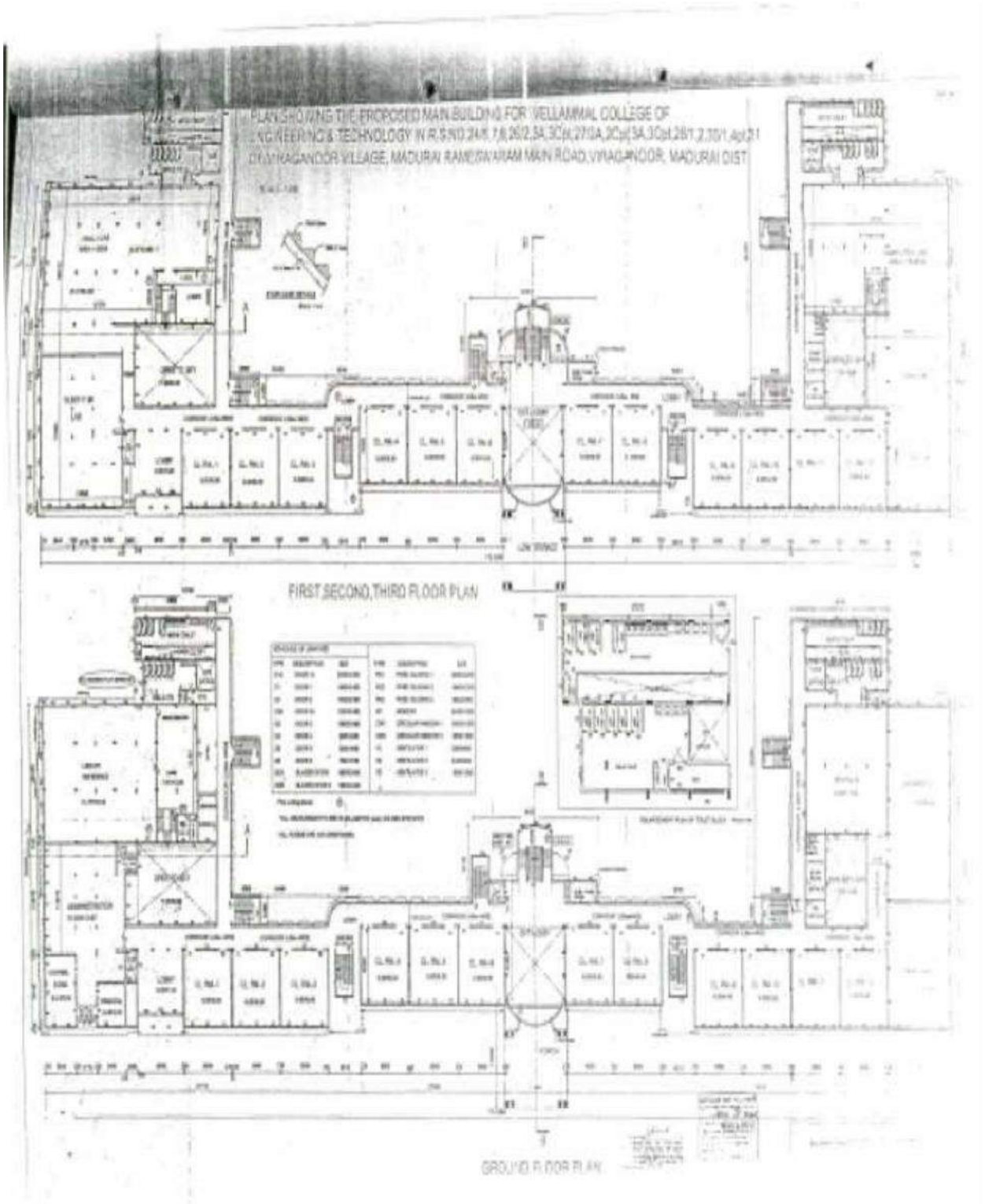
Boy's Hostel	Boy's Hostel →							
Girl's Hostel	Girl's Hostel →							
Placement office			Placement office →					
GUEST HOUSE								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
					Guest house →			
VELAMMAL URBAN HEALTH CENTER								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Medical health center	College dispensary →						Velammal Urban Health Research Program Center →	
PHYSICAL EDUCATION DEPARTMENT								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Physical Education department	Physical Education department →				Physical Education department with gym →			
LIBRARY								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Ground floor	General books, magazine, Technical books section, Reading room →	Reprographic section						
First floor	Girl's hostel	Journal/Reference section →	Audio visual room →					
ADMINISTRATIVE BLOCK								

Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Administrative room	Chairman chamber, Principal chamber, office sections	Manager room, cashier room, store room,						
SANITARY FACILTIES IN MAIN BLOCK								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Ground floor	Gents and ladies toilet							
First floor	Gents and ladies toilet							
Second floor		Gents and ladies toilet						
Third floor			Gents and ladies toilet					
SANITARY FACILTIES IN WORKSHOP BLOCK								
Infrastructure details	2007	2008	2009	2010	2011	2012	2013	2014
Ground floor							Men’s and ladies toilet	
First floor							Men’s and ladies toilet	
Second floor							Men’s and ladies toilet	
Third floor							Men’s and ladies toilet	

