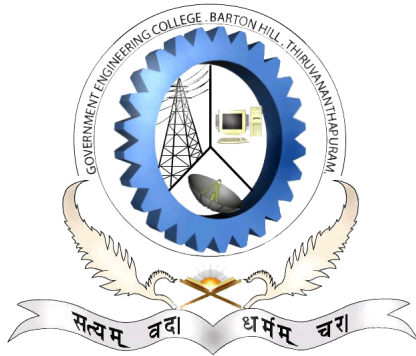


**GOVERNMENT ENGINEERING  
COLLEGE  
BARTON HILL  
INFORMATION BULLETIN 2017-2018**



THIRUVANANTHAPURAM 695035

KERALA, INDIA

Phone/Fax : 0471 2300485

Web : [www.gecbh.ac.in](http://www.gecbh.ac.in)

E-mail : [principal@gecbh.ac.in](mailto:principal@gecbh.ac.in)

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### VISION

A centre for higher learning in engineering that nurtures inquisitive young minds fosters innovative research and reaches out to the society, while incessantly improving itself.

### MISSION

- Impart engineering knowledge and skills.
- Mold professionals with integrity.
- Nurture the spirit of innovation and creativity to address needs of society.
- Collaborate with industry, academic and research institutions of repute.



# 1 COLLEGE AT A GLANCE

## 1.1 Introduction

Government Engineering College, Barton Hill(GECBH) was established by the Government of Kerala in the academic year 1999-2000. Within a short span of time since inception, the college has achieved notable academic excellence. The college has been affiliated to the A.P.J. Abdul Kalam Kerala Technological University (KTU). It is under the administrative control of the Director of Technical Education, Government of Kerala.

The college is situated at scenic hills of Barton hill which has the distinguish of hosting Travancore's First english high school for girls 'HER HIGHNSS MAHARANI SETU PARVATHY BHAI', English High School For Girls, established in 1942. The Government Engineering college started its functioning in November 1999. The first Principal of the college was Prof. G.Jayasankar and Dr. Rajasree M. S is the present Principal.

The college now offers five full time M.Tech degree and five full time B.Tech degree programmes such as

1. M.Tech in Mechanical Engineering - Machine Design
2. M.Tech in Information Technology - Network Engineering
3. M.Tech in Electrical and Electronics Engineering - Power Systems and Control
4. M.Tech in Electronics and Communication Engineering - Signal Processing
5. M.Tech in Translational Engineering
6. B.Tech in Civil Engineering
7. B.Tech in Electrical and Electronics Engineering
8. B.Tech in Electronics and Communication Engineering
9. B.Tech in Information Technology
10. B.Tech in Mechanical Engineering

The duration of the M.Tech programme is two years and of the B.Tech Programme is four years. As per the AICTE norms, the annual intake of each PG course is eighteen and of each UG course is sixty.

The faculty members of the institution are from the pool of Professors, Associate Professors and Assistant Professors under the Department of Technical Education, which provides the faculty to all the nine Government Engineering Colleges in the State. The 67 strong regular faculty team of the college consists of 20 Ph.D holders and 47 PG degree holders. Admission to the UG programmes to this college is done through the Common Admission Procedure (CAP) based solely on the rank secured in the Common Entrance Examination (CEE) conducted by the Government of Kerala. This college is the choice of the top rank holders of the CEE. Admission to the PG programme is done through the Centralised Admission Process by the Directorate of Technical Education.

The alumni of the college have already secured their places in the B.Tech rank list of Kerala University and in the top sections of all India GATE rank lists in all years right from its inception. Also, many of them have secured admissions to top research institutions and business schools including foreign universities, IITs and IIMs . The placement record of the college has been phenomenal with majority of the students having received job offers to reputed firms from the campus itself.

## **1.2 Location**

The campus is situated in the heart of Thiruvananthapuram city at a walking distance from PMG junction. This makes GEC Barton Hill as one of the easiest accessible engineering colleges in the State. It is only 10 km away from the Trivandrum airport and 3.5 km away from Trivandrum Central railway and central KSRTC bus station. The nearest bus station is the KSRTC Vikas Bhavan bus depot which is only half a kilometer away.

## **1.3 Governance**

The college is functioning under administrative control of Higher Education Department, Govt. of Kerala.

### 1.3.1 Board of Governors

The Governance of the institution is done under the guidance of Board of Governors. The governing body of the institution is collectively responsible for overseeing the institutions' activities, determining its future direction, and fostering an environment in which the institutional mission is achieved. The BoG of the institution is chaired by Prof. V.G.Idichandy, Professor Emeritus, IIT Madras. The members of the BoG are as follows:

1. Chairman	Prof. V.G.Idichandy	Professor Emeritus	IIT , Madras
2. Member	Prof. K.Kurien Isaac	Professor	IIST TVM
3. Institutional Member	Dr.K.C.Chandrasekharan Nair	Associate Principal Consultant	KITCO
4. Institutional Member	Dr. S Anil lal	Professor (ME)	GECBH
5. Institutional Member	Dr.Vijayakumar N.	Professor (ECE)	GECBH
6. Member (Ex-officio)	Dr. K P Indiradevi	DTE	
7. Member (AICTE Nominee)	Dr. Gangadharan K.V	Professor (ME)	NIT, Surathkal
8. Member (Ex-officio)	Govt Nominee	Higher Education	Govt. of Kerala
9. Member (Ex-officio)	Govt. Nominee	Finance	Govt. of Kerala
10. Member (Ex-officio)	University Nominee		
11. Member (Ex-officio)	Dr. Rajasree M.S	Principal	GECBH

### **1.3.2 College Academic Council**

The College Academic Council consists of the Principal, the Dean, the Heads of all Departments, the senior most among the Science Faculty and Physical Education, one nominated faculty member from each Engineering Department, the Warden, Administrative Assistant and the College Student's Union Advisor. The Principal is the ex-officio president of the Council and the secretary is appointed by the council.

The administration of the college is done by the Principal. Some of the general administrative work of the college is distributed among the members of the college council and other faculty members. The council is empowered to consider the report on any question concerning accommodation, courses of instruction or rules of discipline referred to it by the Principal. However, it shall not interfere in any manner with the general administration of the college, which is invested with the Principal.

### **1.3.3 College Council**

The College Council consists of all members of the College Academic Council, the College Union Chairman, the College Union General Secretary and two student representatives. The Principal is the ex-officio president. The College Council will convene in an emergency situations related to students' issues.

### **1.3.4 Ethics Committee**

An institutional level Ethics committee has been constituted with Dr. Dinesh Pai A, HoD (EEE) as the Chairperson. In compliance with the order of Hon'ble High Court of Kerala and the instructions issued by the Government a surprise inspection squad is also constituted in the institution. The squad is empowered to conduct surprise inspections in the campus and will furnish reports to the Principal and Ethics Committee for further necessary action. As per the instructions given by the Government, the Ethics committee will forward monthly reports to the District level committee that is chaired by the District Collector. The State level committee with Hon'ble Minister for Education as chair person will review the reports

bimonthly and issue necessary orders.

### **1.3.5 Grievance Redressal Committee**

A committee has been constituted to redress the complaints of the students of the college regarding the inconveniences met by them. The committee will take up matters and find solutions to the problems and issues raised by the students for the smooth functioning of the college.

## **1.4 Attendance and leave regulations**

Students are expected to attend all classes without fail. If for unavoidable reasons, leave of absence is required, permission from competent authority should be taken as given under.

Application for ordinary leave should be submitted to the group advisor concerned who is competent to sanction leave up to a maximum of 3 days at a time. For periods beyond three days at a time, the Heads of Departments will be the sanctioning authority. Applications for ordinary leave will be considered only if submitted not later than three days from the date of return from leave.

(For more details refer RU-2,KTU Ordinance)

### **1.4.1 Medical leave**

Students can apply to the Head of Department through the Group Adviser for leave on medical grounds, within three working days from day of returning. A medical certificate should be attached with the application. The students should keep medical leave application duly sanctioned. In the event of a student falling short of attendance at the end of a semester, condonation of shortage of attendance will be recommended only if they produce record to prove that the leave had been applied for and granted in time.

### **1.4.2 Duty leave**

Students are eligible for duty leave on recommendation from the concerned authority if they perform certain kinds of duty for the college like representing the college in sports and games and involving in the college union and association activities. Duty leave can be recommended only by the

faculty members who are authorized to do so. Duty leave should be submitted to the Principal or to the designated authority, preferably before the duty is performed or soon after returning from duty, but not later than three working days.

Students should submit duly filled application attached in the annexure, with supporting documents, if any, and make sure that the leave has been sanctioned in time. They should submit a copy of leave sanctioned to the staff advisor and keep the original with them and produce it as and when necessary.

### **1.5 Computerised Central Attendance Monitoring and Consolidating System(CAMCS)**

The college has a very efficient and transparent computerised and centralised attendance monitoring system controlled by a committee of 10 faculty members from various departments.

The main objectives of it are:

1. To ensure a fool proof record of attendance of students in classes and details of class engagements for ensuring an effective monitoring of both.
2. Bi-weekly SMS alert to the parents about the up-to-date attendance status of their wards.
3. The performance of the students can be viewed easily by the parents across the globe through electronic personnel data sheet using their login passwords.

By the system, the staff who is engaging a class will take attendance within 5 minutes from the commencement of the class and the attendance slip will be collected within 10 minutes from the class by collecting staff and will be delivered to a central point, wherein attendance details will be entered into the monitoring system within the earliest time possible. The parents can view the period-wise day to day attendance of their wards on that day itself online from anywhere. The periodic consolidated attendance statement

will be published on the college notice board and would be informed to the parents through SMS. At the end of the semester, the system automatically generate a list of students who are eligible for registering the university examinations, condonation of shortage of attendance, year outs etc, observing the norms stipulated by the University. Moreover, the system would give the marks in respect of the attendance to the concerned staff for calculating the sessional marks. It is to be noted that once the attendance slip is collected from the class the concerned teaching staff cannot edit the data later. Also, no student will be permitted to leave the class until the class is over. Hence, timely presence of the student in the class is very important in registering their attendance. Students who do not satisfy the attendance requirement as per the university regulations will not be permitted to register for the university examination under any circumstances.

### **1.6 Guidelines for Industrial visit of B.Tech.Students**

Ref:

(i) Letter No. 11170/J2/13 from H..Edn. department, dated, Thiruvananthapuram 27.05.2013.

(ii) Letter No. AICTE/Acad/Student Safety/2015 from AICTE, dated, 31.07.2015

(iii) Circular No. C3/35065/2015/DTE from DTE, dated 14.3.2016

(iv) College Council decision, dated 18.07.2017

1. A maximum of total 7 days will be permitted for industrial visit during the 4 year duration of the B. Tech. course.
2. These days should not overlap with any of academic calendar days.
3. Minimum 3 industries are to be visited as recommended by staff advisor and HOD.
4. The industrial visit should be limited or to a maximum round trip distance of 3000 kilometers.

5. The accompanying faculty should be strictly from the respective department.
6. If there are girl students in the group, a lady faculty must also accompany the group.
7. Before planning to go for industrial visit, the following procedures should be completed by the student coordinator:
  - a Submit a panel of industries intending to be visited during the proposed tour.
  - b The panel list should be approved by the staff coordinator for relevance and genuineness.
  - c A letter seeking permission from industries to undertake industrial visit for the students during the specified dates is to be issued by the Principal.
  - d Student coordinator should submit the permission letter from the industry to the Principal.
  - e Students should produce consent letter from the faculty accompanying them for the Industrial visit.
  - f The Industrial visit proposal should be initiated well in advance (at least two months earlier).
8. Bus/train seat/berth booking/reservation shall be made only after the final approval of the proposal by the Principal.
9. The visit will be sanctioned by the Principal only after verifying the genuineness of the permission letter from the industry.
10. It will be better if the Industrial visit is held between the semester break of 6th and 7th semesters.
11. Students should wear identity cards during the industrial visit.



12. Students should submit written permission from parents in the specified format.
13. Students should produce medical fitness certificate from a recognized medical practitioner.
14. Students should submit an undertaking that they will abide by the rules and guidelines throughout Industrial visit.
15. Night travel by road should be avoided.

The tour proposal which does not satisfy the above mentioned guide lines will not be entertained. In addition to the above, the norms/guidelines issued by the Government from time to time are also applicable.

### **1.7 The College Union**

The college has a student's union. The objectives of the college union are

1. to train the students of the college in the duties, responsibilities and rights of citizenship.
2. to promote opportunities for the development of character, leadership, efficiency, knowledge and the spirit of service among the students.
3. to encourage sports, arts and other cultural, educational and recreational activities which are incidental and conducive to the above objectives.
4. to work for the union, the term of which is generally one year from the date from which the union assumes office or till the date of the election to the union in the subsequent year.

The union has a union council comprising of the following office bearers.

1. The president of the union - Principal of the college (ex-officio)
2. The staff advisor nominated by the President
3. The Chairman
4. The Vice- Chairman
5. The General Secretary
6. Two Lady Representatives
7. The Counselor / Counselors to the Kerala University
8. The Secretary, Arts Club
9. The Chief Student Editor of the College Magazine.
10. The General Captain of Sports and Games.
11. The Secretaries of the various sectional Associations
12. One representative from every class (year wise).

The office of the Vice Chairman shall be reserved for lady students. The offices (3) to (9) given above shall be filled by the election by all students of the college. The offices(11) and (12) by election by the students of the particular association or class as the case may be.

There shall be an Executive Committee for the union as approved by the KTU University.

## **1.8 Fees**

### **1.8.1 B. Tech**

Admission fee	: Rs. 225
Tuition Fee	: Rs. 6000(per year)
Special fee (Revenue)	: Rs. 1650
Special Fee(PD)	: Rs. 350
Caution deposit	: Rs. 1000
KTU Administrative fee	: Rs. 1000
Exam Fee	: Rs. 3400(per year)i.e 1700(per sem)

**1.8.2 M. Tech**

Admission fee	: Rs. 225
Tuition Fee	: Rs. 6000(per sem)
Special fee(Revenue)	: Rs. 1650
Special fee(PD)	: Rs. 1850
Caution deposit	: Rs. 1500
KTU Administrative fee	: Rs. 1000
Exam Fee	: Rs. 1500(per sem)ie Rs. 3000(per year)

**1.9 Students' Code of Conduct-2014****Introduction**

In accordance with the direction of the Honorable High Court of Kerala in R.P.No.435/2003 all the universities and educational institutions in Kerala are required to lay down appropriate rules and regulations which will be binding on all the students studying there in order to ensure disciplined conduct on campus. This code of conduct formulated by the Academic Council, shall be applicable to all students admitted to any academic programme of Government Engineering College, Barton Hill. Each student of this institution is expected to become acquainted with the provisions of this code. A student admitted to any academic programme of the college is required to give an undertaking to the effect that he/she will strictly adhere to all provisions of this code. It is presumed that every student from the date of his/her admission to any academic programme of the college is aware of this code. The provisions of this code have been laid down with a view to enure an atmosphere conducive to the proper functioning of the institution and to maintain a high standard of student discipline and academic excellence. Inherent in this endeavour is the responsibility of the institution to educate its students to be responsible, civic minded citizens. The Academic Council of the college shall have the authority to amend any provisions of this code, as deemed necessary, from time to time.

**1.Responsibilities of Student**

1.1. To respect the law of the country, human rights, and the social and

cultural values nurtured and followed by our society.

- 1.2. To avail all educational opportunities and benefits provided by the college to prosper academically and to discharge his/ her social responsibilities in tune with the vision and mission of the institution.
- 1.3. To foster and maintain a peaceful and enriching academic environment within the campus.
- 1.4. To conduct himself/herself in a manner befitting the status of a student of an institution of higher learning.
- 1.5. To be properly and neatly dressed within the campus, to follow the dress code in situations where it is explicitly specified, and to help in keeping the campus premises neat and clean.
- 1.6. To wear properly the identity card issued by the college while inside the campus or when representing the institution elsewhere.
- 1.7. To keep oneself fully aware of the letter and spirit of this Code of Conduct, and to bring any violations of the Code to the notice of the college authorities.

## **2. Grounds for disciplinary Proceedings**

Any act in violation of the responsibilities outlined in Section 1 constitutes sufficient grounds for disciplinary proceedings.