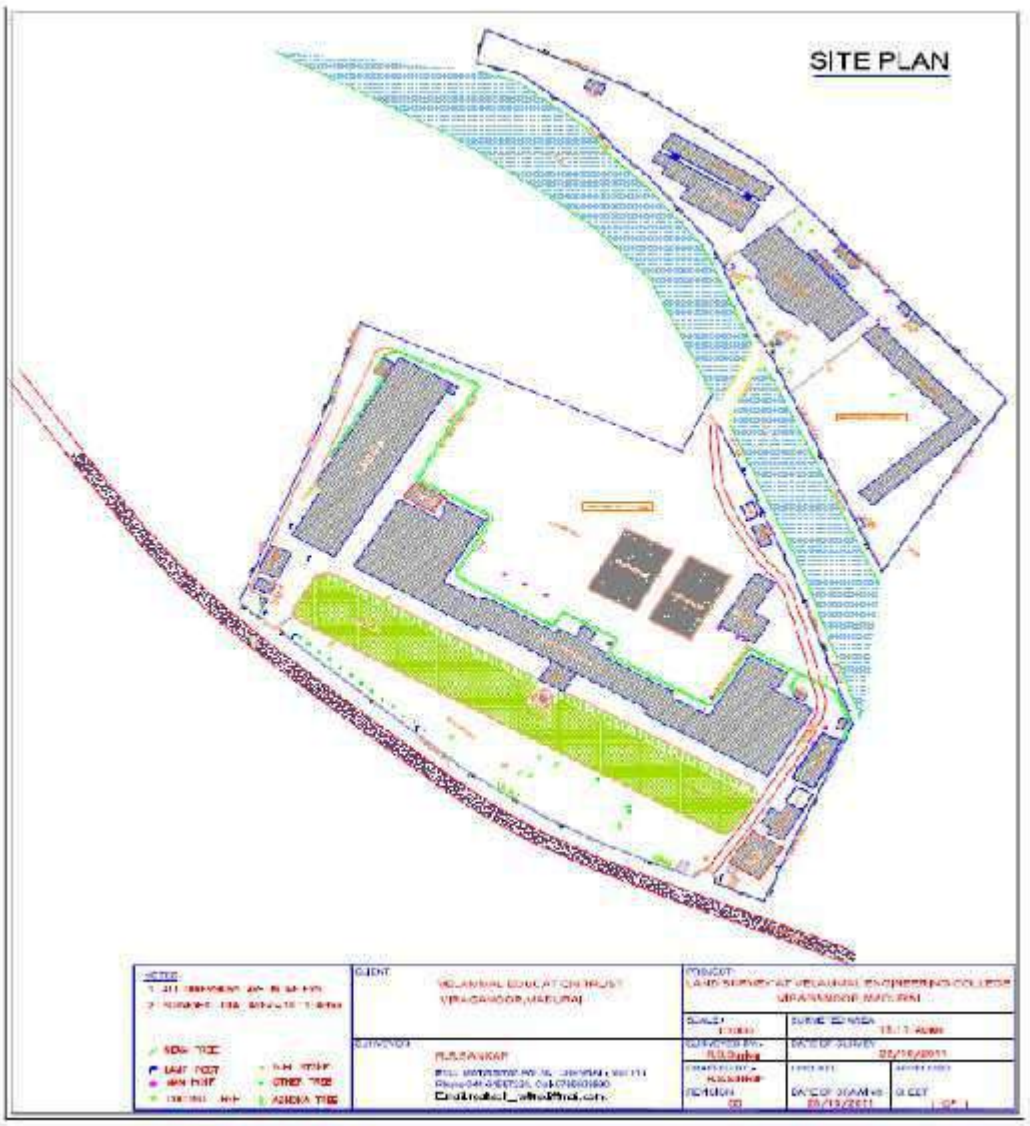
The following table lists the budget allocated and utilized for the up gradation and optimal use of available facilities from the year 2011 to 2015.

BUDGET ALLOCATION AND ITS UTILIZATION FOR FOUR FINANCIAL YEARS								
Head of Accounts	**2011-2012**		**2012-2013**		**2013-2014**		**2014-2015**	
	Budget allocated in Rs. Lakhs	**Expenses in Rs. Lakhs**	**Budget allocated in Rs. Lakhs**	**Expenses in Rs. Lakhs**	**Budget allocated in Rs. Lakhs**	**Expenses in Rs. Lakhs**	**Budget allocated in Rs. Lakhs**	**Expenses in Rs. Lakhs**
Land & New Building and Infrastructure	300.00	226.19	450.00	440.09	300.00	263.66	100	202.47
Library	3.00	2.40	4.00	0.00	4.00	0.00	5	-
Laboratory Equipment	50.00	46.29	70.00	65.11	50.00	44.90	55	24.66
Laboratory Consumables	3.00	2.57	5.00	4.09	10.00	6.63	10	5.67
Teaching & Non-Teaching staff salary	700.00	638.63	850.00	844.89	950.00	928.15	1000	985.85
Travel	12.00	10.05	13.00	11.67	15.00	7.75	15	7.98
Others								
Books and Periodicals	60.00	56.27	100.00	96.02	150.00	141.12	50	24.01
College maintenance	100.00	103.12	75.00	47.59	90.00	89.36	80	66.52
Electricity charges	30.00	27.58	40.00	35.83	30.00	29.28	40	35.90
Garden maintenance	3.00	2.83	3.00	2.53	5.00	3.97	5	3.38
General expenses	82.25	67.64	150.50	135.24	99.00	79.95	75	98.78
Repairs & maintenance	10.00	6.64	12.00	9.98	15.00	12.23	10	8.78
Staff welfare	30.00	26.06	75.00	58.55	40.00	36.46	40	29.11
Telephone and Internet	15.00	14.85	20.00	18.31	30.00	29.14	25	19.97
Total	**1398.25**	**1231.12**	**1867.50**	**1769.90**	**1788.00**	**1672.60**	**1510.00**	**1513.08**

MASTER PLAN OF THE INSTITUTION



INSTITUION SITE PLAN



4.1.4. How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

Rarely students with physical disabilities opt for admission into professional colleges. Till date no such student has sought admission into any of the courses of the college. However, the college has planned to install some basic requirements like ramps to meet the needs of the disabled foreseeing the situation in future.

4.1.5. Give details on the residential facility and various provisions available within them:

- **Hostel Facility – Accommodation available**
- **Recreational facilities, gymnasium, yoga center, etc.**
- **Computer facility including access to internet in hostel**
- **Facilities for medical emergencies**

- **Library facility in the hostels**
- **Internet and Wi-Fi facility**
- **Recreational facility-common room with audio-visual equipments**
- **Available residential facility for the staff and occupancy Constant supply of safe drinking water**
- **Security**

A. Hostel Facility- Accommodation Available

Separate hostels are provided for men and women. The rooms are sized to house four occupants comfortably, with four built-in cupboards with writing facility, four chairs four cots and two ceiling fans. On an average, around 577 students utilize the residential facility.

Men's Hostel : 92 Rooms that can accommodate 368 students
Women's Hostel : 104 Rooms that can accommodate 416 students

(i) Men's Hostel Details

S. No.	Block number	Carpet area of room (sq.m.)	Room capacity (a)	Number of rooms (b)	Capacity per Block (c) = (a) ò (b)
1.	1	23.23	04	92	368
2.	1	23.23	01(Warden Room)	01	--
3.	1	46.46	02 (Warden Rooms)	02	--
4.	1	23.23	01(Guest Room)	01	--

(ii) Women's Hostel Details

S. No.	Block number	Carpet area of room (sq.m.)	Room capacity (a)	Number of rooms (b)	Capacity per Block (c) = (a) x (b)
1	1	23.33	4	68	272
2	2	23.33	4	36	144
3	1	23.33	1 (Warden Room)	1	--
4	1	23.33	2 (Guest Rooms)	2	--
Total				104	416

Other Details:

Sl. No.	Description of the area	Required carpet area (sq.m.) per hostel unit of 120 students	Projected area required (sq.m.)	Available carpet area (sq.m.)	Deficiency %
1.	Kitchen and Dining Hall	200	1066	1350	Nil
2.	Indoor games cum Common hall	150	800	1350	Nil
3.	Medical room (for all	50	50	100	Nil

	hostels)				
4.	Canteen	50	270	270	Nil
5.	Warden office	18	23.23	23.23	Nil
		Additional four rooms of 9 sq.m. each within the block	69.69	69.69	
6.	Guest rooms	18 (2 nos)	46.46	46.46	Nil
		Additional four rooms of 9 sq.m. each within the blocks	69.69	69.69	Nil

Toilet and Bathrooms facilities

S. No.	**Description of the area**		**Facilities available in Numbers**		**Available carpet area (sq.m.)**
1.	Toilets	Gents Hostel	92 (23 Per floor)		280.14
2.	Bathrooms		76 (19 Per floor)		
3.	Wash Basins		24 (6 Per floor)		
4.	Water Heaters		4 (1 Per floor)		
5.	Toilets	Ladies Hostel	Ground floor	17	401.34
			I floor	16	
			II floor	16	
			III floor	16	
6.	Bathrooms		Ground floor	17	
			I floor	16	
			II floor	16	
			III floor	16	
7.	Heater		Ground floor	03	
			I floor	03	
			II floor	01	
			III floor	01	
8.	Wash Basins		Ground floor	15	132.76
			I floor	11	
			II floor	11	
			III floor	11	
			I floor	03	
			II floor	01	
			III floor	01	

B. Recreational facilities, gymnasium, yoga center, etc.

The hostel does not accommodate a gymnasium exclusively for the hostel students. However, the college gymnasium is open for exercising as per the following schedule:

Hostel Students – Boys – 5.30 am to 7.00 am

Hostel Students – Girls – 5.30 am to 7.00 am (on Tuesdays and Thursdays)

Day Scholars – Boys – 5.30 pm to 7.00 pm

Day scholars – Girls – 5.30 pm to 7.00 pm (on Tuesdays and Thursdays)

Residents play tennis, shuttle –cock and ball badminton in the ground in front of / alongside of the hostel buildings.
Carom and Chess boards are available for students for recreation and relaxation.
Since the college grounds are located close by, the play courts are also used by the hostel students in the evenings.

C. Computer Facility including access to the internet in the hostel:

Although the institution had initially a plan for installing a few computers in the hostels, the idea turned out to be superfluous, as almost all students possess their own laptops. At present, hostel students use the laptops in the hostels with data card. Extension of wi-fi to the hostel premises in under way.

D. Facilities for medical emergencies:

During the day time, Velammal Urban Health Center takes care of the health needs of the students. First aid and common medicines like paracetemol are made available with the wardens for simple ailments. For sickness of more serious nature, the resident is taken without undue delay to Velammal Medical College Hospital & Research Institute only about 4 kms away.

E. Library Facility in the Hostel:

A reading room of size of 20 × 12 square meter is allotted where daily newspapers and books are made available.

F. Internet and WI-FI facility:

Students access inter net via data cards. In the near future, wi-fi facility will be extended to the hostel.

G. Recreational facility-common room with audio-visual equipments:

A **c**ommon hall with a television set and DTH set top box is accessible to the students. Movies are screened on Sundays in the meeting hall for the enjoyment of the resident students.

H. Available residential facility for the staff and occupancy

Boarding and lodging facility is extended to teaching and non-teaching faculty. Lodging is free whereas for boarding, the person pays a nominal charge. .

I. Constant supply of safe drinking water:

24×7 supply of hot and cold pure drinking water is ensured with a well – maintained Reverse Osmosis Plant installed in the campus with the capacity of 2000 litres/hour.

J. Security:

The safety of the young entrusted in the care of the college is the foremost priority. A team of security personnel, headed by an able security officer, works in shifts, to guarantee the safety of everyone and everything in the campus. Separate guards are deployed for the hostels and a lady security is posted in the women's hostel 24 hours a day.

4.1.6. What are the provisions made available to students and staff in terms of healthcare on the campus and off the campus?

Provision of Health care available	Provision of Health care available Off the Campus

On the Campus	
• 24 Hours Ambulance service • Velammal Urban Health Center to take care of common illnesss of both students and staff free of cost.	For sickness that warrants detailed medical care the college has the back up of Velammal Medical College Hospital & Research Institute. Free consultation and 20% concession in other hospital expenses is extended to all students and staff members of the college.