- 2.1 Any act that causes or is intended to cause physical or psychological stress or harm to any person.
- 2.2. Any conduct that causes unauthorized removal, destruction or damage of property either owned by or under the custody of the institution, or such acts on the property of others within the campus premises or at events organized/sponsored by the institution or when representing the institution.
- 2.3. Disorderly, indecent and obscence conduct within the campus premises or at events organized/ sponsored by the institution or when representing the institution.

- 2.4. Obstructing or disrupting the educational process by unauthorized entry into a class room or by causing disturbance from outside while a class/programme is in session.
- 2.5. Leaving a class while it is in session without obtaining permission from the teacher.
- 2.6. Organizing or attending any demonstration or meeting, distributing notices and collecting money for any activity for which prior permission from the principle has not been obtained.
- 2.7. Display of banners, posters, flags, or notices except at places permitted for the same by the principal.
- 2.8. Disfiguring the property of the college and the campus premises with graffiti, bills or engravings, and display of obscene or offensive material.
- 2.9. Unlawful obstruction or confinement of any student or official of the institution.
- 2.10. Possessing, using, distributing or being under the influence of alcohol or narcotics or other controlled substances and possession of any kind of weapon while within the campus or at events organized/sponsored by the institution or when representing the institution.
- 2.11. Making comments which reflect gender-bias, or use of phones, e-mails or other forms of communication to transmit material or sexually explicit nature, or engaging in any activity which constitutes sexual harassment.
- 2.12. Organizing or taking part in skits, dances, dramas or any other programmes which defame/ insult students or staff members.
- 2.13. Use of social media to defame/harass any student or staff member of the institution.
- 2.14. Sitting on the main entrances and staircases of the buildings.
- 2.15. Committing malpractice during examinations, or engaging in any activity which violates the spirit and seriousness of examinations.

- 2.16. Using mobile phones inside the classroom and using camera/ mobile camera inside the campus (inaccordance with the judgement of the Hon'ble High Court of Kerala and relevant Government orders)
- 2.17. Rash or negligent driving within the campus, or bringing vehicles into areas other than those permitted for vehicles of students, or negligent parking of vehicles causing obstruction/ disturbances to others or in violation of stipulated parking areas for students.
- 2.18. Academic malpractices like plagiarism, tampering with records, obtaining and distributing all or a part of any question paper etc.
- 2.19. Disrupting the academic ambience and tranquility of the institution by creating any disturbing noise on any pretext including celebration of birthday, festivals etc. Using musical instruments and loud speakers without permission of the principal.
- 2.20. Any other conduct which violates any of the responsibilities outlined in Section 1.

### 3. Disciplinary Sanctions

The Academic Council may impose disciplinary sanctions on students found violating the Code of Conduct. The Council may act based on prima facie evidence or subject to the recommendations of an enquiry committee appointed by it. Details of disciplinary sanction so imposed will be promptly conveyed to parents/guardians of the concerned student. The same shall be noted in the Student's Record.

- 3.1. **Fine:** The student will be directed to remit a monetary fine, either as a token punishment for the offence committed, or as compensation for the damages caused by him/her.
- 3.2. **Suspension:** The student will be put under suspension for a specified period of time, during which he/she will not be entitled to any of the academic rights and privileges provided by the college.
- 3.3. **Debarring:** The student will be debarred for a specified period of time from attending campus placements or/and from attending any/all

of the examinations forming part of his/her academic programme.  
(in accordance with University rules wherever applicable)

- 3.4. **Expulsion:** The student will be expelled from the institution and will be permanently debarred from readmission to any of the academic programmes conducted by the college.
- 3.5. Any offence coming within the purview of Indian Penal Code, or incidents of ragging or sexual harassment, will be reported to the Police to be dealt with as per the provisions of the law of the land. In addition, action as per the relevant provisions of the Code of conduct will be initiated against the offender.

### 1.10 Anti-Ragging Initiative

**Ragging in any form is prohibited and any incidence of indulging in ragging will be reported to the police. Ragging is a non bailable offence. Ragging may also attract punishment as per section 4 of the "The Kerala Prohibition of Ragging Act 1998" which leads to imprisonment, for a term of maximum 2 years and a fine for ten thousand rupees in conviction.**

Ragging: - Ragging constitutes one or more of any of the following acts:

- i. Any conduct by any student or students whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness to a fresher or any other student.
- ii. Indulging in rowdy or undisciplined activities by any student or students which causes or is likely to cause annoyance, hardship, physical or psychological harm or to raise fear or apprehension thereof in any fresher or any other student.
- iii. Asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment or embarrassment so as to adversely affect the physique or psyche of such fresher or any other student.
- iv. Any act by a senior student that prevents, disrupts or disturbs the regular academic activity of any other student or a fresher.

- v. Exploiting the services of a fresher or any other student for completing the academic tasks assigned to an individual or a group of students.
- vi. Any act of financial extortion or forceful expenditure burden put on a fresher or any other student by students.
- vii. Any act of physical abuse including all variants of it: sexual abuse, homosexual assaults, stripping, forcing obscene and lewd acts, gestures, causing bodily harm or any other danger to health or person.
- viii. Any act or abuse by spoken words, emails, posts, public insults which would also include deriving perverted pleasure, vicarious or sadistic thrill from actively or passively participating in the discomfiture to fresher or any other student.
- ix. Any act that affects the mental health and self-confidence of a fresher or any other student with or without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any other student.

A “**Fresher**” means a student who has been admitted to an institution and who is undergoing his/her first year of study in such institution.

Actions will be taken against students for indulging and abetting ragging depending upon the nature and gravity of the offence as established .The possible punishments for those found guilty of ragging at the institution level are any one or any combination of the following:-

- i. Cancellation of admission
- ii. Suspension from attending classes
- iii. Withholding/withdrawing scholarship/fellowship and other benefits
- iv. Debarring from appearing in any test/examination or other evaluation process
- v. Withholding results
- vi. Debarring from representing the institution in any regional, national or international meet, tournament, youth festival, etc.



- vii. Suspension/expulsion from the hostel
- viii. Rustication from the institution for period ranging from 1 to 4 semesters
- ix. Expulsion from the institution and consequent debarring from admission to any other institution.
- x. Collective punishment: when the persons committing or abetting the crime of ragging are not identified, the institution shall resort to collective punishment as a deterrent to ensure community pressure on the potential raggers.

In case of ragging, you may directly contact in person or over phone to your staff advisor or any one of the following persons:

- a. Principal : Dr. Rajasree M.S 0471-2300484
- b. HoD - EC : Dr. Suresh Babu 9495502300
- c. HoD - IT : Prof. Balu John 9895259420
- d. HoD - ME : Dr. S. Anil Lal 9447007935
- e. HoD - EEE : Dr. Dinesh Pai A 9446101858
- f. HoD - CE : Dr. Jaya. V 8547111246

An antiragging monitoring committee has been constituted in this institution as per the guidelines issued by the Principal.

## **24 Hours Help-line**

Toll free number : 1800-180-5522  
Helpline Number : 9895855239  
District Legal Service : 0471 2595173  
0471 3257335  
e-mail : helpline@antiragging.net

### **1.11 Prohibition of Mobile phones, Cinematic dances, Fashion shows etc.**

- Ref:-
1. GO (Rt) No.346/05/H.Edn dated 1-3-2005
  2. Go (Rt) No.1102/05/H.Edn dated 24-06-2005
  3. Govt. Circular No.30115/K3/2009/ H.Edn dated 10-2-2010
  4. Circular No.EK1/2002 dated 23-11-2002 of University of Kerala

As per the vide references cited above, Government have given specific instructions to restrict the use of mobile phones and prohibit fashion shows and vulgar dances in the campuses. Accordingly institutional level Ethics committee has been constituted with the Principal as Chair person. In compliance with the order of Hon'ble High Court of Kerala and the instructions issued by the Government a surprise inspection squad is also constituted in the institution to ensure the compliance of instructions issued. The squad is empowered to conduct surprise inspections in the campus and will furnish reports to the principal and Ethics Committee for further necessary action. As per the instructions given by the Government, the Ethics committee will forward monthly reports to the District level committee that chaired by the District Collector. The State level committee with Hon'ble Minister for Education as chair person will review the reports bimonthly and issue necessary orders.

In these circumstances, all are directed not to bring Mobile phones with camera or ordinary phone in switch on position to the campus. No excuses will be entertained.

Also, the use and possession of mobile phones, pagers, programmable calculators, digital diaries and any other transmitting electronic devices are not to be allowed inside the examination halls. Any violation of this stipulation will be treated as malpractice.

### **1.12 Timings**

The college will function from 9 AM to 4 PM for all semesters, with one hour break from 12 noon to 1 PM for lunch. On Fridays the after noon session will start at 2 PM. Saturdays and Sundays are usually holidays for academic works in the college.

### **1.13 Scholarships and stipends**

#### **National Scholarship Scheme**

In order that no really brilliant student is prevented on the ground of poverty alone from pursuing an academic career, Government of India have formulated a National Scholarship Scheme, which will be awarded on the basis of the marks in the School Leaving examination, Higher Secondary examination or the first Degree examination. The award will be limited to scholars, the income of whose parents does not exceed Rs. 2,50,000 per year.

#### **Merit Cum Means Scholarship**

This scholarship is awarded to the students belonging to Minority Community on the basis of the marks in the Higher Secondary examination. The award will be limited to scholars, the income of whose parents does not exceed Rs. 2.5 Lakh per year.

#### **Central Sector Scholarship**

The scholarship, introduced by Ministry of Human Resource Development Department of Higher Education, Govt. Of India, aims at providing financial assistance to meritorious students from low income families. The parental income (Both Father and Mother) should not exceed Rs. 6 lakhs per annum.

#### **Merit scholarship for the children of primary and secondary school teachers**

This scholarship is awarded based on the matriculation or equivalent examination and the higher secondary examination.

### **Merit Scholarship**

District Merit Scholarship (DMS) based on SSLC marks, Rs. 4000 per year, University Merit Scholarship (UMS) based on HSC marks, Rs. 2500 per year, are also available.

### **National Talent Search (NTS) Scholarship**

This is a Government of India scholarship based on NTS Examination.

### **Financial assistance to the students belonging to fisherman community for higher studies**

This scholarship is given by the Government of Kerala to students belonging to fisherman community.

### **Educational concession to the students**

Full fee concession, Lump sum grant of Rs. 500 for purchase of books and dresses, pocket money of Rs. 250 per month and monthly stipend and lodging charges.

All students whose parent's annual income does not exceed Rs. 1,00,000 are eligible for fee concession under KPCR scholarships.

### **Converted to Christianity from Scheduled Caste and Scheduled Tribes and other eligible communities**

Full fee concession, monthly stipend of Rs. 600 and half the lump-sum grant sanctioned to scheduled caste students for purchase of books and dresses. Actual boarding and lodging charges will be paid to the students if they are residing in the hostels attached to the professional colleges with a maximum amount of Rs. 3,000 per month.

### **CH Muhammed Koya Muslim Scholarship**

This scholarship is given by the Government of Kerala to girl student per-

manently settled in Kerala and belonging to the Muslim or Latin Catholic or Converted Christians Community. Applicant should have secured at least 50% marks in the qualifying Examination. The annual income of the family should be below Rs.4,50,000.

#### **1.14 Dress code**

All students must wear dress formal only. T-shirts and other casual wears will not be permitted. When they come to laboratories and workshops, they would wear blue pants and slacks. In addition, they have to wear shoes. Loose chappals and the like will not be permitted.

#### **1.15 Identity card**

An identity card with photograph will be issued to all students. Students must wear the same always when they come to the college and must produce the same on inspection. The identity card is the property of the institution and has to be returned while relieving from the institution.

## 2 ACADEMIC DEPARTMENTS

### A Mechanical Engineering

The Department of Mechanical Engineering at Government Engineering College, Barton hill was established in the academic year 1999 and is now headed by Dr. S. Anil Lal. The department offers a four-year B.Tech course in Mechanical Engineering and M.Tech course in Machine Design. Most of the students passed out from the department are working in top ranked international and multinational companies. A number of students from the department pursue their higher studies at IITs and IIMs and also at top ranked foreign universities. The academic focus of the department is to impart state of the art technical knowledge to the students. Conceptual understanding supported with experimental knowledge moulds our students competent enough to face the technical challenges of our nation. The faculty of Mechanical Engineering are well qualified and academic as well as industrial expertise is not at dearth.

- **Vision**

Identify ourselves as a globally recognized department for its outstanding education, research, and outreach programs that transform our students into competent, innovative and socially responsible engineers.

- **Mission**

- Impart quality engineering education to students by providing scientific, technical and mathematical skills.
- Impart training on leadership skills, communication skills and social awareness to transform the students into engineering professionals with integrity.
- Nurture capabilities in research, innovation and sustainability to make the students globally competitive.
- Network with renowned institutions in industry, academics and research.

- **Program Educational Objectives [PEOS]**

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PEO – 1	To prepare students for successful careers in industry/ research/ academics/ administration and to become successful entrepreneurs.
PEO – 2	To train students with solid foundation in mathematics, science and engineering to develop innovative and sustainable solutions for engineering problems and new products.
PEO – 3	To equip students with the necessary skills, attitudes and ethics to undertake and execute challenging problems based on societal and environmental needs as well as to develop ability to relate engineering issues in a broader social context.
PEO – 4	To prepare students with capabilities for effective communication, management and team work through a multidisciplinary approach.
PEO – 5	To provide an environment that promotes leadership qualities, provides awareness to latest developments in engineering practices and creates a quest for lifelong learning.

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## B Electronics and Communication Engineering

The Department of Electronics and Communication Engineering in Government Engineering College Barton Hill, Thiruvananthapuram. was established in 1999. Dr. Suresh Babu is the Head of EC Department. The students in the department are instructed, guided and motivated by a team of vibrant, highly qualified faculty. The department is equipped with state of art lab facilities, modernized with TEQIP – II funds. The department currently offers a B. Tech Program in

Electronics and Communication Engineering with annual intake of 60 students. It also offers M Tech program in Signal Processing with an intake of 18 students from GATE qualified candidates.

- **Vision**

A learning hub in electronics and communication engineering, that enables students develop engineering fundamentals, and that builds bidirectional bridges with leading industries and world-class research centers.

- **Mission**

- Establish a learning environment that enables students build the fundamentals and study advanced disciplines related to electronics and communication engineering..
- Promote innovation and aptitude for research by exposing students and faculty into new areas of technology.
- Provide an ethical and value-based education by encouraging activities addressing societal needs.

- **Program Educational Objectives [PEOS]**

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PEO – 1    **Basic Knowledge:** Represent, analyze and synthesize systems making use of theoretical knowledge, experimental data, and practical insight, arising in the fields of analog and digital integrated circuits, signal processing, communication, control, radio frequency applications and micro processor based applications.

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PEO – 2    **Technical Proficiency:** Identify the advanced intra/inter disciplinary areas associated with electronics and communication engineering, informed by contextual knowledge on contemporary industry, research and societal needs, and formulated the related problems.

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PEO – 3     **Professional Soft skills:** Adapt to the very fast technological changes in the field of electronics and communication engineering; be able to articulate the ideas and principles combining both mathematical precision and engineering intuition; be able to work in a collaborative environment keeping up ethical values.

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## C Information Technology

The Department of Information Technology at Government Engineering College, Bartonhill was established in the academic year 1999, offering a four year B.Tech. course in Information Technology and M.Tech course in Network Engineering. The department takes special efforts to impart technical knowledge to the students. The department is headed by Prof. Balu John. The students are focused with the use of conceptual understanding of core domain area in Computing as well as enhanced programming skills disseminating their analytical abilities.

- **Vision**

To become a leading knowledge dissemination centre, producing globally acceptable professionals capable of making technological innovations for the benefit of society and to become an integral partner in delivering innovative and effective IT services.

- **Mission**

To impart quality education in Information Technology combined with ethical values, to produce outstanding professionals capable of taking up challenging assignments and to inculcate attitudes for research and developmental activities.