4.1.7. Give details of the Common Facilities available on the campus– spaces for special units like IQAC, Grievance Redressal unit, Women's Cell, Counseling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

a. IQAC:

Establishing IQAC has been initiated by the college.

b. Grievance Redressal Unit & Counseling Unit (90.25 sq.m):

Grievance Redressal Unit & Counseling Unit are housed in Ground floor of Library section. The room is appropriately furnished with intercom extension. The coordinator of the cells is available during the specified hours. A suggestion / grievance box is located in the reception area facilitating students to drop letters for redressal.

c. Gender Cell (Area: 90.25 sq.m):

At present**,** the Counseling Unit and Grievance Redressal Cell room also doubles up as the allotted area for the functioning of the Gender Cell.

d. Carrier Guidance (Area: 9.70 sq.m): Location : Training & Placement Unit

The Career Guidance cell is managed by the Placement Officer and the Placement coordinator of the respective Department. Eligible students are aided in deciding on one of the options – campus recruitment, higher studies, or entrepreneurship. If and when necessary, parents / guardians are invited for a discussion to help plan the future of the student.

e. Training & Placement cell (Area: 360 sq.m):

Placement Cell is situated in a separate attractive building and the interior design highly suited to the purpose for which it has been constructed. The cell comprises of two rooms for conducting interviews, two rooms where group discussions can be held and a waiting area. Adequate office space for the Placement Officer is also included.

The first floor of the building contains air conditioned guest rooms classy enough to host VIPs.

f. Health Centre (Area: 2700 sq.m)

Urban Medical Centre is staffed by one medical practitioner, two well qualified nurses and one house keeping.

Facilities available

No. of beds : **2**

No. of stretchers : **1**

Pharmacy is available

Working hours except Sunday
Monday to Friday: 8.00 am to 3.00 pm
Saturday: 8.00am to 1.00 pm
Fully equipped Velammal Medical College Hospital with its state-of-the-art infrastructure facilities, expert medical team and paramedical staff 4 kms away from the campus renders 24×7 medical care for all under the Velammal umbrella.

G. Canteen:

Within the college campus is fully functional canteen to serve hygienically prepared food to the staff and students. Canteen working time is from 8.30 A.M to 6.30 P.M. It serves Breakfast, Lunch, Coffee, Tea, Cool Drinks and Snacks etc. Stationery items are also available in the canteen. Pricing and Menu are fixed by Hostel Maintenance and Canteen Committee

Canteen	:	Yes
No. of canteens	:	1 canteen
Sitting space	:	300 sq.m.
Daily usage	:	750

H. Recreational Spaces for staff and students:

Stone benches under shady trees are available for students and staff relaxation. Separate rest rooms are available for boys and girls students.

I. Safe Drinking Water:

Safe drinking water is provided by a RO Plant that gives an output of 2000 litres /hour .

J.Auditorium:

Fully air-conditioned Shri. K.Kamaraj A/C auditorium of 1672.25 sq.m with a seating capacity of 3000 is a recent addition to the college for conducting conferences, holding College Annual day and Graduation day etc.

4.2. Library as a Learning Resource

4.2.1 Does the library have an advisory committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student / user friendly?

Yes. The college has a Library Advisory Committee which strives for the development and improvement of the learning facilities through the library. Allocation and utilization of funds are approved by Library Advisory Committee. The following are the members of Library Advisory Committee.

Library Advisory Committee:

Dr. A. Shunmugalatha, HOD/EEE - Convener
Dr. S. Gopalakrishnan, Librarian - Member
Mrs. M. Rathi, Asst. Librarian - Member
Dr. S. Dhanalakshmi, Asso. Prof/EEE - Member
Dr. S. John Ehilton HOD/Physics - Member
Mr.S. Kamalesh, AP/IT - Member
Mr. S. Senthil Kumar, AP/MECH - Member
Ms S. Kavitha , AP/CSE - Member
Mr. R. Arasa Kumar, AP/ECE - Member
Ms. N. Nirkkuna, AP/CIVIL - Member

The library Committee ensures that the library stock is updated every year and latest titles and editions are added to the library. As the members of the committee are pooled from the various departments, the needs of the students are fulfilled. Also, the committee recommends the subscription to journals that will enhance the knowledge level of staff and students. The extension of library is under consideration.

In addition to the general library, the Engineering departments have exclusive department libraries also for quick and easy access of books by staff and students.

Department	Area in Sq. feet	Seating Capacity	No.of Books
Civil	100	5	269
CSE	216	10	200
ECE	253	15	200
EEE	270	20	200
IT	470	20	393
Mechanical	180	10	200

.

4.2.2 Provide details of the following:

Total area of library	1090 Sq.m
Total seating capacity	250
Working hours (All working days)	8.15 A.M to 6.45 P.M

Layout of Library:
Sections of Library with Specification

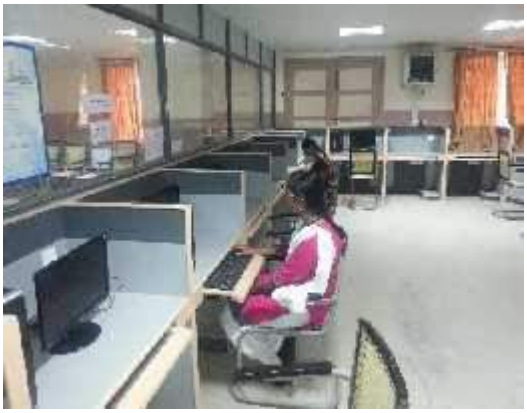
S. No	Section	Specification (Sq. m)
01	Book Circulation Section	132.25
02	Photocopy Section	20
03	Book Stock Section	200
04	Reading Section	164.21
05	Digital Library	41.28
06	Audio Visual Section	59.29
07	Reference Section	473

Book Circulation Section

Reading Section

Photocopy Section

Book Stock Section



Digital Library

Audio Visual Section

Reference Section

OPAC service section

4.2.3 How does the library ensure purchase and use of current titles, print and e-journals and other reading materials? Specify the amount spent on procuring new books, journals and e-resources during the last four years.

The library ensures the purchase of books, important journals (soft and hard copies) with the request from individual department. Faculty recommend the books to be purchased for their courses and research. Faculty request will be routed through Head of Department for the approval of Library committee and the Principal. The final purchase list is forwarded to the purchase department which places orders. The librarian keeps track of the purchase order and ensures that the supply is on time. After acquisition of the books and journals, accession, computerization, automation and classification of books are done and placed in the appropriate racks for reference and issue.

Accession is done by assigning unique number, entering in the accession register, affixing Bar-code label and library stamp. Computerization and automation is done by "AUTOLIB" library software. Classification is done by Dewey Decimal Classification (DDC).

The amount spent on procuring new books, journals and e-resources during the last four years is given below:

Library Holdings	Year – 1 (2011-2012)		Year – 2 (2012-2013)		Year – 3 (2013-2014)		Year – 4 (2014-2015)	
	Number	Total Cost (Rs.)	Number	Total Cost (Rs.)	Number	Total Cost (Rs.)	Number	Total Cost (Rs.)
Text Books & Reference Books	3,679	12,62,574/-	2,117	8,07,766/-	538	1,42,157/-	2,118	6,05,194/-
Journals / Periodicals	83	7,79,899/-	84	1,23,149/-	73	1,18,640/-	56	1,38,269/-
e-resources	135	3,86,750/-	620	12,15,157/-	135	6,21,720/-	135	6,39,560/-
Any other (Specify)	NPTEL – 250 Courses	20,000/-	NPTEL – 250 Courses	20,000/-	NPTEL – 250 Courses	20,000/-	NPTEL – 250 Courses	20,000/-

4.2.4 Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

OPAC

Users can access the book availability and other resources' information (CD-ROM, Back Volumes, and Projects) with the help of Online Public Access Catalogue. Using OPAC, user can search the availability of book based on the title, author and accession number.

Two systems are dedicated for OPAC in the library.

Using Web OPAC, users can access their personal transaction information (issue/return of books).

OPAC can be accessed throughout the campus through an IP address and also through the college website.

Electronic Resource package for e-journals

The details of e- resources available in the library are given below.

S. No.	e- resources	Relevant Course
01	IEEE subscription through M/s. Global Information Systems, New Delhi	EEE, ECE, CSE, IT and Mechanical Engineering.
02	American Society for Mechanical Engineers(ASME) e-journal Package through M/s. Global Information Systems, New Delhi	Mechanical Engineering
03	McGraw Hill - e-books	EEE, ECE, CSE, IT, and Mechanical

Federated searching tools to search articles in multiple databases :

OPAC serves as a quasi-federated search engines as within OPAC one can find addresses to data bases, on clicking which, the data base can be accessed. Website addresses of databases are also available in the OPAC. http:11.172.16.10.1/opac/website_main.asp

Library Website

http://www.vcet.ac.in/library.php

Library website can be accessed in the campus. It gets updated on regular basis. It contains information about the library, its collections of books, print journals, e-journals, NPTEL Videos etc. A help button guides the searcher through the library Users can also access e-journals and NPTEL videos through library website.

In-house / remote access to e-publications:

E- publications can be accessed from within the library and also from anywhere within the campus.

Library Automation :

The Library is fully automated using "AUTOLIB" software.

Issue, return and track of books are effected through the bar code printed in the ID card of each member (Staff and students). The automation includes OPAC.

In order to maximally benefit the automation, the following are housed in the library.

Computers for student and staff access **:** 13

Total numbers of **Printers** for student and staff access : 1

Total numbers of Scanners for student and staff access : 1
Internet band width/ speed : 32Mbps
Institutional Repository : YES
Content management system for e-learning : -
Participation in Resource sharing networks/*
Consortia (like Inflibnet) : **see below** The college is a subscribed member of Indian National Digital Library in Engineering Sciences and Technology (INDEST) -AICTE Consortium through which IEEE, ASME and other international journals are accessed.

4.2.5 Provide details on the following items:

Average number of walk-ins	125 per day
Average number of books issued/returned	100 per day
Ratio of library books to students enrolled	10:1
Average number of books added during last three years	4492
Average number of login to OPAC	50 per day
Average number of login to e-resources	30 per day
Average number of e-resources downloaded/printed	125 per day
Number of information literacy trainings organized	1 per year
Details of "weeding out" of books and other materials	Not Applicable since 8 Years old library

4.2.6 Give details of the specialized services provided by the library:

Library is spread over two floors with comfortable seating arrangement and qualified assistants to help students use the resources without hassle.

Manuscripts: Student project reports (UG and PG)

Reference: A reference section with a collection of latest editions, rare copies and books for GATE, GRE, TOEFL, IELTS and other competitive Examinations is made available to the users.

Reprography

Reprography facility is available in the library for the benefit of users. Students can take the photo copy of the material at a nominal cost.

ILL Facility

Library provides ILL services to the users through forums like

a) SALIS (Society for the advancement of library and information Science
b) MKU – LIS forum and
c) IALA – Indian Academic Library Association.

Information Deployment and Notification

- Notice Boards placed at the entrance of the library disseminates information to the users on a regular basis.

- Latest additions and availability of titles can be viewed through OPAC and College web site
- The department library collection can also be searched through OPAC
- A Current Awareness Service (CAS) is also provided on the Web site.
- Provision in the time table for library use augments the habit of reading

Download

- e- journals subscribed by the library can be downloaded
- Question Bank can be downloaded by the user.

Printing

Printing and scanning facilities are available.

Reading List / Bibliography compilation

OPAC is used by the staff and students to access the reading list of the library.

In-house/remote access to e-resources

A well-equipped Digital Library with 13 Computers with internet connectivity provides access to e-publications. IP based facility is also availed for accessing the e-materials.

User Orientation and awareness

User orientation programs are conducted at the beginning of every academic year for first year and lateral entry students.

Current Awareness Service (CAS) is provided through OPAC.

New arrivals are displayed in the library for the users.

Library information is available in the college website.

Assistance in searching Databases

The library staff assists the users in searching for the desired information available with various sources.

INFLIBNET/IUC facilities

Library users can search and download the relevant information / resources through INFLIBNET/IUC facilities available in library.