- **Program Educational Objectives [PEOS]**

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PEO – 1	To provide students with a strong base in mathematics, scientific and engineering fundamentals necessary to solve complex engineering problems and to pursue higher studies.
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PEO – 2	To develop in students an ability to analyze and focus in the areas of Software Engineering, Computing Sciences, Information Engineering and Communication Engineering and also to become competent and innovative IT solution providers and entrepreneurs.
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PEO – 3	To expose the students to cutting edge technologies in different engineering and management fields, enabling them to contribute effectively in multidisciplinary areas, with excellent communication skills and leadership qualities.
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PEO – 4	To equip the students to become globally successful professionals and to instill in them a good sense of professional ethics and social concern.
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## D Civil Engineering

The Department of Civil Engineering was established in the year 2012 in Government Engineering College, Barton Hill, Thiruvananthapuram with an annual intake of 60 students. The department is headed by Dr. Jaya. V and has faculty strength of eight Assistant Professors in which five are Ph.D holders. The experienced, well-qualified and dedicated faculty of the department motivates and guides the students in their overall development. In order to expose them to the latest technological developments within the field, various visiting faculty programmes, invited talks by academicians, training programs and Quiz programmes are continuously being organized.

- **Vision**

To produce competent, disciplined and quality Civil Engineers

with strong conceptual foundation coupled with practical insight and global perspective.

- **Mission**

- Create and maintain an optimal teaching and learning environment in which students receive unsurpassed knowledge, skills, insights and the tools for life-long learning in the field of Civil Engineering.
- Develop a Centre of Excellence in the field of Civil Engineering.
- Inculcate a tradition among students to appreciate service to society.

- **Program Educational Objectives [PEOS]**

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PEO – 1      To produce well qualified professionals with a profound knowledge in Civil Engineering and principles of mathematics and science, reaching for advanced degrees in engineering and related fields at leading institutes.

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PEO – 2      To train students to effectively communicate and implement technological concepts and design and to work as a team in multidisciplinary environment to excel in their careers.

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PEO – 3      To equip graduates in identifying, analyzing and formulating solutions to complex engineering problems catering to global needs in the field of Civil Engineering, by applying modern, sustainable and eco-friendly technologies.

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PEO – 4      To produce graduates who will contribute with creative solutions to existing technological problems pertaining to society, adherent to societal moral values and professional ethics.

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PEO – 5 To nurture students to be well prepared for the industry with core engineering competency, comprehensive knowledge of modern engineering tools and good managerial skills that will enable them to have a long term engineering / entrepreneurship careers.

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## E **Electrical and Electronics Engineering**

The department of Electrical and Electronics Engineering in Government Engineering College , Barton Hill, Thriuvananthapuram was established in 2007. The department offers a four year B.Tech course in Electrical and Electronics Engineering and an M.Tech course in a unique subject Power Systems and Control. Dr. Dinesh Pai A is the Head of the Department. The department gives emphasis to academic as well as extra –curricular activities of the students by training them for improving their leadership qualities, presentation skills, organizing skills etc from the entry level itself.

- **Vision**

Attain the zenith in Electrical and Electronics engineering with emphasis on innovative research, design and development for the betterment of the society and nature.

- **Mission**

Mould socially committed and dedicated professionals in the field of Electrical and Electronics Engineering through continuous learning that imparts technical expertise, leadership qualities, ethical standards and moral values.

- **Program Educational Objectives [PEOS]**

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PEO – 1 To mould graduates well versed in various engineering concepts and make them capable of pursuing higher education by imbibing knowledge on applied mathematics, fundamental sciences and engineering principles.

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- PEO – 2 To nurture socially committed professional team players with multidisciplinary talents, values, ethics, and communication skills to bridge the gap between engineering knowledge and societal needs.
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- PEO – 3 To provide an excellent environment that fosters creativity, lifelong learning and leadership qualities which enable them to contribute in the area of research and development as anticipated by the industry and the academia.
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- PEO – 4 To impart broad and in-depth knowledge of Electrical and Electronics Engineering to address various technological challenges with focus on sustainable development.
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## **F Department of Science**

The Department of Science comprises the faculties from the disciplines Mathematics, Physics, Chemistry and Humanities. The Department is now headed by Dr. Neena Sugathan, Assistant Professor of Physics. The department has total faculty strength of ten including four Assistant Professors and six Guest lecturers. Most of the faculty members are Ph.D holders from reputed universities. Noteworthy points regarding research of faculty members include research experience in premier institutions abroad and highly cited publications in international peer reviewed journals of repute. The faculty members of Mathematics are engaging classes for B.Tech Students up to fifth semester and the first semester of various M.Tech courses. The department is equipped with lab facilities for Engineering Physics and Engineering Chemistry courses. The faculty members of this department have been extending their support to the B.Tech and M.Tech students for the successful completion of their projects.

## **G Physical Education**

Quality Physical Education programs can be life-changing for today's young people and, in many cases, already are. Such programs offer students a well-rounded opportunity to develop their bodies and minds to gain skills that will propel them to success in both the physical and academic aspects of education—and life. Keeping this in mind the department of Physical Education offers many programmes both competition and education based. Apart from the regular programme the department scheduled to give learning and training programmes to students as their own choice. All the training programmes are scheduled nearby stadiums and college fitness centre. Various workshops and classes have been scheduled for the students as well as faculties in different areas such as self defence, concentration; motivation e.t.c. Inter Class competition is the important event and there by all the students of each class will engage in one or more games or sports.

### **2.1 ASSOCIATIONS**

#### **A Mechanical Engineering Association**

It represents the student wing of the Mechanical Engineering Department. The Association arranges various technical forums and core industrial interactions. Seminars, Debates and Group discussions are conducted to improve the communication skills of the students.

#### **B Electronics Engineering Association**

The Electronics Association is a forum set up for the overall development of students. Its main programs include arranging technical talks by eminent people in various fields of engineering. The association conducts a variety of programs aimed at improving communication skills as well as basic technical knowledge of the students. Every year the association organizes a mini project exhibition '*e-spark*' for pre- final year students.

#### **C IT Association**

The IT association functioning in the college is organizing various programs for bringing the state-of-the-art technology to the students. Invited talks, seminars, workshops on new technologies, training on real time projects with IT industries etc. are envisaged by the association. The association also plans inter/intra-collegiate competitions on technical paper presentations, coding and code debugging, system design, web design, code testing etc. Campaigning will also be made to develop the culture of using open and free software among the students inside and outside the college.

#### **D Electrical Engineering Association**

The primary aim of the association is to promote and develop contacts between students and professionals. The sharing of ideas and experience among electrical engineering students is made possible through workshops, exchanges and other activities. The electrical engineering aspects are expressed through workshops, the most important activity of the association. During the workshops, lectures are presented by specialists from the industry and universities and discussions are conducted in small group sessions. Subjects are selected from new technologies and special fields of electrical engineering including Power Systems. Industrial visits are also part of the activities of the association.

#### **E Civil Engineering Association**

The Association of Civil Engineers conducts various programmes including expert lectures, technical competitions and exhibitions for the overall development of Civil Engineering students. It is a platform for students to interact with professionals working in various fields of Civil Engineering. The association aims to create a genuine passion towards this basic stream of Engineering such that students emerge as successful practicing engineers and also to give proper guidance for those who are opting for higher education. It also enables the students to showcase their talents.

### **3 FACILITIES**

#### **3.1 Laboratories**

##### **A Mechanical Engineering**

(a) **CAD Lab:**

Provides training in programming languages such as C and C++, AutoCAD, Designing, Modelling and analysis, ANSYS.

(b) **Heat transfer laboratory:**

The lab is equipped with various experimental setups like composite wall, metal rod, lagged pipe, forced convection, free convection, blower, refrigeration test, airconditioning test and multistage compressors, emissivity apparatus, heat pipe apparatus, Stefan Boltzman Heat Exchanges, Pressure and Temperature Calibrators and Pitot Tube.

(c) **Metrology and Instrumentation laboratory:**

It is equipped with basic measuring instruments and modern instruments like sine bar, profile projector, metallurgical microscope, tool makers microscope, autocollimator, surface roughness tester, LVDT, CNC machines, robot, PLC trainer, strain gauges etc.

(d) **Automobile model room:**

Scooter engine with transmission system, differential unit, clutch unit, gear box etc.

(e) **Basic mechanical engineering workshop:**

facilities include fitting, carpentry, smithy, foundry, sheet metal, plumbing etc.

(f) **Fluid Mechanics and Hydraulics Machines Lab:**

The lab is equipped with flow measurement set up's such as orifices, notches, venturimeter, pipe friction apparatus, metacentric height apparatus, Bernoulli's theorem apparatus, Reynolds experiment set up, Pumps and Turbines, Computerised Turbine Test Rigs.



**(g) IC Engines lab:**

The lab is equipped with two stroke and four stroke single cylinder and multicylinder petrol and diesel engine test set up with different types of loading systems, Morse test facility, Retardation test facility, Heat balance test facility, fuel and lubricant properties test facility, compressors and blower.

**(h) Non Destructive Testing Facility:**

This facility is equipped with ultrasonic flaw detector and thickness gauge, magnetic particle testing Eddy current flow detector and Pentrant testing. It has got ASNT standard test specimens for complete training.

**(i) PG Labs:****PG computational lab:**

Lab is equipped with computer systems with softwares ANSYS, ABAQUS, CATIA, etc

**PG dynamics Lab:**

Lab is equipped with facilities like UTM, DAC system, Composite fabrication, etc. Prof Satheeshkumar S is staff member in charge.

**B Electronics and Communication Engineering**

The Department of Electronics and Communication Engineering has well-equipped labs such as

**(a) Electronics Devices Lab:**

This is the entry level lab conducted at third semester. Contains several Functions Generators, Panel meters, DC power supplies, over a dozen entry level Oscilloscopes (CRO), and one digital LCR meter.

**(b) Digital Integrated Circuits Lab:**

This is where the digital electronics experiments are conducted. Lab contains Digital trainer kits and Digital and Analog IC testers and Digital and Analog Multimeters.

(c) **Electronics Circuits Lab:**

Discrete components based basic electronic circuits experiments are conducted in this lab. The lab has DC power supplies and signal generators and 10 numbers of Digital Storage Oscilloscope.

(d) **Analog Integrated Circuits Lab:**

Advanced Analog Integrated Circuits based experiments are conducted in this lab. Facilities include 60MHz DSOs, Function Generators, DC power supplies, and Analog IC tester.

(e) **Communication Engineering Lab:**

It contains one high end DSO, Six numbers of 60MHz DSOs, 6 Function generators, and 10 numbers each Digital and Analog trainer kits. The lab also contains high end CROs, Function generators, DC power supplies and LabVIEW virtual instrumentation software.

(f) **Microcontroller Lab:**

Xilinx ISE design suit 10.1, Tanner T-Spice full version, Spartan 3/3E development board, BF 537 Development boards, 8051 development board, PIC development boards are also available for conducting experiments and projects. These are funded from AICTE, under the MODROBS project (net worth INR 8.00Lacs). The lab is also equipped with 8086 and 8085 trainer kits and its various interfacing cards.

(g) **Electronic Product Design Facility (Miniproject Facility):**

Students are making use the pooled resources from all the labs for their Miniproject and final year projects (course Nos. 08.608, 08.710 and 08.808).

**(h) Communication Systems Lab:**

Equipments in this lab include Digital/Analog Communication Trainer kits, Function generators, AM/FM Signal generators, Projectors and One HP Laserjet Printer (HP 1007).

**(i) Digital Signal Processing Lab:**

Several DSP Starter Kits including TMS320C54X, TMS320C6713 and TMS320C6416 with accessory boards and associated bundled softwares. Purchase of additional DSKs in progress.

**(j) Microwave and Optical Lab:**

This lab contains Klystron Power Supplies, Klystron Sources, Gunn Diode Oscillators, Gunn Power Supplies and VSWR and Microwave Frequency meter to conduct various experiments at Microwave frequencies. The lab also contain Optical trainer kits for conducting Optical Communication experiments.

**(k) EDUSAT Facility:**

Satellite-based interactive multimedia system with DW7700 modem, multimedia projector, High End Desktop (on Windows XP), HP LCD Projector, 1.2m diameter dish antenna, RF Microphone, video capture Card, and Sony handy cam with tripod. All the equipments are provided by the Department of Space under the EDUSAT programme.

**C Information Technology**

The Department of Information Technology has four laboratories and a central server room. The department has the necessary software and hardware infrastructure for the conduct of all the 10 laboratory/practical subjects in the B.Tech and M.Tech curriculum. All the student projects are done in-house. Each laboratory room has networked printers over Ethernet LAN. Although the emphasis is on the use of Linux and open source software, other popular proprietary software platforms are also

supported. In addition, the department provides the necessary technical support for the smooth functioning of the campus-wide network in the college. A 100 Mbps internet connection via firewall and proxy server is provided to the entire campus through fiber optic links. The department is one of the nodal centers for the facilitation of the Centralized Allotment Process (CAP) for admission to professional courses.

(a) **Server Room:**

This room has 5 server machines with SCSI/SATA drives, RAID-5 capability, CD towers, routers, hubs and cable modem, housed within a central rack. Different servers are set apart for managing various activities. The OS platforms provided are Enterprise Linux, Windows Server and Solaris. A Software-testing Laboratory with HP Functional Testing software has also been set up under the modrobs project of AICTE. The server room is also have the facilities like 2 IBM rack server, 8 HP blade server, Fortigate 200B (UTM), SAN storage, Forti Analyzer. Shri.Jeejo M Thankappan is the staff member in charge.

(b) **Web Application Laboratory:**

This lab has 72 system with full fledged audio video facilities. This lab is also used for conducting online examinations. The lab is provided with a projector and a motorized screen which facilitates in conducting expert talks.

(c) **Internet Laboratory:**

This lab runs on thin-client machines running under Enterprise Linux as well as desktops running under Windows. 36 terminals are provided for Internet connectivity and running various software labs in the curriculum.

(d) **Programming Lab:**

This lab has 40 desktops with full fledged audio video facility. The lab is provided with a projector and a motorized screen which facilitates in conducting expert talks.

**(e) Network Laboratory:**

This lab has 8 CISCO routers, switches, high-speed modems and 36 dual-boot desktop machines. A wireless LAN laboratory with wireless access points/routers, wireless site survey kit and other equipment set up under the MODROBS project of AICTE.

**(f) Project Laboratory:**

This lab is equipped with 25 desktops, crossworks for ARM and Quel Net software.

**(g) Network security lab:**

The lab is equipped with CISCO security enabled routers and switches which are kept in 18 racks and 32 desktop machines that works in linux.

**(h) Software Testing:**

This lab is equipped with 15 desktops, one projector and a monitored screen to conduct PG Labs.

As additional activities various online exams are performed in the laboratories like CMAT, NASSCOM, ASAP, Federal Bank, Campus placement of Infosys, Mu Sigma, Capgemini etc

**D Electrical and Electronics Engineering****(a) Electrical Machines Lab:**

This laboratory is equipped with different types of DC Motors like Series, Shunt and Compound Motors, Motor-Generator sets, Single and three phase Transformers, Auto Transformers, Single and three phase Induction Motors, Alternators etc. The machines are provided with suitable starting and loading arrangements for conducting various tests to analyze their performances. Measuring instruments such as Voltmeters, Ammeters, Wattmeters, Tachometers etc. of various ranges and types are also available for conducting the tests on the machines as per the B.Tech curriculum.

(b) **Digital Circuits and Electronics Circuits Lab:**

The lab is fully equipped with the facilities to conduct all the experiments in Digital Circuits and Electronics Circuits as per the prescribed syllabus of KTU. Making use of the facilities in the lab, the students can do project works for their final year of study.

(c) **Electrical and Electronics Workshop:**

This workshop gives hands on training to the students on different types of Domestic, Commercial and Industrial wiring. The workshop also equipped for conducting experiments in Basic Electronics Circuits which is part of the curriculum of B.Tech Syllabus.

(d) **Microprocessor Lab:**

This lab is equipped with the facilities to conduct all the experiments with 8085 and 8086 Microprocessors including interfacing devices and also 8051 Microcontroller kit.

(e) **Measurements and Instrumentation Lab:**

This lab is equipped with Vernier Potentiometer, Slide wire Potentiometer, Wheatstone Bridge, Kelvin's Double Bridge, 3phase and single phase Autotransformers, Voltmeters, Ammeters, Galvanometers, Screw Gauges, Stop watches, Volt ratio boxes, Standard cells, Standard resistances, DC Power Supplies, Function Generators, Digital Storage Oscilloscopes, CROs, Water loads, Resistance boxes etc. Calibration of single phase and three phase Energy Meters by different methods, calibration of Voltmeters, Ammeters, Wattmeters, different methods of Resistance measurements, determination of B-H curve of specimens and Operational Amplifier based measuring experiments are conducted in this lab.