4.2.7 Enumerate on the support provided by the Library staff to the students and teachers of the college

Library has qualified and well experienced staff members – One Librarian, One Assistant Librarian, Two Library Assistants and one attendant.

The library staffs lend support in the following ways to staff and students

- Providing required information about books, journals and general information from newspapers.
- Assisting in purchasing new books based on their needs.
- Searching for books availability using OPAC.
- Identifying and locating the books from the stack.
- Assisting in accessing the online information.
- Assisting in searching and downloading the required articles from the available online database.
- Searching for and downloading e- journals
- Supporting in photocopying, scanning and printing services.

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give details.

Library facility is available at ground floor of main block although as yet we have not had any physically challenged student or staff, the location of the library is conducive for easy access.

4.2.9 Does the library get the feedback from its users? If yes, how is it analyzed and used for improving the library services.

Yes. The library activities are improved with the suggestions and feedback from the library users.

Feedback on library services is obtained from students through class committee meetings. In addition, suggestion box and suggestion register are kept in the library for the students, faculty and research scholars to freely express their opinions.

The information and suggestions registered are taken up for discussion in the library advisory committee meeting for further action whenever necessary.

Library Advisory Committee and Librarian frequently interact with faculty members and students to get firsthand information on the needs of the users to augment the library services.

4.3 IT Infrastructure

4.3.1. Give details on the computing facility available (hardware and software) at the institution. Number of computers with Configuration (provide actual number with exact Configuration of each available system):

Total number :**718**

(Details given below)

1. **a. Computer**

S. No.	Configuration		Quantity
1.	**Server**	IBM X236 Server Xenon Processor 3.2 GHz, 2GB RAM, 2 X 146 GB HDD, IBM KB, Mouse, 17" CRT Monitor.	01
		IBM X3400 Server with 18.5 TFT Monitor, 4 GB RAM, 146 GB HDD, KB, and Mouse.	09
		IBM Blade Server.	01
2.	Intel Core-i3 @ 3.3 GHz , Intel DH61WW MBD, 2 GB DDR III RAM, 500 GB SATA HDD, Logitech USB KB, Optical Mouse, Samsung 18.5" LED Monitor.		249
3.	Intel C2D 2.93 GHZ, DG41RQ MBD, 2GB DDR-II RAM, 320 GB SATA HDDMM, Keyboard ,Optical Mouse, DVD Writer, P4 Cabinet with SMPS, BB Samsung 19 "TFT Monitor.		220

S. No.	Configuration	Quantity
4.	Intel Core 2 Duo 2.66 GHz 2GB RAM Intel 945 series original Mother Board 15" CCD Monitor Logitech multimedia Keyboard Logitech Optical Mouse	196
5.	Processor Intel P4 3.40GHz, RAM 512 MB, motherboard intel 946Gz, Hard Disk 80 GB.	39
6.	Dualcore D946 GzIs Original Boar 2x256 MB DD RII RAM, 80GB HDD SATA, LI Keyboard, optimal Mouse, CDROM, Drive, P4 Cabinet with SMPS	1
7.	INTEL CORE I7 CPU with ITEL 61MBD 2GB DDR3 RAM 500GB SATA HDD,19inch LED MONITOR	2

b. Printers/Scanners

S.NO	Printers/Scanners	Type	Make	Model	Quantity
1.	Printer	Laser	Canon	LBP 2900B	14
		Laser	Lexmark	X264dnb	01
		Laser	HP	1020 Plus	07
		Laser	HP	P1505	01
		Laser	HP	M1136	01
		Laser	Canon	LBP	03
		Laser	Canon	L11121E	01
		Laser	HP	1020	05
		Laser	HP	Design jet 500	01
		Laser Jet	HP	2600	01
		Laser Jet	Cannon	2900	04
		Laser Jet	HP	2015	02
		Laser jet	HP	P 2015n	01
		Laser jet	HP	PI505	02
		Laser jet	HP	1022	01
		LQ	Wipro	1050 DX	03

S.NO	Printers/Scanners	Type	Make	Model	Quantity
		LQDSI	Wipro Wep	5235	06
		Dot Matrix	TVS	Champion	01
		Dot matrix	Wipro WEP	LQDS1	01
		Dot matrix	TVS MSP	345 Champion X1	01
		Inkjet	Epson	L210	01
		Inkjet	HP	2010	01
2.	Scanner	Scan jet	HP	3010C	03
		Scan jet	HP	2410C	01
		Scanner with Printer	Canon	4550D	02
		Laser	Lexmark	X264dnb	01
		Laser	HP	M1136	01
		Scan jet	HP	G2410	01
3.	Photocopier	Canon	IR 2200-3300	PCL5e	02

c. UPS:

S.No	UPS Capacity	Quantity
1	20 KVA	11
2	10 KVA	03
3	0.6 KVA	08
4	0.5 KVA	02

Computer-student ratio:
The computer student ratio is 4:1. However, each student is provided with one computer in regular lab hours. Hence in essence, the ratio is 1:1.
Stand-alone facility: 718

LAN facility:

VCET possesses 718 desktop computers and 11 servers for academic and administrative purposes. All the computers were grouped through different Local Area Networks (LANs) in different Laboratories to cater the academic needs for the students, scholars and faculty members. All the computers are equipped with Internet facility through an exclusive 32 Mbps of Broadband Connection from Airtel. The Internet is facilitated through both wired and wireless connections. The entire Internet communication is controlled by a Hardware firewall “Cyberoam”. Presently, the Engineering

Departments have own servers for maintaining the LANs and Storage Requirements. The Internet facility is offered centrally and maintained by the Department of Computer Science and Engineering. The Department of Computer Science and Engineering is planning to establish of a Centre of Technical Support (CTS) for VCET under a single umbrella which will offer all the services related with LANs, Internet, Storage, File Transfer, Intranet and other computing facilities centrally.

Wi-Fi facility:

Wi-Fi facility is available in the campus.