(f) **Power Electronics Lab:**

Power Electronics Lab is equipped with Trainer kits to plot characteristics of various Power devices like SCR, TRIAC, IGBT, MOSFET as well as Power device modules for switching operation us-

ing various switching methods. Converter, Invertors, Coppers, Cyclo converters etc are setup for experimental purpose. Necessary equipment/meters as Function Generators, Analog/ Digital Storage Oscilloscopes, Power scopes, Multimeters, Power/Isolation Transformers are available. The PE lab is recently enhanced into a research lab installing modern Power Quality Analyzer, Photo Voltaic training system and advanced Grid tied Research system.

**(g) Systems and Control Lab:**

Systems and Control lab facilitates the students to characterize the systems with Transfer Functions and their Stability Analysis using conventional control system methods like Root Locus, Bode Plot , Nyquist Plot etc.This lab also demonstrates the principles of Stable System Design using hardware such as DC and AC Servo Motor kits, AC Synchro System etc. and the software simulation packages such as MATLAB. The lab equips the students to apply the Control System principles in practical design problems.

**(h) Software Lab cum Power System Simulation Lab:**

The Software lab has sufficient number of PCs in a network installed with latest software packages like C, C++, Fortran, e-Tap, Mipower and MATLAB. It houses both the hardware and software enhancements to provide our B.Tech and M.Tech students for their curriculum syllabus and also for the research work in the field of Power System.

**(i) Power System Lab:**

Power system lab is equipped with various experimental setup such as Transmission Line trainer, Insulation and Earth Meggers , various types of Relay test kits.

Electrical Maintenance unit of the department undertakes urgent Electrical installations and maintenance of the whole campus using the facilities in the lab.

## **E Civil Engineering**

(1) **Civil Engineering Workshop Lab:**

Provides training in setting out of buildings, brick masonry, testing of construction materials and quantity estimation.

(2) **Strength of Materials Lab:**

The lab is equipped with Universal testing machine(UTM), Spring testing machine, Impact testing machine, Hardness testing machine, Torsion testing machine and torsion pendulum.

(3) **Survey Lab:**

The lab is equipped with Total station, Dumpy level, Prismatic compass, Subtense bar, Planimeter, Theodolites and Plane tables.

(4) **Concrete lab:**

The lab has facilities for testing cement, aggregates, fresh concrete and hardened concrete.

(5) **Geotechnical Engineering Lab:**

The lab has facility for testing the various parameters of soil.

(6) **CAD Lab:**

Provides training in analysis and design of steel and concrete structures in SAP as well as drawing in AUTOCAD.

(7) **Transportation Engineering Lab:**

The lab has facility to test pavement materials like soil, bitumen and aggregates.

(8) **Environmental Engineering Lab:**

The lab facilitates testing of water and sewage.

**F Physics lab**

The lab has experimental setups for doing basic Engineering Physics experiments. These include experiments based on acoustics and basic



optics phenomena such as diffraction, dispersion, interference etc. Dr. Neena Sugathan is the lab in charge.

## G Chemistry lab

The lab is equipped with facilities for Quantitative Inorganic analyses, Organic Polymer preparations and some of the instrumental methods of Chemical analyses which are incorporated in the syllabus of S1/S2 B.Tech courses of APJ Abdul Kalam Technological University. Dr. Ajith Dain Thomas is the lab in charge.

## H Language Lab

The Language lab has been set up as a means of improving the communication skills of the students of the college, especially the weaker sections. It's being offered as part of KTU s1 and s2 curriculum. A subject trained faculty is engaged to handle the classes.

### 3.2 Career Guidance and Placement Unit (CGPU)

The Career Guidance and Placement Unit (CGPU) of the college is actively organizing many events for the students to get placements in reputed organizations. There are good track records regarding campus placements took part in the previous years. Organizations like Infosys, TCS, Wipro, Accenture, vsnl, HCL, DELL, IBS, Larson and Tubro, Greaves Cotton, Anglo-Eastern Ship Management, Computer Science Corporation, Informatica, Nest, us Technology, Oracle, Capgemini, Mercedes, Benz, Alcatel, QuestGlobal, Musigma etc have come to our campus for recruiting students. The organizations specify the academic requirements, and only those candidates having such eligibility will be considered for the selection process. The students are informed about the recruitment programs, and if necessary special coaching programs will be arranged for them to get through the selection process. Trainings on soft skills, group discussions, how to face interview etc are being conducted on a regular basis. Master trainers from outside are also invited to campus for giving training to our students on various skills so as to empower them in attaining good placements. Classes are also being arranged for enlightening the students to pursue higher education in India and abroad. Industry experts

are also invited to campus for giving exposure on various state-of-the-art technologies. Guidance will also be given to students for choosing best career options. Entrepreneur development programs are also arranged by the unit for the students. A core committee with representatives from pre-final year students of all batches facilitates the activities of the unit.

The training wing of CGPU functions with a view to enhance the soft skills and employability of the students by way of organizing expert lectures, special classes and various training programs. Training programs are organized on various fronts such as interpersonal skills, linguistic and quantitative abilities as well as technical proficiency. Dr .Remesh. S, Associate Professor, Department of Mechanical Engineering is the Coordinator in charge of CGPU.

Sl.No	Branch	No of Eligible students	No of students placed in IT sector	No of students placed in Non-IT sector	Total students placed	Total number of offers
1	BTECH EEE	50	28	0	28	30
2	BTECH ECE	46	33	5	33	41
3	BTECH ME	39	11	7	18	18
4	BTECH IT	38	21	0	21	21
5	BTECH CE	53	1	1	1	2
6	MTECH ME	12	0	0	0	0
7	MTECH IT	18	4	0	4	5
8	MTECH EEE	16	3	0	3	3
9	MTECH ECE	16	0	0	0	0

### 3.3 Industry-Institute Interaction Cell (IIIC)

Industry–Institute Interaction Cell in this college function as a forum of interaction between industries and the college, for mutual benefit. A committee consisting of representatives from industry and the faculty used to monitoring the activities of the cell. Dr. Dineesh Pai.A, Professor, EEE,

is the present nodal officer of the cell.

### **3.4 Industrial Training**

The Departments of the college facilitate an Industrial attachment programme to give the students a real feel of the work culture. Industrial training where carried out in the reputed firms such as KAL, BRAHMOS, Cochin Shipyard, Hyundai Motors, Toyota Kirloskar Motors, Travancore Titanium Ltd, KELTRON, BSNL, AIR etc.

### **3.5 The Visiting Faculty Program**

The visiting faculty program was introduced in various engineering colleges by the Government of Kerala. Under this program experts from industries and reputed research institutions are invited to deliver lectures to conduct seminars on latest technological and scientific developments. Distinguished faculty from prestigious academic institutions (IISc Bangalore, IIT Madras, IIT Bombay, IIT Kharagpur, IIST, NIT Trichy, NIT Calicut etc) and experts from industry visited the college and delivered lectures on a host of topics ranging from core concepts to cutting-edge technologies. Prof.Vivek R.S EEE is the convener.

### **3.6 IPR Cell**

Intellectual Property Rights (IPR) cell has been setup in the college. This cell functions as a satellite centre for Patent Facilitating Centre of TIFAC, Government of India. The major objectives of the centre are to organize technical programmes to generate awareness among public on Intellectual Property Rights (IPR) and thus nurturing students research scholars, scientist, technocrats, professionals, industrialists, grass root innovators, etc. It aims to increase the Intellectual Property output of the State by facilitating and guiding people from different walks of life. The cell will provide technical, legal and financial assistance for filing patent and facilitates to access patent related documents.

### **3.7 Free Software Cell**

Free Software Cell is an initiative by the students of GEC, Barton Hill to promote the usage of free software in technical and personal computing domain as well as to appreciate the philosophy behind open source initiatives

among the students and public. The website of the cell *www.fsc.gecbh.ac.in* is solely managed by the students using free software technologies.

### **3.8 College Library**

The college is having a full fledged library with a good collection of books which cater to the needs of students. Periodicals and technical journals are available in the library. A separate reference section is also arranged for the students to read various topics of their interest. Good collection of books, under the book bank scheme has been implemented. Various E-Journals like IEEE, ASME, ASCE, Springer, Science Direct etc. are available in the library. A computerized library information system with easy search facility has also been implemented. RFID tags and RFID Security system are installed in the library.

All students and teachers of the college are members of the library. The library is functioning under the guidance of a committee.

1. The library and reading room shall be kept open from 9 AM till 6 PM on all working days.
2. All the students/scholars and outsiders entering the Library shall deposit their bags and other belongings at the entrance and sign in the Register at the checkpoint. Only paper and the Library books to be returned will be allowed inside. Do not let or leave any valuables at the reading area. Library is not responsible for any loss of personal belongings. All files, books and notebooks must be kept at Property Counter. Library does not permit any exception in the observance of this rule.
3. Identity Card is compulsory for getting access to the library. All the students are advised to bring their own ID Cards while using the Library facilities.
4. Books removed from the shelves by students, if not required for reference, should be kept on the table nearest to them. Please do not try to shelve them yourself. Please remember that a book misplaced is a book lost.

5. Underlining, marking, folding of pages, drawings and writing comments, etc. in the books are strictly prohibited. If anyone is found doing so, he will be charged the full replacement cost of the resource. Books borrowed should be protected from RAIN, DUST, INSECT, etc.
6. All the students who want to return the books issued on their names are advised to wait until the books are shown as cancelled against their names.
7. The physical condition of the book should be checked. Any mutilation of pages must be brought to the notice of the circulation in charge otherwise the borrower himself/herself shall be responsible for mutilation of the book if detected afterwards.
8. Watching movie or video on laptop, playing game on laptop, sleeping, talking loudly, and eating food items are strictly prohibited.
9. There will be a fine of Rs. 1.00 per book per day.
10. Students are advised not to issue Books to others on their names.
11. Conversation and discussion disturbs library ambience. Therefore, all are requested to maintain dignified silence. If discussion is necessary, the common room should be utilized for the same.
12. All users are requested to keep their mobiles switched off or in silent mode in the Library.
13. Beverages and Eatables are not allowed inside the library.
14. No visitor or guest is permitted to use the Library without the prior permission of the Librarian. He/She is required to produce a proper introduction letter from the concerned Institution/Organization to which he/she is attached.

15. Library reserves the right to call back any issued book/item at any time.
16. All students are advised to come to the Library in decent dress as they are in the classrooms.
17. Books for references, newspapers, illustrated and rare books, multivolume collection, serial publications and periodicals will not be issued out.
18. Library staff will not be responsible for things left in the library hall.
19. Some items in the library cannot be copied because of copyright laws, poor condition, or downer restrictions.
20. Suggestions on all aspects of library services are welcome. Demand and suggestion slips are available at the circulation desk for your use.

### **3.9 College Hostel**

A ladies hostel is functioning in the college precincts since July 2012. The hostel provides accomodation to 210 inmates. The hostel mess is running on a dividing system under the supervision of mess committee. Dr. Rakesh, Assistant Professor, Department of Mechanical Engineering is the warden of hostel.

### **3.10 Personal Growth Center**

Personal Growth Centre enhances the wellness of staff and students. This is achieved by ensuring personality development through Physical, Mental, Emotional and Spiritual means. For this purpose college have Counselling, Share and Grow Rich, Personal Growth Library and Human Engineering centres. These centres are managed by individual staff member in-charge under the supervision of Prof. Viswambharan. Out of the mentioned four centres the first three centres are in place and activities are being

conducted regularly. Human Engineering Centre integrates various techniques of development in and out of the campus. It interacts with experts in various fields and updates all activities on a continuous basis.

### **3.11 The Ladies' Amenity Center**

The amenity center for women is working at Room No. MG 05 in the main building of Government Engineering College, Barton Hill. A library section of the Women's Study Unit donated by Lions Club functions here. The center serves as a rest room for the sick and provides facilities for first aid and other basic amenities. Chess boards are available on request during leisure time. Dr. Indu. R.S, Assistant Professor, Mathematics is acting as the staff member in charge.

### **3.12 Student Facilitation Center (SFC)**

Student Facilitation Center is functioning in the first floor of the main building under the staff club. It provides Text books, stationery and refreshments. A reprographic facility is also available.

### **3.13 College bus**

Three college buses are operating for the convenience of students and staff of this college. It is controlled by a Transportation Committee of our institution and is coordinated by Mr. Ganesh. J, Assistant Professor in Mechanical Engineering.

### **3.14 Alumni Association (GECTAA)**

The institution has a well established alumni association. All students of the college who have completed the course are the members of the association. The association provides scholarships to meritorious and financially backward students. It also honors the best outgoing student in each department. Dr. Ramesh S, Associate Professor, Department of Mechanical Engineering is the staff member in charge. Alumni Association conducts annual get together in every December.

### 3.15 Civil Service Study Club

Taking care from the alumni of Govt. Engineering College Barton Hill who brought laurels to their alma matter by way of figuring in the rank lists of All India Civil Services Examination, a study club has been formed under the aegis of CGPU. The chief objective of the study club is to provide guidance and assistance to civil service aspirants among the students.

### 3.16 The IEEE Student Branch

<b>Website</b>	: <a href="http://www.ieeegecbh.org">www.ieeegecbh.org</a>
<b>e-mail</b>	: <a href="mailto:ieeegecbh@gmail.com">ieeegecbh@gmail.com</a>
<b>IEEE Student Branch Code</b>	: 64271
<b>School Code</b>	: 41707494

The IEEE Student Branch of Government Engineering College Barton Hill started functioning from January 2005 with 35 student members and three faculty members. The branch got its formal approval from the IEEE Headquarters on September 27, 2005 and obtained the branch code (STB 64271) and school code (41707494) from the IEEE Headquarters wide letter dated September 29, 2005. Prof. K.C Raveendranathan (LM ISTE, FIE, FIETE, SM IEEE, LM IRSS) took charge as the branch counselor.

Since its formation the student branch has been actively involved in all activities within the Kerala Section. The members of the branch have participated in all HUB level and LINK level events. The branch has also successfully organized many events in which students from some of the most reputed engineering colleges in Kerala have participated. IEEE GECBH student branch is one of the active student branches in the Kerala section.

The branch also formed a WIE affinity group which got its formal approval from the IEEE headquarters on October 3, 2008. The group has organized many activities within the college as well as outside the college premises. The student branch has witnessed a steady growth in its number of members over the years. The branch has 150 student members and 5 faculty members at present. We are also planning to organize many more events this year. The activities of the student branch ever since its formation strongly upholds our motto ‘Scaling New Heights’.



### **3.17 Indian Society for Technical Education (ISTE)**

Indian Society for Technical Education (ISTE) is a national professional body consisting of nearly 40,000 engineering teachers and academicians. The activities of ISTE have several dimensions such as career development, subject upgradation, personality development, communication skill development, aptitude development, preparation for competitive examination etc. The aim of ISTE is to prepare faculty and students into master trainers and master students respectively. This college is an institutional member of ISTE and the institution code of ISTE is **IM4567** (Chapter Code: **KE - 068**). prof. Jayasree P, Assistant professor Department of Information Technology is the secretary if ISTE Chapter.

### **3.18 Computer Society of India**

Computer Society of India established in the year 1965 is today the largest IT professionals Society in India. The purposes of the Society are scientific and educational advancement of the theory and practice of computer science, computer engineering and technology, systems science and engineering, information processing and related arts and sciences. The mission of the CSI is to facilitate research, knowledge sharing and career enhancement for all categories of IT professionals, while simultaneously inspiring and nurturing new entrants into the industry and helping them to integrate into the IT community. Today, the CSI has 66 chapters all over India, 381 student branches, and more than 40,000 members, including India's most famous IT industry leaders and dedicated academicians.

Government Engineering College Barton Hill is an institutional member of this premier professional society. The student branch of CSI at this college, with Prof. Josna V.R, Assistant Professor of IT Department as the branch counselor is organizing various programs for meeting the envisaged vision of the society. The chapter organizes workshops and technical talks for the member every year.