Areas within the range of servers are automatically connected by Wi-Fi. The out of range areas are connected to Wi-Fi through modems.

Licensed software:

The following table lists the licensed software installed for various applications:

S.No	Department	Licensed Software	Quantity
1	**CSE**	Microsoft campus agreement software's(All Microsoft software) a. MS Office professional 2010 b. SQL server 2012 Enterprise edition c. Visio professional 2013	Full Use
		Oracle 11 g	Full Use
		IBM Rational Suite	30 user
		Symantec Pro12 Antivirus (100 user)	100 user
2	**ECE**	MATLAB Matlab 7.6 R2008, Simulinx, Image Processing Toolbox, Fuzzy logic toolbox, Signal Processing Toolbox, Communication Toolbox mark, Signal Processing Block set, Communication Block set	10 Users
		Agilent's Advanced Design System Software	5 Users
		NETSIM LT-01 & Networking Software	15 Users
		ORCAD PCB Suite consisting of ORCAD Capture, PSPICE A/D, Designer and Sig.XP	10 Users
		XILINX Foundation ISE 10.1 Series software	Multiuser
		CST Studio Suite	1 Server user, 10 Student user
		HFSS, Q3d, Designer With Nexim, Si wave,	1 user

		Ansoft links.	
		Xillinx-System Edition Ver 14.1.	25 Users
		MATLAB,MATLAB Coder,Fixed Point Designer Toolbox,HDLCoder,HDLVerifier,SimulinkCoder,Embedded Coder	1 user
		LABVIEW Academic premium Suite.	1 user
3	**EEE**	MATLAB Software 7.6 2008A	05user
		ETAP 7.5 Software	10 user
		PSIM Software 9.2.0	05 user
4	**IT**	IBM rational rose	30 user
5	**MECH**	Pro-E wild	50 user
		Solid works	30 user
		Ansys	30 user
		Fluid sim – Hydraulic	01user
		Fluid sim – Pneumatic	01user
6	**CIVIL**	Auto CAD	120 user
7	**Library**	Auto lib software	
8	**English**	Job Seekers	

In addition, open access software are available for Science and Humanities departments like English, Chemistry, Physics, and Mathematics.

Number of nodes/ computers with Internet facility: 718

Any other: The College has one central computing facility available in CSE department utilized by all the students and faculty beyond working hours and during holidays. In addition each engineering department computer lab is managed by IBM servers.

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

On Campus:

Internet facility with 32 Mbps speed (AIRTEL) is made available to students and faculty.

Well-equipped laboratories with the latest configuration computers with servers are provided in all departments and also Central Computing Facility available in the campus for all the faculty and students.

Off Campus:

Extending Wi-Fi facility to the hostels is on the anvil.

4.3.3 What are the institutional plans and strategies for deploying and up-grading the IT infrastructure and associated facilities?

The institution has definite plans and strategies for optimal use and up-grading the IT infrastructure

To substantiate the above statement, here are some examples: (i) in 2009, internet serves worked with a speed of 2MBps and over a period of five years,

it has been upgraded to 32MBps a change for the better of the service provider. (ii) Many computers have been changed from Pentium IV to Intel duo Core and I3 to match the need of the work carried out.
The Computer monitors have been changed to TFT LCD displays to facilitate extensive use of computers.
In the near future, Wi-Fi facility will be extended to all including the hostels.
Plans are afoot for converting many class rooms into smart classrooms for interactive learning.
As and when the demand increases, more number of high end computers will be added to the stock of computers in the college.
This addition will be made cost effectively as the Computer Science & Engineering Department faculty assemble the computers and involve the students in the procedure.
Annual Maintenance work is carried out at the beginning of the academic year for the computers and UPS.
Software licenses are renewed for uninterrupted teaching –learning process.
To comply with the Anna University directive, the CCTV cameras have been installed at strategic points in the college.

4.3.4. Provide details on the provision made in the annual budget for procurement, up gradation, deployment and maintenance of the computers and their accessories in the institution (Year wise for last four years)

Every year budget is submitted to the management for the procurement and up gradation of IT infrastructure. The actual amount spent in the last four years is tabulated:

Description	**2011 – 2012(Rs.)**	**2012 – 2013(Rs.)**	**2013 – 2014(Rs.)**	**2014 – 2015(Rs.)**
Procurement	45,67,108.	36,09,221	6,61,751	11,52,605
Up gradation	8,14,542	3,41,750	5,16,953	3,700
Maintenance	57,403	3,12,310	1,65,800	25,885
Total amount spent in last 4 years : Rs. 1,24,26,888				

It is clear from the above data that the college strives to keep up with the changing needs of the students and teachers.

4.3.5 How does the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/learning materials by its staff and students?

The Institution facilitates the extensive use of Information and Communication Technology (ICT) resources for the teaching learning process by the following ways:

- The institution has installed 32Mbps Airtel internet connection with high server configuration for quick and easy access of information.
- The total number of 11 servers in all Engineering departments provides fast flow of data across computers which help the faculty and students to browse and download study material and research papers.
- Each department is provided with ample number of computers and Wi-Fi facility to enhance the use of ICT resources.

- Central computing facility is established by CSE department which in turn helps the students to browse during regular and beyond working hours
- The library is also having sufficient internet facility and bibliographic database through networked computer systems. In addition National Programme on Technology Enhanced Learning Center has been established in library to promote wide- spread learning.
- A well equipped language laboratory is available to train students with language and communication skills using ICT resources.
- On-line tests and assessments are a routine part of training the students for placement
- Posting of course materials and laboratory manuals is facilitated using IC Technology.
- In order to train the students for campus placements in MNCs, ICT enabled resources are utilized. Students have become quite familiar with online tests, Skill rack tests (online quantitative, verbal and reasoning test based on TCS, INFOSYS and WIPRO patterns) and being on the alert for communications from the instructors through e-mails, etc.
- Academic and other important information are directed to the students and parents through bulk SMS service and this facility is taken care of by the IT department.
- NPTEL learning materials and videos are used for self- learning and class room teaching.
- The digital library provides for e- journal access.