### **3.19 National Service Scheme (NSS)**

National Service Scheme is a powerful and dynamic movement in the country. The NSS unit in our college provides opportunities to the teachers and students to gain practical experience through community service. The staff

member in charge of the unit is Prof.Ambily N, Associate Professor, ECE.

### **3.20 Advanced Diploma In Automotive Mechatronics (ADAM)**

Advanced Diploma in Automotive Mechatronics (ADAM) is a one year course introduced at Govt. Engineering College, Baron Hill in collaboration with Mercedes Benz, India in the year 2014. The collaborative course designed by M/s Mercedes Benz, India will enable students to be trained as per the highest standards of modern automotive technology and thereby will bring added synergies between technological innovations and market demands for skilled personnel. Candidates who have a Degree/Diploma in Mechanical Engineering/Automobile Engineering Electrical / Electronics Engineering/ Electronics and Instrumentation Engineering/ Mechatronics/Applied Electronics and equivalent disciplines is eligible for admission to ADAMS. Course duration is one year with fee of Rs. 85,000/- (Rupees Eighty Five Thousand only). 20 students are admitted for each academic year, out of which a maximum of 5 seats are reserved for Mercedes-Benz India Dealer nominees. Admission to the course is through entrance test conducted at the college. Entrance test comprises of theory and practicals. On successful completion of the course, the candidates will be awarded certificate duly signed by the Director of Technical Education, Kerala and Mercedes-Benz India Pvt. Ltd.Dr.N.R. Rajesh, Associate Professor, Department of Mechanical Engineering is staff member in charge.

#### **GECB-Bosch , Joint certification centre**

The centre has been established under the ADAM scheme. Certificate programs are offered by the centre on Automotive Vehicle Diagnosis, automotive Electricals and Wheel alignment for B Tech/Diploma/ITI students of relevant branches. Prof Gopakumar S is Staff member in charge

### **3.21 Translational and Professional Leadership Center (TPLC)**

TPLC is a promising research center started in collaboration with Columbia University; New York, University of Montreal; Canada and IITM; Chennai which focus on promoting Programmes which focus on bridging the gap between Research and Practice. The gap between Research and Practice in all areas of engineering is increasing at an alarming rate and it calls for urgent attention from our side. TPLC started functioning in the year 2013 with its office at Government Engineering College Barton Hill. The major

maiden Programme of TPLC is the upcoming Interdisciplinary M.Tech programme in Translational Engineering with special emphasis on Social Responsibility, aiming at moulding Engineers to step forward to become responsible engineers beneficial for the society as well as for the Nation. The other programmes proposed are Training Programmes for practicing Engineers, Motivational Programmes for MTech students, Community level Programmes etc.

### **3.22 Step 4 U**

Step 4 U is a special Training and empowerment programme exclusively for the Scheduled caste (SC) / Scheduled Tribe(ST) youth which aims at ensuring better livelihood opportunities through developing employable Technical skills that are in tune with technological advancements and the needs of the Industry. The project undertaken by the Department of Technical Education with the financial assistance of the Scheduled caste (SC) / Scheduled Tribes Development department (SCDD) will be implemented through Government Engineering Colleges. Prof. Santhosh Kumar.S.V, Assistant Professor, Mechanical Engineering is the programme coordinator.

### **3.23 Scholar Support Programmes**

The Scholar Support Programme, part of the ‘New Initiatives in Higher Education’ initiated by the Department of Higher Education, Govt. of Kerala aims at imparting additional support to students in curricular areas of weakness. Students who are backward in their academic activities are found out and they are given special care and attention to achieve their goal. Prof. Santhosh Kumar.S.V, Assistant Professor, Mechanical Engineering is the Coordinator.

### **3.24 Additional Skill Acquisition Programme**

Government of Kerala has initiated an ambitious programme, the Additional Skill Acquisition Programme (ASAP) with the objective of tackling the issue of growing unemployment in the state. The programme aims at equipping selected school/college students with skills in Communication, IT and selected areas of industry and service sectors. At Level 1, ASAP imparts 300 hours of skill training to selected first year students (30 per

batch, maximum 2 batches in an institution). Of this, 180 hours will be a foundation module comprising of Communication Skills and IT skills and the remaining 120 hours will be the module related to the skill sector chosen by the student.

ASAP has been launched in the college during 2012-13. The Classes under ASAP will be engaged by Skill Development Executives identified by the Government/Industry, generally for one hour on working days, before/after the normal working hours of the Institution. The college has arranged rooms with Computer and LCD facilities (Smart Class Rooms) to conduct the classes.

### **3.25 CERD Innovation Center**

Centre for Engineering Research and Development (CERD), established by Government of Kerala to act as a platform for the faculty and students of engineering colleges in the State to pursue their interest in basic and applied research in Engineering and Technology.

The innovation centre funded by CERD Trivandrum for an amount of Rs: 20 Lakhs, is functioning in GEC Barton Hill from 3<sup>rd</sup> December 2013 onwards. The facilities of an innovation centre have to evolve as new ideas; projects and requirements come in. The broader objective of the innovation centre is to provide a platform for students and faculty to experiment with their innovative ideas. Prof. Alex Raj S.M, Assistant Professor, Department of Electronics and Communication, is the staff member in charge of the innovation centre. Students of any branch/batch can utilize the facilities by presenting their ideas in front of a committee and getting it approved for future implementation and funding.

### **3.26 Technology Business Incubation Center**

A Technology Business Incubator (TBI) has been established in the month of June 2014 with focus on software development as an important facility of Government Engineering College Barton Hill . TBI-GECBH provides services and support for a wide range of requirements needed by a new business start-up in a technology area. Depending on the demand and resources availability, TBI-GECBH will provide Training and Information support, Office Support and Common Facilities, Infrastructure and Man-pocompanyr, Industry Oriented Software Training, Memorandum of Un-

derstanding, Strategic Planning and Business Development etc. Presently, Six companies registered and started functioning in TBI-GECBH and have Signed MoU with the institution.

### **3.27 Parent Teacher Association**

A Parent Teacher Association is actively working in the college. The objectives of the association are:

1. to work for the welfare of the students and the institution.
2. to offer constructive suggestions for the smooth and successful functioning of this college.
3. to promote better participation of the parents in the various programs of the college and to establish better liaison with the teachers

The PTA provides financial assistance to meritorious and needy students with consistent academic record. The best student in each branch of engineering is awarded by the PTA. Cash awards are also given to top scorers of even semesters in the university examination.

Prof.SunilKumar.T.S Memorial Endowment Award(Awarded to the highest CGPA scorer in each branch of s1s2 examination)sponsored by teachers and staff members(executed in memory of Late Prof.SunilKumar.T.S,former Prof of ECEDepartment)

Prof.S.Krishnan Kutty Memorial Endowment Award(Awarded to the highest CGPA scorer of B.tech course in each year)sponsored by teachers and staff members(executed in memory of Late Prof.S.Krishnan Kutty,former Prof of IT Department)

Sri.T.A. Madhavan Pillai–Smt.K.N.Seetha memorial endowment cash prize, instituted by former principal Prof. M. Mahadevan is given to the student with the best GATE score in the annual general body meeting of PTA. Shri. Satheeshkumar. S, Assistant Professor, Mechanical Engineering is the Secretary of PTA.

Dr.B.Anil Endowment award (Awarded to the best student of final year B.tech class) executed and sponsored by Dr.B.Anil, former Principal of GECBH.

E.J. Somaraj Memorial Endowment Award (Awarded to the topper in Electrical Machines I and II (sessional and theory exam)) sponsored by Prof.Sheela.S, former PG Dean and Prof of EEE Department(executed in memory of Late Mr.E.J.Somaraj, father of Prof.Sheela.S)

Fr.John Chathoth Memorial Endowment Award(Awarded to the topper in Geotechnical Engineering I and II(sessional and theory exam))sponsored by Prof.Mary John.C,former Prof of CE Department(executed in memory of Late Fr.John Chathoth,father of Prof Mary John.C)

### **The office bearers of the PTA during 2013-2014**

1. President	Dr. Rajasree M.S	9497720277
2. Vice- President	Sri. Divakar lal D.	9496815598
3. Secretary	Dr. Anish K John	9446100541
4. Joint Secretary	Smt. Liju.B.Nair	8547857969
5. Treasurer	Prof. Shijin Knox.G.U	9961395039
6. Member (Parent)	Smt. Najuma Beegam E.	9496278989
7. Member (Parent)	Sri. Suresh Kumar V.	9895532446
8. Member (Parent)	Smt. Jayadharan T.	9447552758
9. Member (Parent)	Sri. Hari Das	8606309653
10. Member (Parent)	Smt. Pushpakumari.R	9048746446
11. Member (Parent)	Sri. Jayakumar R.	9447060762
12. Member (Parent)	Sri. Gopalakrishnan Nair	9446340590
13. Member (Parent)	Sri. Rajendran S	9447489017
14. Member (Parent)	Smt. Vijayakumar S	9746769981
15. Member (Parent)	Sri. Shaji Navas	9447205796
16. Member (Parent)	Smt. Rani Madhu	9947181299
17. College Warden	Prof. Rakesh P.	8138031001
18. HoD EEE	Dr. Dinesh Pai.A	9446101858
19. HoD IT	Prof. Balu John	9895259420
20. HoD ME	Dr.S. Anil Lal	9447007935
21. HoD ECE	Dr.Suresh Babu	9495502300

22. HoD CE	Dr.Jaya. V	8547111246
23. College Union Advisor	Prof. Sunil C Bahanan	9446536171

### **3.28 Staff Club**

With the aim of promoting social interaction and to cater the recreational needs of the staff, the staff club was formed in the college. Teaching, non-teaching, office and library staff are the members of the club. Participation in the major events happening in the family of members, organizing lectures on specific topics by experts, health-care programs, celebrating festivals, conducting family tour, annual family get-together etc are some of the activities of the staff club.

### **3.29 New Schemes Being Implemented**

#### **3.29.1 R and D**

Research and development has become a dominant part of academics. There are a lot of uncertainties and / or difficulties associated with carrying out R and D activities and hence an R and D committee is constituted under TEQIP II to motivate and guide students to take up innovative research works. It aims to provide meaningful contribution to sustainable technological development of the country and to promote interdisciplinary research.

Under R and D, student projects of latest research significance are given a maximum assistance of Rs.50, 000/- to accomplish the task. Financial assistance (of maximum two lakhs rupees) in the form of seed money is granted to faculty to initiate research work in engineering and technology. Students and faculty are encouraged to publish their research work in leading journals. The committee members are Dr. Jiji Anna Varughese (Nodal officer, R and D), Dr. Rajesh N.R., ME, Prof. Beena S, EC, Prof. Sunil C Behanan, CE, Prof. Vinod V, EEE and Prof. Jayasree P, IT

#### **3.29.2 Bamboo Research Centre**

Bamboo is universally admired for its pleasing shapes, colors and overall aesthetic, and as a renewable resource that grows quickly and has low-impact requirements for land area, water and nutrients. Govt.Engg Col-

lege, Barton Hill is selected for the implementation of Bamboo Technology Center by the Govt. of Kerala in March 2016. The main objectives of the center are to promote research, standardize bamboo as an engineering material, provide database to support the development of codes, guidelines, standards and manual for sustainable infrastructure development, Promotion of regional level consultancies along with various governmental and non governmental agencies, to offer research fellowships for activities coming under the scope of the centre.

## **4 KERALA TECHNOLOGICAL UNIVERSITY ORDINANCE (M.Tech 2016 Scheme)**

### **4.1 Admission to the M. Tech. Programme**

Candidates who have been awarded or qualified for the award of the Bachelor's degree in Engineering / Technology, from an Institution approved by AICTE are eligible for admission to the M. Tech., Programme. Eligibility of candidates having MCA/MSc qualifications will be decided from time to time by following the guidelines issued by All India Council for Technical Education (AICTE) and the Government of Kerala and notified separately. Other important eligibility criteria are as listed out by the Director of Technical Education with the approval of the Government of Kerala.

- (i) Candidates qualified in Graduate Aptitude Test in Engineering (GATE ) and admitted to the M. Tech. programme are eligible to receive Half Time Teaching Assistantship ( HTTA) as per the rules of the All India Council for Technical Education (AICTE)/Ministry of Human Resource Development (MHRD).
- (ii) Sponsored candidates from Industries, R and D organizations, National Laboratories as well as Educational Institutions, with a bachelor's degree in engineering are eligible for admission to the M. Tech. programme.
- (iii) Foreign nationals whose applications are received through Indian Council of Cultural Relations, Government of India are also eligible for admission to the M. Tech. programme.



- (iv) Announcements for M. Tech. Programmes will be made by the DTE, Government of Kerala.
- (v) Selection of candidates for the M. Tech programme will be done centrally or monitored by the Directorate of Technical Education as per the guidelines given on this by the Government of Kerala
- (vi) The number of candidates to be admitted to each M. Tech stream will be as per the approval of the University which shall be based on decision on this given by the All India Council for Technical Education.
- (vii) Admission will be complete only on meeting all the other requirements mentioned in the letter of admission and on payment of the fees.
- (viii) Candidates who have the Associate Membership of Professional Bodies that are approved by the University and have qualified in GATE shall also be eligible for admission to the M. Tech. programme.
- (ix) The reservation policy of the Government of Kerala and the Government of India shall be followed in admission to the M. Tech. programme.
- (x) All admission will be governed by the procedure laid down for this by the Director of Technical Education, Kerala and the Government of Kerala.
- (xi) Notwithstanding all that is stated above, the admission policy may be modified from time to time by the University, particularly to conform to directions from the Government of Kerala and the Government of India.

## **4.2 Duration of the Programme**

The normal duration of the M. Tech programme, including the project work, shall be four semesters.

## **4.3 Post Graduate Programme Clusters**

The University shall identify clusters of colleges offering M. Tech programmes in different streams and allow them to formulate procedures for the smooth conduct of all academic activities associated with the M. Tech programme, in line with the ordinances/regulations of the University. These clusters shall have academic autonomy, regulated by a Cluster level Graduate Committee [CGPC] consisting of all the principals of the colleges in the cluster. The Chairman of CGPC shall be an eminent academician nominated by the Vice Chancellor. The CGPC will be responsible for all academic matters including the curriculum, syllabi, course plans, internal evaluations, end semester examinations, and grading for all streams of M. Tech. programme offered by the colleges in the cluster. The CGPC can formulate additional rules for other academic aspects that are not covered by this Ordinance.

## **4.4 Specialization Streams in M. Tech., Programme**

The M. Tech. programme streams offered by each cluster as well as the eligibility of candidates of different B. Tech. branches or having other qualifications, for each of them shall be approved by the CGPC.

## **4.5 M. Tech. Programme Structure**

- (i) The M. Tech programme in all streams of specialization will be structured on a credit based system following the semester pattern with continuous evaluation.
- (ii) The University permits regular as well as external registration (part time) for those in employment.
- (iii) The duration for the M. Tech. programme in all streams of specialization will normally be 4 semesters. The maximum duration is 6 semesters.

- (iv) For students admitted on external registration, the normal duration will be 6 semesters. Here the maximum duration is 7 semesters.
- (v) The University permits a regular student to change over to external registration during the programme, under specific circumstances like initiating a start up venture or to take up a job.
- (vi) Each semester shall have a minimum of 72 instruction days followed by the end semester examination.
- (vii) A common course structure for the M. Tech programmes in all streams of specialization is to be followed and consists of the following.
  - (a) Core Courses
  - (b) Elective Courses
  - (c) Laboratory Courses
  - (d) Seminar
  - (e) Project
- (viii) Every stream of specialisation in the M. Tech. programme will have a curriculum and syllabi for the courses. The curriculum should be so drawn up that the minimum number of credits for successful completion of the M. Tech. programme in any stream of specialization is not less than 64 and not more than 68.
- (ix) Credits are assigned as follows, for one semester 1 credit for each lecture hour per week 1 credit for each tutorial hour per week 1 credit for each laboratory/practical of 2 or 3 hours per week 2 credits for the seminar 2 credits for Mini Project 6 credits for Project in the 3rd Semester 12 credits for Project in the 4th Semester
- (x) A pass is mandatory in all core courses. In case of failure in an elective course, there is the provision to choose another elective listed in the curriculum.

- (xi) On their request, CGPC shall examine the academic records and permit candidates with B. Tech (Honours) who have earned credits for any relevant graduate level courses to transfer credits towards the M. Tech. programme. Candidates who received B. Tech (Honours) degree just prior to their M. Tech admission are permitted to transfer up to 9 credits. For those who received the B. Tech (Honours) degree within three years prior to their M. Tech. admission are permitted to transfer up to 6 credits
  
- (xii) The maximum number of lecture based courses and laboratory courses in any semester shall not exceed 5 and 2 respectively. The maximum credits in a semester shall be 23.
  
- (xiii) Extension of Programme duration The normal duration of the programme shall be four semesters.

In case of prolonged illness or other personal exigencies, the university may allow a student who has earned credits for at least one semester, to extend the programme up to the maximum duration of six semesters.

Students who have earned credits for the courses listed in the first two semesters are permitted to transfer their registration as external candidates if they take up a job. However, they have to complete the programme within six semesters.

#### **4.6 Course Registration and Enrolment**

All students have to register for the courses they desire to attend in a semester. Students admitted to the first semester are advised to register for all courses offered in the first semester. They do not have to enrol for the semester. All other students are required to register at the end of the semester for the courses they desire to take in the next semester. Later they have to enrol for these courses in the new semester based on the results in the previous semester. This allows them to make minor changes in the list of courses already registered for. Before enrolment, students should clear all dues including any fees to be paid and should not have any disciplinary proceedings pending. The dates for registration and enrolment will be given in the academic calendar. Any late registration or

enrolment, allowed only up to 7 working days from the commencement of the semester, will attract a late fee.

A student can drop a course or substitute one already registered for by another, for valid reasons with the approval of the faculty advisor. However this has to be done within 7 working days from the commencement of the semester.

The maximum number of credits a student can register for in a semester is limited to 24.

#### **4.7 Recommended Credit distribution over the semesters**

First Semester : 20 to 23 credits

Second Semester : 18 to 19 credits

Third Semester : 14 credits

Fourth Semester : 12 credits [Project]

#### **4.8 Academic Assessment/Evaluation**

The University follows a continuous academic evaluation procedure. The Assessment procedure and corresponding weights recommended are as follows:- For theory courses

- i) Two internal tests, each having 15
- ii) Tutorials/Assignments/ Mini projects having 10
- iii) End Semester examination having 60

All the above are mandatory requirements to earn credits. Students who have missed either the first or the second test can register with the consent of the faculty member and the Head of the Department concerned for a re-test which shall be conducted soon after the completion of the second test and before the end semester examination. The re-test will cover both the first and the second test course plans. If a student misses both the scheduled tests, there is no provision for any retests and zero marks will be given for each test. In case of serious illness and where the attendance is above 70percent the Principal may permit the conduct of the tests for a student based on his/her application and other relevant medical reports.

Such cases are to be reported to CGPC.

For Laboratory /Practical courses

- i) Practical Records /outputs 40
- ii) Regular Class Viva-Voce 20
- iii) Final Test (Objective) 40

#### **4.9 Course Completion and earning of credits**

Students who registered and later enrolled for a course have to attend the course regularly and meet the attendance rules of the University and appear for all internal evaluation procedures for the completion of the course. However, earning of credits is only on completion of the end semester/supplementary examination and on getting a pass grade. Students, who had completed a course but could not write the end semester/supplementary examination for genuine health reasons or personal exigencies, if otherwise eligible are permitted to write the semester examination, at the next opportunity and earn credits without undergoing the course again. Failed candidates having more than 45 percent marks in their internals can also avail of this option. However, those who are not eligible to appear for the end semester examination have to register and undergo the course again, whenever it is offered, to earn the credits.

#### **4.10 End Semester and Supplementary Examinations**

At the end of the semester, the end semester examination will be conducted in all courses offered in the semester and will be of three hours duration unless otherwise specified. Supplementary examinations are to be conducted for eligible candidates registered for them, before the commencement of the next semester.

##### **1 Eligibility to write the End Semester Examination and Grading**

Eligibility criteria to appear for the semester examination are the attendance requirements in the course, 45 percent or more marks in the internal evaluation and having no pending disciplinary action. The minimum attendance for appearing for the semester examination is 85 percent in the course. In case of serious illness there is a relaxation for attendance [O-14.xvi]. Those who do not meet the eligibility criteria shall be awarded

an FE Grade and have to register again for the course. A student should have a minimum of 45 percent marks in the end semester examination to be eligible for grading in a course. Otherwise he/she will be considered to have failed in the course and an F grade will be awarded.

## 2 Eligibility to write the Supplementary Examination

Only failed students and those who could not write the semester examination due to health reasons or other personal exigencies that are approved by the Principal can register for the supplementary examination provided they meet the eligibility requirements given in 1. Grades awarded in the supplementary examination will be taken as the semester grades in these courses.

### **4.11 Conduct of End Semester Examination**

The Clusters will prepare the question papers, conduct the end semester examinations, organize the valuation of the answer scripts, finalise the results and submit it to the University, as per the academic calendar.

### **4.12 Award of M. Tech Degree**

The award of the M. Tech. Degree shall be in accordance with the Ordinances and Procedures given by the University. A student will be eligible for the award of M. Tech. Degree of the University on meeting the following requirements;

- i) Registered and earned the minimum credits, as prescribed in the curriculum, for the stream of specialization.
- ii) No pending disciplinary action.

### **4.13 Amendments to Ordinance**

Notwithstanding all that has been stated above, the University has the right to modify any of the above provisions of the ordinance from time to time.

### **4.14 Miscellaneous provisions**

#### **i) Stream of Specialization:**

The streams of specializations are to be in line with the approval given on this by the All India Council for Technical Education.

**ii) Language of Instruction**

Unless otherwise stated, the language of instruction shall be English.

**iii) Academic Calendar**

The University shall publish in its website the academic calendar for every academic semester indicating the date of commencement of the semester as well as instruction. It will specify the course registration and enrolment dates, the schedule for mandatory internal tests for theory courses, dates by which laboratory/practical evaluations are to be completed, date for finalization of internal marks, last instruction day in the semester, planned schedule of end semester examinations and result declaration as well as approved holidays falling within the semester. Schedules for the supplementary examinations and result declaration dates are to be included in the calendar. Additionally colleges may publish their academic calendar, in line with the University academic calendar, indicating other schedules and events they plan to conduct during the semester.

**iv) Eligibility to continue with the programme**

A student has to earn a minimum number of credits in a semester to register for higher semester courses. This should be at least  $\frac{2}{3}$ rd of the credits for the courses listed in for the semester. CGPC shall formulate the rules based on this and spell out the procedure to proceed with the programme. Failed students who have more than 45percent marks in the internal course evaluation are permitted to write the semester examination without registering and undergoing the course. Those with less than 45percent in internal course evaluation have to register again for the course, attend the classes and earn the credits.

**v) Seminar**

Students have to register for the seminar and select a topic in consultation with any faculty member offering courses for the programme. A detailed write-up on the topic of the seminar is to be prepared in the prescribed format given by the Department. The seminar shall be of 30 minutes duration and a committee with the Head of the department as the chairman and two faculty members from the department as members shall evaluate



the seminar based on the report and coverage of the topic, presentation and ability to answer the questions put forward by the committee.

Suggested evaluation procedure:-

Faculty member in charge of the seminar and another faculty member in the department nominated by the Head of the Department are the evaluators for the seminar. Distribution of marks for the seminar is as follows. Marks for the report: 30percent Presentation: 40percent Ability to answer questions on the topic: 30

#### **vi) Project work**

Project work is spread over the third and fourth semesters. Project work is to be evaluated both in the third and the fourth semesters. Based on these evaluations the grade is finalised only in the fourth semester.

Project evaluation weights shall be as follows:-

For convenience the marks are allotted as follows.

Total marks for the Project: 150

In the 3rd Semester:- Marks:50

Project Progress evaluation details:

Progress evaluation by the Project Supervisor : 20 Marks

Presentation and evaluation by the committee : 30 Marks

In the 4th Semester:- Marks:100

Project evaluation by the supervisor/s : 30 Marks

Presentation and evaluation by the Committee : 40 Marks

Evaluation by the External expert: 30 Marks

#### **vii) Faculty Advisor, Class Committee**

a) Faculty Advisor

The Head of the Department offering the M. Tech. programme shall nominate senior faculty members as faculty advisors who shall advise the students in academic matters and support them in their studies. Their role is to help the students in academics and personal difficulties related to

studies. A faculty advisor may support a group of students in a semester.

b) Class Committees are to be in place for all M. Tech. programs in the college.

#### Class Committee

All M. Tech streams of specialization will have class committees for each semester, constituted by the respective Heads of Departments.

The Chairman of the committee shall be a senior faculty member who does not offer any course for that stream in that semester.

Members:-

- a) All faculty members teaching courses for the stream in that semester.
- b) Two student representatives nominated by the Head of the Department, from the stream.

Class committees shall meet at least thrice in a semester - one in the beginning and one around the middle of the semester and one at least two weeks before the semester examinations. These committees should monitor the conduct of the courses, adherence to the course plan and time schedule, completion of the syllabus, standards of internal tests and evaluation process and address the difficulties faced by the students and take suitable remedial actions at the appropriate time. Before the end semester examination, the committee should meet without the student representatives and finalise the internal marks. A report on the student performance in each course should be prepared and submitted to the CGPC by the colleges.

#### **viii) Award of Grades**

Grading is based on the marks obtained by the student in a course.

The grade card will only show the grades against the courses the student has registered.

The semester grade card will show the grade for each registered course, Semester Grade Point Average (SGPA) for the semester as well as Cumulative Grade Point Average (CGPA).

#### **ix) Academic Auditing**

The University shall have a detailed academic auditing procedure in place comprising of an internal academic auditing cell within the college and an external academic auditing for each college. The internal academic auditing cell in each college shall oversee and monitor all academic activities including all internal evaluations and semester examinations. This cell is to prepare academic audit statements for each semester at regular intervals of four weeks of instruction. These reports are to be presented to the external academic auditor appointed by the University, who will use it as a reference for his independent auditing and for the final report to the University.

Academic auditing will cover:-

- a) Course delivery covering syllabus, adherence to course plan, quality of question papers for internal examinations, internal evaluation, laboratory experiments, practical assignments, mini projects, conduct of practical classes and their evaluation. Semester examination and academic performance of the students.
- b) Co-curricular and Extra-curricular activities available for students, and their organization.
- c) Academic functioning of the college encompassing students, faculty and college administration covering punctuality, attendance, discipline, academic environment, academic accountability, academic achievements and benchmarking.

#### **x) Revaluation and Grade improvement**

There is no provision for revaluation of the semester answer books or for improving the grade.

‘ Students are permitted to check the answer books of the semester examination, after the results are declared. Any discrepancies in evaluation could be brought to the notice of the teacher concerned who will initiate appropriate action on this and report to the CGPC for a final decision on this.

#### **xi) Grade Cards**

Students who have written the semester examination will be given the grade cards for the registered courses, in every semester by the respective

colleges. On earning the required credits for the degree, a consolidated grade sheet for the M. Tech programme will be issued by the University on the recommendation of the respective CGPC. The M. Tech. degree will not have any classification like distinction or first class.

### **xii) Academic Discipline and Malpractices in Examinations**

Every student is required to observe discipline and decorous behaviour. Any act of indiscipline, misbehaviour and unfair practice in examinations will be referred to the Disciplinary Action Committee (DAC). Malpractices in examinations shall be viewed seriously and any such incident observed or reported by a faculty member or an invigilator associated with the examinations shall be reported to the Principle who in turn shall refer it to DAC. On the basis of the report and evidence available or gathered, DAC shall immediately initiate an enquiry giving the concerned student a chance to explain his/her case. Based on this the committee shall recommend the course of action in line with the guidelines formulated for this by the Controller of Examination of the University and forward it to the Principal for action.

Actions are to be based on the severity of the offence and are to be dealt with, on a course basis. Guidelines on this shall be given by the Controller of Examination which is to be followed by the Disciplinary Action Committee of the college.

DAC shall be headed by a department head and shall have three other faculty members drawn from different departments as members. In case of malpractices in end semester examinations, the report given by the college DAC and the action taken by the Principal shall be intimated to the Controller of Examination of the University

### **xiii) Student's Welfare Committee**

Every college shall have a Student's Welfare Committee, constituted by the Principal of the college. This committee shall have at least three faculty members as members and the chairman shall be a senior faculty member in the rank of a Professor. This committee is entrusted with the task of looking after the welfare of the students by taking appropriate steps with the concurrence of the principal.

### **xiv) Grievances and Appeals Committee**

Each college should have a Grievances Redress Committee constituted by the Principal to address the grievances of the students and to consider their appeals on any decisions made by the college. This committee consisting of at least three faculty members and chaired by a senior professor shall look into student's grievances and appeals and give its recommendations to the Principal for action.

**xv) Attendance** Attendance is marked for each course. 85 percent attendance is mandatory for writing the semester examination in a course. Students who get Part Time Teaching Assistantship (PTTA) or Scholarships from the Central or State Governments or any other agencies are expected to have 100 percent attendance. However, under unavoidable circumstances students are permitted to take leave. Leave is normally sanctioned for any approved activity taken up by students outside the college covering sports and other extra-curricular activities. Leave is also permitted on medical grounds or on personal exigencies. Leave of absence for all these is limited to 15 percent of the academic contact hours for the course. In case of long illness or major personal tragedies/exigencies the Principal can relax the minimum attendance requirement to 70percent, to write the semester examination. This is permitted for one or more courses registered in the semester. The Principal shall keep all records which led to his decision on attendance, for verification by the Academic Auditor. However this concession is applicable only to any one semester during the entire programme. In case of prolonged illness, break of study is permitted up to two semesters which could extend the programme up to six semesters, the maximum permitted by the regulations.

**xvi) Leave of Absence**

Students who desire to take leave have to apply for it to the teacher conducting the course. This application together with any supporting documents like doctor's certificate or other relevant information is to be forwarded to the Head of the Department with the recommendation of the teacher indicating the total leave of absence the student has so far availed. Approval for leave is to be given by the head of the department. After any prolonged medical leave, normally exceeding five instruction days, on rejoining, the student has to produce the fitness certificate given by the doctor.

**xvii) Project Evaluation**

Normally students are expected to do the project within the college. However they are permitted to do the project in an industry or in a government research institute under a qualified supervisor from that organization. Progress of the project work is to be evaluated at the end of the third semester. For this a committee headed by the head of the department with two other faculty members in the area of the project and the project supervisor/s. If the project is done outside the college, the external supervisor associated with the student shall also be a member of the committee. Final evaluation of the project will be taken up only if the student has earned all course credits listed in the first three semesters. Project evaluation shall be done by the same committee mentioned above with an external expert, either from an academic/R and D organization or from Industry, as an additional member. Final project grading shall take into account the progress evaluation done in the third semester and the project evaluation in the fourth semester. If the quantum of work done by the candidate is found to be unsatisfactory, the committee may extend the duration of the project up to one more semester, giving reasons for this in writing to the student. Normally further extension will not be granted and there shall be no provision to register again for the project.

### **xviii) Project work outside the College**

While students are expected to do their projects in their colleges, provision is available for them to do it outside the college either in an industry or in an institute of repute. This is only possible in the fourth semester and the topic of investigation should be in line with the project part planned in the 3rd semester. Student should apply for this through the project supervisor indicating the reason for this well in advance, preferably at the beginning of the 3rd semester. The application for this shall include the following:-

Topic of the Project:

Project work plan in the 3rd Semester:

Reason for doing the project outside:

Institution/Organization where the project is to be done:

External Supervisor –

Name:

Designation:

Qualifications:

Experience:

Letter of consent of the External Supervisor as well as from the organization is to be obtained. This application is to be vetted by the head of the department and based on the decision taken the student is permitted to do the project outside the college.

## **5 KERALA TECHNOLOGICAL UNIVERSITY ORDINANCE (B.Tech 2016 Scheme)**

### **5.1 Admission to Bachelor of Technology / B.Tech. / B.Tech. (Honours)**

- (a) Eligibility for admission to the B.Tech., programme, admission policy and procedure shall be decided from time to time by following the guidelines issued by the Government of Kerala and the Government of India and other statutory body such as AICTE.
  