4.3.6 Elaborate giving suitable examples on how the learning activities and technologies deployed (access to on-line teaching - learning resources, independent learning, ICT enabled classrooms/learning spaces etc.) by the institution place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

The teaching learning process is always student centric and the following teaching aids make it all the more so:

- Many class rooms are fitted with LCD/LED projectors to enable the teacher plan the class room activity.
- Lecture notes, assignments and pre- class instructions are mailed to the students so as to train them in prior preparation and in self study
- On- line submission of assignments is encouraged as this motivate the students to creatively prepare the material with videos and images.
- Seminar Hall I is equipped for satellite learning and Mechanical Engineering Department organizes such a program titled ‘Ask a Question’ every Friday in which an expert virtually interacts with the audience and the staff and students can clarify their doubts and raise queries to increase their knowledge. (Link to ask technical queries from IIT Professors, Bangalore funded by National mission on Education through ICT, MHRD, Govt. of India)

- The language lab and the communication skill laboratory serve the students for bettering their communication abilities.
- NPTEL course videos are effectively put use by students for leaning enhancement.

4.3.7. Does the Institution avail of the National Knowledge Network connectivity directly or through the affiliating university? If so, what are the services availed of?

Yes. The institution avails of National Knowledge Network connectivity through the affiliating Anna University. The NPTEL learning materials and videos for all branches of study are subscribed to through this connectivity.

4.4 Maintenance of Campus Facilities

4.4.1 How does the institution ensure optimal allocation and utilization of the available financial resources for maintenance and upkeep of the following facilities (substantiate your statements by providing details of budget allocated during last four years)?

The Management is very judicious in optimizing the financial resources for procurement and maintenance of infrastructure and at the same time does not compromise on providing the essentials for student focused teaching –learning process.

The budget allocated for the up keep of infrastructure amenities are given below:

S.No.	Items	Maintenance budget allocation during last four years in Lakhs			
		2014-2013	2013-2012	2012-2011	2011-2010
1	Building	15.00	10.00	5.00	5.00
2	Furniture	5.00	5.00	2.00	3.00
3	Equipment	6.00	5.00	2.00	3.00
4	Computers	5.00	5.00	5.00	3.00
5	Vehicles	75.00	60.00	60.00	50.00
6	General Repair & Maintenance	5.00	5.00	5.00	5.00

4.4.2 What are the institutional mechanisms for maintenance and upkeep of the infrastructure facilities and equipment of the college?

A maintenance engineer appointed for this purpose takes care of the up keep of the infrastructure facilities and equipment of the college. A maintenance supervisor / administrative officer and maintenance assistances (electrician and plumber) assist him in his chores.

These personnel are available 24 × 7 to monitor the maintenance.

Annual maintenance contract for maintenance of UPS and other sensitive equipment are signed with the vendors to carry out annual maintenance of air conditioners, water coolers, UPS systems and other sensitive items.

The computers which are in the warranty and their accessories are maintained by CCS InfoTech Pvt. Ltd and others by qualified college system

administrators who work under the purview of Computer Science & Engineering Department.

The other equipment which are within the warranty period are taken care of by the suppliers. Beyond the warranty period also, the service personnel of the manufacturing company take care of the repair and maintenance of the various equipment.

Fire extinguishers are checked and refilled annually by the vendor.

Reverse Osmosis plant is under annual maintenance – replacement of membrane as and when required.

Microsoft Campus Agreement, SQL Server Enterprise, Cyber roam 300i Firewall and antivirus software – annual renewal

Internet services – quarterly renewal

The cleanliness of the campus and the hostels is out-sourced to a contractor who reports to the supervisor.

The maintenance of the lawns and other greenery is out-sourced to Tamil Nadu Nursery Garden.

The 13 college buses are maintained well- oiled by systematic work of the transport personnel and yearly once Fitness Certificate is obtained from the RTO for all the buses. Speed Governor is installed in all buses for ensuring safety.

4.4.3 How and with what frequency does the institute take up calibration and other precision measures for the equipment/ instruments?

Equipment that needs one time calibration are calibrated at the time of installation.

Instruments that need periodical calibration are calibrated either by our own qualified lab technicians or by the vendor's representative once in six months.

Certain other instruments are calibrated as and when required and / or at the start of each lab session.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment (voltage fluctuations, constant supply of water etc.)?

To meet the heavy electrical load required for the college, a separate Power house functions with a total connected load of 282.18KW. It is maintained by an Electrical Engineer assisted by Electrical Supervisors.

However, a College of Engineering & Technology will house innumerable electronic and electrical equipment that function with electrical energy. Power shut downs and fluctuations in voltage being common and unpredictable, it is essential that uninterrupted power supply is ensured throughout the campus and also for the hostels.

The institution therefore has in possession three power generators- two with a capacity of 500KVA (for the campus) and one with 125 KVA (for the hostels). The generators are well-maintained and kept ready for instant use so that any drop in power supply is immediately replaced with supply from the generators.

During the time of examinations and other important college programs that might require gapless functioning, power is supplied from the generators for the duration of the program.

Constant potable (RO) and bore well water supply is ensured by pumps that can run on generators. The water is pumped from the bore wells by pneumatic pumping and stored in storage tanks. The tanks are filled at least twice a day. The RO water is also stored and supplied through water coolers to the college campus and to the hostels.

500 KVA Generator

RO Plant

Any other

Velammal College of Engineering & Technology, lays great emphasis on Teaching – learning process and on Research & Development. To realize the vision and to achieve the Mission of the college, just as much as the best human resources play a role, an equal part is played by the erecting and maintenance of pragmatic, fundamental requirements for successful conduct of the college.

Therefore, the College, guarantees that the needed supportive facilities like classrooms, laboratories, library resources, equipment, computers and accessories, internet and Wi-Fi, hostels, canteen, amenities for sports- indoor and out-door, gymnasium, medical care, uninterrupted power supply and the like are made available not just in sufficient quantities but in surplus.