- (b) Subject to Clause 1(a), Admission to B.Tech., shall be based on the guidelines given by the State and Central Governments on reservation. Candidates for admission to B.Tech., programme shall have passed the Higher Secondary Examination, Kerala or 12th Standard V.H.S.E., C.B.S.E., I.S.C or any other examination considered equivalent to the above mentioned ones. Other eligibility criteria for admission is currently prescribed by the Government of Kerala through Government orders which is based on the entrance examination conducted by the Commission for Entrance Examinations, Government of Kerala and the marks in the qualifying examination subject to the relaxations allowed for backward classes and other communities as specified from time to time.
  
- (c) The Branches of study and number of students admitted are to be based on the approval by the All India Council for Technical Education and the Kerala Technological University.
  
- (d) Notwithstanding all that is stated above, the admission policy may be modified from time to time by the University, particularly to confirm to directions from the Government of Kerala and the Government of India.
  
- (e) The B.Tech., / B.Tech. (Honours) programme is a credit based programme. The duration of the B. Tech / B. Tech (Honours) programme will normally be four academic years spanning 8 semesters. The maximum duration shall be six academic years spanning 12 semesters.



## 5.2 Examination

- (a) At the end of the semester, end semester examination will be conducted in all lecture based courses offered in the semester and will normally be of three hours duration, unless otherwise specified. Supplementary examinations shall be conducted before the commencement of the next semester, for students who are eligible and have registered for them.
- (b) Students, who have completed a course but could not write the end semester examination for valid reasons like illness or personal exigencies, are allowed to write the supplementary examination or the end semester examination at the next opportunity and earn the credits without having to register for the course again provided they meet other eligibility criteria.
- (c) The main eligibility criteria for the end semester examination are attendance in the course, internal marks and no pending disciplinary action. The minimum attendance for appearing for the end semester examination is 75 percent in each course. Further, the internal evaluation marks in the course should be 45 percent or above. Students who do not meet these eligibility criteria are awarded an FE grade and have to register for the course again.
- (d) Students who could not write the end semester examination due to health reasons or other exigencies can register for the supplementary examination, with the approval of the principal provided they have 45 percent or above marks in the internal evaluations for the course. Candidates who received F grade can also write the supplementary examination. Grades awarded in the supplementary examination will be taken as the end semester grades in these courses.

## 5.3 Eligibility for Award of Degree

The award of B. Tech. / B. Tech. (Honours) degree shall be based on the recommendation of the Academic Committee and the approval of the Board of Governors and in accordance with the academic regulations, if any, issued for the said purpose by the University.

### Award of B. Tech. Degree

A student will be eligible for the award of B. Tech. Degree of the University on satisfying the following requirements.

- i) Earned credits for all the core courses and the Project.
- ii) Earned the required minimum credits as specified in the curriculum for the branch of study.
- iii) No pending disciplinary action.

### **5.4 Fee charged by the University**

Fee charged for the programme shall be decided by the University from time to time and informed to all concerned for compliance.

### **5.5 Discipline of the student – Action against breach of discipline**

Every college shall have a Student's Welfare Committee and a Disciplinary Action Committee, constituted by the Principal of the college. Each college should have a Grievance Redressal and Appeals Committee constituted by the Principal to address the grievances of the students and to consider their appeals on any decisions made by the college. Details on the constitution and terms of reference are outlined in 7-x, 7-y, and 7-z.

### **5.6 Breach of guidelines and unfair practices in Examinations**

These are viewed seriously and appropriate actions are to be taken by the colleges as detailed in 7-x.

#### **a. Language of Instruction and Examination**

Unless otherwise stated, the language of instruction and examinations shall be English.

#### **b. Academic Calendar**

The University shall publish in its website the academic calendar for every academic semester indicating the commencement of the semester and beginning of instruction. It will specify the course registration and enrolment dates, the schedule for mandatory internal tests for theory courses, dates by which laboratory/practical evaluations are to be completed, date for fi-

nalization of internal marks, last instruction day in the semester, planned schedule of end semester examinations and result declaration as well as approved holidays falling within the semester. Schedules for the supplementary examinations and result declaration dates are to be included in the calendar. Summer course schedule and result declaration have also to be indicated in the calendar. Additionally colleges may publish their academic calendar, in line with the University academic calendar, indicating other schedules and events they plan to conduct during the semester.

### **c. Branches of B. Tech. Programmes**

The Branches of B. Tech. /B. Tech. (Honours) programme offered by the University are listed separately at the end of this Ordinance

### **d. B. Tech. Programme Structure**

- i) B. Tech. / B. Tech. (Honours) programme in all branches of study is structured on a credit based system following the semester pattern with continuous evaluation allowing flexibility for students to decide on the duration of programme completion.
- ii) The duration for the B. Tech. /B. Tech. (Honours) programme in all branches of study, will normally be 8 semesters.
- iii) The maximum duration shall be six academic years spanning 12 semesters.
- iv) Each semester shall have 72 instructional days, followed by end semester examinations.
- v) A student can opt for B.Tech. (Honours) at the end of the fourth semester.
- vi) The curriculum of any branch of the B. Tech. programme is designed to have a minimum of 180 academic credits and 2 additional pass/fail credits, for the award of the degree.
- vii) The University follows Credit System and Credits are apportioned among the following knowledge segments.
- viii) In a semester normally up to six lecture based courses and three laboratory/practical courses, carrying a maximum credit of 26, could be offered.
- ix) University may allow students to transfer credits they have earned at

other Universities and Academic Institutions, as per the guidelines given by the Academic Committee and approved by the Board of Governors.

x) Student Activities Points:

To be an engineer capable of competing globally, in addition to technical knowledge and skills, students should develop excellent soft skills, nurture team work and leadership qualities and have an entrepreneurial and trail blazing outlook. To achieve this, in addition to academics, students are to actively engage in co-curricular and extracurricular activities. For such activities, points are allotted. On getting a minimum of 100 activity points the student passes the course and earns 2 credits which do not count for the CGPA but mandatory for the award of the degree. Listing of these activities and the maximum points that could be earned by engaging in them are given at the end of this document. Additional activities could be included in the list with the approval of the Academic Committee.

**e. Curriculum, List of Courses and Syllabi**

i) Every branch of study in the B.Tech., programme will have a curriculum, list of courses, syllabi and course plans approved by the Academic Committee of the University.

ii) Courses are categorized as Core Theory (CT), Core Practice (CP) and Electives (EL).

iii) Each course has a course number. Course number includes the offering department or knowledge segment code and a three digit number. Knowledge segment code is used when a course is offered by any one or more departments with the same course content and syllabus. Details on this are given under Rule, RU-1.

**f. Faculty Advisor/Counsellor**

All students shall have faculty advisors whose role will be:- To guide and help students on academics To monitor their progress in academics and advise them To counsel them and hand-hold them in any difficulty

**g. Course Registration and Enrolment**

It is mandatory for students to register for the courses they want to attend in a semester. Students admitted freshly to the first semester, are advised to register for all courses listed for the semester. However they do not

have to enrol for the semester. All other students are required to register at the end of the semester for the courses they desire to take in the coming semester. They have to enrol for these courses at the beginning of the new semester, based on the previous semester results. This allows them to make changes in the list of courses already registered for. Before enrolment, students should clear all dues including any fees to be paid and should not have any disciplinary issues pending. The dates for registration and enrolment will be given in the academic calendar. Any late registration or enrolment, allowed up to 7 working days from the stipulated date, will attract a late fee. A student can withdraw from a course or substitute one already registered by another on valid reasons with the approval of the faculty advisor. However this has to be done within seven working days from the commencement of the semester. The maximum number of credits a student can register in a semester is limited to 26.

#### **h. Course Completion and Earning of Credits**

Students registered and later enrolled for a course have to attend the course regularly and meet the attendance rules of the university [RU-2] and appear for all the internal evaluation procedures for the completion of the course. Credits for the course are earned only on getting a pass grade in the composite evaluation.

#### **i. Core courses, Prerequisites and Electives**

All courses listed in the curriculum, other than the electives, are core courses. Earning credits in the core courses is mandatory for the B. Tech. degree. For electives, failure to earn credits does not necessarily require repeating the course. Instead another approved elective is permitted as a replacement course by the faculty advisor concerned. For some courses there could be a prerequisite course completion requirement for registration.

#### **j. Summer Courses**

Students who could not earn the required minimum credits at the end of the second or fourth semester have two options to continue with the studies. They may register again for the courses, when they are offered in the next academic year. However, there is also a provision to run summer courses in failed courses for these students who may register and attend the course and write the final examination. This provision is only for students

who have got 45percent or more in the internal evaluation for the courses they attended in the regular semester. Students should have 75percent attendance in the summer course to write the examination.

For the final grading their internal evaluation marks obtained in the regular semester in which they had undergone the course shall be applicable. Summer courses are to be conducted for a minimum of 20 contact hours for each course. Summer courses are to be offered only at the end of the second and fourth semesters for the courses covered till that semester. They will be conducted either by all colleges or only by some, depending on the number of students registering for them. Details of summer courses planned will be announced by the colleges after the declaration of the even semester results. Final examination for summer courses will be conducted by the University. Based on the availability of faculty and the number of students opting for courses, it will be the prerogative of the colleges to decide on the summer courses to be offered.

#### Options for the fifth and higher semesters

For higher semesters, i.e., fifth semester onwards, summer courses are not offered. Failed students who have less than 45percent marks in internal assessments have to register again for the course in the regular semester in which it is offered and complete the course as per the regulations and appear for the end semester examination. Failed students having 45 percent marks or more in internal assessments have the option to register again for the course as mentioned above or register only for the end semester examination without attending the course again. A separate registration format will be available for this. This option is available in all semesters.

#### **k. Contact Courses**

If a student has to earn credits only just for one course to qualify for the degree after completing eight semesters of study, the college concerned may offer a contact course on a written request by the student. The contact course is considered as fresh registration and is to be offered by the teacher concerned who shall conduct the internal evaluation procedures and allot the marks as per the regulations. Minimum contact hours for the course shall be 20. The final examination will be conducted by the college and shall be monitored by the external academic auditor. Question paper for the examination will be given by the Controller of Examination. No grade

above C shall be given for a contact course.

### **1. Academic Assessment/Evaluation**

#### Academic Evaluation of Courses

University follows a continuous academic evaluation procedure.

Academic evaluation procedure and corresponding weights are as follows:-

#### **a) For theory courses:**

1/3rd weightage for internal evaluation and 2/3rd for end semester examination.

For convenience, the maximum marks for internal evaluation and end semester examination for theory courses are fixed as 50 and 100 respectively. Scheme of evaluation is as follows.

i) Two internal tests each of 20 marks and of one hour duration. (Internally by the College)

ii) Tutorials/Assignments/Mini Projects carrying 10 marks. (Internally by the College)

iii) End Semester examination carrying 100 marks. (Conducted by the University) All the above evaluations are mandatory requirements to earn credits. Students who have missed either the first or the second test can register with the consent of the faculty and the Head of the Department (HOD) concerned for a retest which shall be conducted soon after the completion of the second test, but before the end semester examination. The re-test will cover both first and second test course plans. Those who have missed both the tests are not eligible to appear for the end semester examination. However if one misses both tests due to medical reasons or other personal exigencies, based on genuine evidence, a single test of 2 hour duration for 40 marks will be conducted covering the whole syllabus, before the end semester examinations. Decision on this will be taken by the Principal and verified by the external academic auditor.

#### **b) For Laboratory /Practical /Workshop courses**

i) Practical records /Outputs 60 marks (Internally by the College)

ii) Regular class Viva 10 marks (Internally by the College)

iii) Final written test/quiz 30 marks (Internally by the College)

All the above assessments are mandatory to earn credits. If not, the student has to complete the course/assessments during his free time in consultation with the faculty members. On completion of these, grades will be assigned. In case the Practical /Laboratory/Workshop courses are not completed in the semester, grade I (incomplete) will be awarded against the course and the final grade will be given only after the completion of the course/assessments.

**c) Comprehensive Examination**

As students appear for placements from seventh semester onwards, comprehensive examination is to be completed in the sixth semester. This examination will be a written cum oral examination covering broadly all courses so far completed [RU-5].

**d) Seminar**

Each student has to give a seminar on a professional topic of current interest in consultation with the faculty member in charge of the seminar in the Department. The seminar will be evaluated based on RU-6

**e) Design Project**

Each student or a group of students has to take up a design project. The project topic could be arrived at in consultation with any faculty member in the department. The Evaluation of the project is to be done in two stages. Two project progress evaluations each carrying 20 marks and a final report evaluation and presentation of the project for 60 marks. The project supervisor and two other faculty members from the same or any other department, nominated by the Head of the Department form the evaluation board.

**f) Final Semester Project**

Students, either individually or in a small batch not exceeding four, have to do a project approved by their faculty supervisor. Evaluation scheme is given below:-

- i) Two progress assessments 20percent by the faculty supervisor/s
- ii) Final Project Report 30percent by the Assessment Board



iii) Project presentation and Viva 50percent by the Assessment Board

If the project work is not completed satisfactorily, the student has to put in more work and appear again for assessment on a specified date, not earlier than one month after the first evaluation. If the student fails in the project, a fresh registration for the project for one semester is mandatory.

The project assessment board shall consist of the following members.

Chairman: Head of the Department

Members: Project supervisor/s of the student

One faculty member from the Department

One faculty member from a sister Department

An external expert, either from an academic/research institute or industry

#### **m. Eligibility to Continue**

A student has to earn a minimum number of credits in a semester to be eligible to register for the new courses offered in the next semester. In odd semesters if this requirement is not met, the student is to be forewarned and allowed to continue to the next even semester. However at the end of even semesters this requirement will be strictly implemented. Summer courses are offered to those who do not satisfy this norm after the 2nd as well as the 4th semesters. Students who do not meet this requirement are not permitted to register for new courses in the higher semesters. They have to register for the failed courses in normal semesters in which they are offered subject to the limitations imposed by the ordinances and course timetable. Action plan, for dealing with course arrears in theory courses at the end of each semester to continue with the programme, is given below. Faculty advisors shall monitor advice and support the students in this. Students should be informed about the minimum cumulative credits requirement to register for higher semester courses.

#### **n. Course Committees and Class Committees**

These committees are to be in place in each college affiliated to the University.

a) Course Committee This is for common courses (electives are excluded) offered to students admitted for the B. Tech. programme irrespective of

their branch of study. Each of such courses will have a course committee constituted by the Principal of the college. The chairman of the course committee shall be a senior faculty member not offering the course.

Members:-

- i) All teachers offering the course.
  - ii) Four student representatives nominated by the Principal.
- b) Class Committee

Beginning from the third semester, all branches of study will have class committees for every semester constituted by the respective Heads of Departments.

The chairman of the committee shall be a senior faculty member who does not offer any course during that semester.

Members:-

- i) All faculty members teaching courses in that semester.
- ii) Two student representatives nominated by the head of the Department.

The course committees and class committees shall meet at least thrice in a semester – the first at the beginning of the semester, the second and the third after the first and the second internal tests respectively. Both committees should monitor the conduct of the courses, adherence to the course plan and time schedule, completion of the syllabus, standards of internal tests, evaluation process and difficulties faced by the students and take suitable remedial actions at the appropriate time. At the end of the semester, the committee should meet without student representatives to review the conduct of the course and finalize the internal assessment marks and approve them.

#### **o. Eligibility for writing the end semester examination and for grading**

Students with 45percent or more marks in internal assessment in a course shall only be permitted to write the end semester examination in that course. Those with less than 45percent internal marks shall be awarded FE grade and have to register for the course again. A student should have a minimum of 45percent marks in the end semester examination to be eligible for grading in a course. Otherwise he/she will be considered

to have failed in the course and an F grade will be awarded. Internal marks given to the students who got 45 percent marks or more in the end semester examination shall be regulated in line with the end semester examination performance. Internal mark percentage shall not exceed 25 over the end semester mark percent. (For example if the end semester mark percent is 45, then the maximum internal mark percent is to be  $45+25 = 70$  percent.) In case the student writes the supplementary examination, the mark got in that will be taken into consideration for regulating the internal marks. Those who have more than 45percent marks in the end semester examination are awarded the grade based on both internal assessment and end semester examination marks. A student earns credits for a course if the grade is P or above.

#### **p. Award of Grades**

Grading is based on the percent of marks obtained by the student in a course, as given in 7q. The grade card will only give the grades against the courses the student has registered.

Semester grade card will give the grade for each registered course, Semester Grade Point Average (SGPA) for the semester as well as Cumulative Grade Point Average (CGPA).

#### **q. Academic Auditing**

The University shall have a detailed academic auditing procedure in place comprising of an internal academic auditing cell within the colleges and an external academic auditing for each college. The internal academic auditing cell in each college shall oversee and monitor all the academic activities including all internal evaluations and examinations. This cell is to prepare academic audit statements for each semester at regular intervals. These reports are to be presented to the external academic auditor approved by the University, who will use it as a reference for his independent auditing and for the final report to the University. Academic auditing shall cover:-

- i) Course delivery covering syllabus, adherence to course plan, quality of question papers for internal examinations, internal evaluation, laboratory experiments, practical assignments, mini projects and conduct of practical classes and their evaluation.
- ii) Co-curricular and Extra-curricular activities available for students, their

organization and the mechanism of monitoring of activities points earned by the students.

iii) Academic functioning of the college encompassing students, faculty and college administration covering punctuality, attendance, discipline, academic environment, academic accountability, academic achievements and benchmarking.

#### **r. Break of Study**

A student may break study for a maximum duration of two semesters, preferably in one academic year, to initiate start-up ventures, product development etc. This is however permitted only on successfully completing the courses listed out in the first four semesters. Request for this with ample evidence to the seriousness of the venture should be forwarded to the college principal for approval. [RU-3]

Break of study on serious health reasons is also permitted with the approval of the college Principal. [RU-3] All such cases of break of study are to be reported to the University. In both the cases, the maximum duration for completing the B. Tech. programme will still be twelve semesters.

#### **s. Revaluation and Grade Improvement**

There is no provision for revaluation of the end semester answer books or for improving the grade. However, the student is permitted to check the answer books of the end semester examination after the results are declared. Any discrepancy in evaluation could be brought to the notice of the teacher concerned who will initiate appropriate action on this. The decision of the Controller of Examination shall be final on this.

#### **t. Grade Cards**

Students who have written the end semester examination will be given the grade cards for the registered courses, in every semester by the respective colleges. On earning the required credits for the degree, a consolidated grade sheet for the B. Tech programme will be given by the University.

#### **u. B. Tech Degree**

B.Tech. degree will not have any classifications like distinction or first class.

**v. B. Tech. (Honours)**

Accredited departments in institutions, having at least two post graduate programmes, may offer B. Tech. (Honours). It should be noted that students with a CGPA above 8 at the end of the fourth semester and having no credit arrears only are eligible for this option. As only selected institutions may have this provision, students cannot demand this or move later to an institute where this is available. Students have to earn 12 additional credits to get B. Tech (Honours). Furthermore their CGPA at the end of the programme should be 8 or higher. Those who opted for B. Tech (Honours) but unable to earn the required additional credits in 8 semesters or whose final CGPA is less than 8 shall automatically fall back to the B. Tech. programme. However, additional course credits and the grades thus far earned by them will be shown in the grade card but not included for the CGPA.

**w. Academic Discipline and Malpractices in Examinations**

Every student is required to observe discipline and decorous behaviour. Any act of indiscipline, misbehaviour and unfair practice in examinations will be referred to the Disciplinary Action Committee (DAC). Malpractices in examinations shall be viewed seriously and any such incident observed or reported by a faculty member or an invigilator associated with the examinations shall be reported to the Principal who in turn shall refer it to DAC. On the basis of the report and evidence available or gathered, DAC shall immediately initiate an enquiry giving the concerned student a chance to explain his/her case. Based on this the committee shall recommend the course of action in line with the guidelines formulated for this by the Controller of Examination of the University and forward it to the Principal for action. Actions are to be based on the severity of the offence and are to be dealt with, on a course basis. Guidelines on this shall be given by the Controller of Examination which is to be followed by the Disciplinary Action Committee of the college. The student may appeal to the Grievances and Appeals Committee for a relook on the matter. Based on the committee's report, the Principal shall take a final decision on the matter. DAC shall be headed by a department head and shall have three other faculty members drawn from different departments as members. In case of malpractices in end semester examinations, the report given by the college DAC and the action taken by the Principal shall be intimated to

the Controller of Examination of the University

**x. Student's Welfare Committee**

Every college shall have a Student's Welfare Committee, constituted by the Principal of the college. This committee shall have at least three faculty members as members and the chairman shall be a senior faculty member in the rank of a Professor. This committee is entrusted with the task of looking after the welfare of the students by taking appropriate steps with the concurrence of the principal.

**y. Grievances and Appeals Committee**

Each college should have a Grievances Redress Committee constituted by the Principal to address the grievances of the students and to consider their appeals on any decisions made by the college. This committee consisting of at least three faculty members and chaired by a senior professor shall look into student's grievances and appeals and give its recommendations to the Principal for action.

**RULES:**

**RU-1 Course Code and Course Number**

Each course is identified by a course code and a three digit number. The two letter code refers to the department offering the course or the knowledge segment of the course. The knowledge segment code is used when the course is to be offered by different departments either individually or together but having the same syllabus and course plan.

Course Number: MA 101 - This refers to a course in Mathematics with the course number 101.

Course Number: BE 102 - This refers to a course in Basic Engineering.

Course Number is a three digit number and the first digit refers to the Academic year in which the course is normally offered, i.e. 1, 2, 3, or 4 for the B. Tech. Programme of four year duration. Of the other two digits, the last digit identifies whether the course is offered normally in the odd (odd number), even (even number) or in both the semesters (zero). The middle number could be any digit.

MA 101 is a course in Mathematics offered in the first semester. EE 344 is

a course in Electrical Engineering offered in the sixth semester. PH 110 is a course in Physics offered both the first and second semesters. BE 102 is a course in Basic Engineering offered by one or many departments. These course numbers are to be given in the curriculum and syllabi.

### **RU-2 Attendance**

Attendance is marked for each course. While 75 percent attendance is mandatory for writing the end semester examination in that course, students are expected to have 100 percent attendance. However under unavoidable circumstances students are permitted to take leave. Leave is normally sanctioned for any approved activity taken up by students outside the college covering sports and other extracurricular activities. Leave is also permitted on medical grounds or on personal exigencies. Leave of absence for all these is limited to 25 percent of the academic contact hours for the course.

In case of long illness or major personal tragedies/contingencies the college Principal can relax the minimum attendance requirement to 60percent , to write the end semester examination. This is permitted for one or more courses registered in the semester. Principal shall keep all records which led to his/her decision on attendance, for verification by the Academic Auditor. However this concession is applicable only to any two semesters during the entire programme. In case of prolonged illness, break of study is permitted as per

### **RU-3. RU-3 Break of Study**

A student is permitted to have a break of study.

- i) In case of accident or serious illness needing prolonged hospitalization and rest.
- ii) In case the student has a bright idea and would like to initiate a start-up venture or develop a new product.
- iii) In case of any personal reasons that need a break in study.

For break of study due to illness, student should submit all necessary medical reports together with the recommendation of the doctor treating him giving definite reasons for break of study and its duration. Before joining back the student should submit the fitness certificate from the

doctor who treated him.

Students who want to initiate a start-up venture or a product development, have to submit a project report, clearly indicating the purpose, action plan, technical details, funding details and future plans to the college Principal. The Principal shall evaluate the proposal by constituting an expert team consisting of a technocrat and a bank executive and take an appropriate decision based on the team's recommendation. In the semester system followed by the University, break of study for an academic year is preferred over a semester break.

Students who want a break in study due to personal reasons shall convince the Principal on the genuine need for it by giving authentic evidence for the same.

#### **RU-4 Leave of Absence**

Students who want to take leave under RU2 have to submit a leave letter to the teacher conducting the course. This letter is to be forwarded to the Head of the Department with recommendation of the teacher indicating the total leave of absence the student has so far availed. Leave is to be sanctioned by the Head of the Department. For medical leave over three days, medical certificate indicating the need for leave is required. After any medical leave exceeding five instruction days, on rejoining, the student has to produce the fitness certificate given by the doctor.

#### **RU-5 Comprehensive Examination**

This examination consists of two parts. Part one a written test and the other an oral one. The written examination shall be objective type of 1 hour duration and shall have 50 marks and is to be conducted by the concerned department. Chairman of the oral examination board shall be a senior faculty in the department and the members include two other faculty members of the department and an external expert from another academic institute or an industry. Oral examination shall carry 50 marks. Comprehensive examination may be conducted any time during the 6th semester with sufficient notice given to the students.

#### **RU-6 Seminar**

Students have to prepare a detailed report on the topic of the seminar and submit it to the teacher concerned. The seminar is to be of 20 min-



utes duration with another 5 minutes given for questions and answers. All students in the class have to attend the seminar without fail. Evaluation will be based on the report, seminar presentation as well as on the ability of the student to answer the questions put forward. Faculty member in charge of the seminar and another faculty member in the department nominated by the Head of the Department are the evaluators for the seminar. Distribution of marks for the seminar is as follows.

Marks for the report: 30percent

Presentation: 40percent

Ability to answer questions on the topic: 30percent

### **RU-7 Ragging**

Ragging of any nature is a criminal and non-bailable offence. Involvement in ragging shall lead to stringent punishment, including imprisonment as per the law of the land. A student, whose involvement in ragging is established, shall be summarily dismissed from the college. Each student of the Institute, along with his/her parent, is required to give an undertaking in this regard and the same is to be submitted at the time of registration.

## **6 ACHIEVEMENTS**

### **6.1 Academic**

#### **IAS/GATE Toppers**

1. Haritha V. Kumar of 2007 Electronics and Communication Engineering secured All India First Rank in Civil Service Examination(2012).
2. Nikita S Chandran,Electronics and Communication Engineering secured 326 rank in Civil Service Examination.
3. Gayathri M,Electronics and Communication Engineering secured 642 rank in Civil Service Examination (2015).
4. Nidhin S L (ME 12-16 batch) achieved All India rank 405 in GATE -2016 examination.
5. Suryanarayanan 06-10 batch qualified forest service examination in 2014.
6. Abdul Rahim A 06-10 batch qualified civil service examination in 2017.
7. Aneesh D S(Rank-189),Sainath S (Rank-317), Adarsh M L (Rank-516) Mechanical engineering achieved high score in GATE -2017 examination.

### **UNIVERSITY FIRST RANK HOLDERS**

#### **2017**

Information Technology - Aiswarya V I

Electrical engineering - Aswathy M P

Electronics & communication - Arya V

Mechanical Engineering - Jiji Renj

**2016**

Information Technology - Minu Menon

**2013**

Information Technology - Aswini K.S

Mechanical Engineering - Unnikrishnan R

**2012**

Information Technology - Arya Chandran S

**2011**

Information Technology - Roopesh R

Mechanical Engineering - Manu Alex Thomas

**2009**

Information Technology - Asha Paul

**2008**

Information Technology - Retina Satish

**2006**

Information Technology - Biesson Varghese

Mechanical Engineering - Krishnachandran R

**2003**

Information Technology - Thiruvambalam Sreenivas

Mechanical Engineering(A) - Sooraj V.S

## 7 CURRICULUM AND SCHEME OF EXAMINATION

### 7.1 M.Tech Degree Course 2016 Admission

#### 7.1.1 Network Engineering

#### SEMESTER I:

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A	01CS6101	Mathematical Foundations of Computing Systems	3-0-0	40	60	3	3
B	01IT6101	Distributed Systems and Algorithms	3-1-0	40	60	3	4
C	01IT6103	Network Routing Protocols	3-1-0	40	60	3	4
D	01IT6105	Security in Computing	3-0-0	40	60	3	3
E		Elective I	3-0-0	40	60	3	3
S	01IT6999	Research Methodology	0-2-0	100			2
T	01IT6191	Seminar I	0-0-2	100			2
U	01IT6193	Network Engineering Lab	0-0-2	100			1
		<b>TOTAL</b>	<b>15-4-4</b>	<b>500</b>	<b>300</b>	<b>-</b>	<b>22</b>

TOTAL CONTACT HOURS : 23

TOTAL CREDITS : 22

#### ELECTIVE I

01CS6151 Data Warehousing and Mining

01IT6111 Advanced Operating Systems

01IT6113 Advanced Database Systems

**SEMESTER II:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A	01CS6102	Parallel Computer Architecture	3-1-0	40	60	3	4
B	01IT6102	Applied Cryptography	3-0-0	40	60	3	3
C	01IT6104	Modern Computing Paradigms	3-0-0	40	60	3	3
D		Elective II	3-0-0	40	60	3	3
E		Elective III	3-0-0	40	60	3	3
V	01IT6192	Mini Project	0-0-4	100			2
U	01IT6194	Software Testing Lab	0-0-2	100			2
		<b>TOTAL</b>	<b>15-1-6</b>	<b>400</b>	<b>300</b>	<b>-</b>	<b>19</b>

TOTAL CONTACT HOURS : 22

TOTAL CREDITS : 19

**ELECTIVE II**

01CS6252 Access Networks and Cellular Communication

01IT6112 High Speed Switching Architecture

01CS6154 Soft Computing

**ELECTIVE III**

01IT6114 Multimedia Communication

01IT6116 Web Technologies

01IT6118 Information Retrieval Techniques

**SEMESTER III:**

<b>Examination Slot</b>	<b>Course Number</b>	<b>Name</b>	<b>L-T-P</b>	<b>Internal Marks</b>	<b>Marks</b>	<b>Duration (hours)</b>	<b>Credits</b>
A		Elective IV	3-0-0	40	60	3	3
B		Elective IV	3-0-0	40	60	3	3
T	01IT7191	Seminar II	0-0-2	100			2
W	01IT7193	Project (Phase 1)	0-0-12	50			6
		<b>TOTAL</b>	<b>6-0-14</b>	<b>230</b>	<b>120</b>	<b>-</b>	<b>14</b>

TOTAL CONTACT HOURS : 20

TOTAL CREDITS : 14

**ELECTIVE IV**

01CS7157 Ad-hoc and Sensor Networks

01IT7111 Embedded Networks

01IT7113 Mathematical Models for Internet

**ELECTIVE V**

01ITF7115 Performance Evaluation of Computer Systems and Networks

01ITF7117 Network Architecture and Design

01ITF7119 Interconnection Networks

**SEMESTER IV:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
W	01IT7194	Project (Phase 2)	0-0-23	70	30		12
		TOTAL	0-0-23	70	30	-	12

TOTAL CONTACT HOURS : 23

TOTAL CREDITS : 12

TOTAL NUMBER OF CREDITS:67

**7.1.2 Signal Processing****SEMESTER I:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A	01EC6301	Applied Linear Algebra	3-0-0	40	60	3	3
B	01EC6303	Random Processes and Applications	3-1-0	40	60	3	4
C	01EC6205	Advanced Digital Communication	3-1-0	40	60	3	4
D	01EC6307	DSP System Design	3-0-0	40	60	3	3
E		Elective I	3-0-0	40	60	3	3
S	01EC6999	Research Methodology	0-2-0	100			2
T	01EC6391	Seminar I	0-0-2	50			2
U	01EC6393	DSP Systems Lab	0-0-2	50			1
		TOTAL	15-4-4	400	300	-	22

TOTAL CONTACT HOURS : 23

TOTAL CREDITS : 22

**ELECTIVE I**

01EC6311 Speech Signal Processing

01EC6313 Optical Signal Processing

01EC6315 Biomedical Signal Processing

**SEMESTER II:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A	01EC6302	Estimation and Detection Theory	3-1-0	40	60	3	4
B	01EC6304	Digital Image Processing	3-0-0	40	60	3	3
C	01EC6306	Multirate Systems and Wavelets	3-0-0	40	60	3	3
D		Elective II	3-0-0	40	60	3	3
E		Elective III	3-0-0	40	60	3	3
V	01EC6392	Mini Project	0-0-4	100			2
U	01EC6394	Image Processing Lab	0-0-2	50			1
		<b>TOTAL</b>	<b>15-1-6</b>	<b>350</b>	<b>300</b>	<b>-</b>	<b>19</b>

TOTAL CONTACT HOURS : 22

TOTAL CREDITS : 19



**ELECTIVE II**

01EC6312 Adaptive Signal Processing

01EC6314 Audio Signal Processing

01EC6316 Pattern Recognition and Machine Learning

**ELECTIVE III**

01EC6122 Design of VLSI Systems

01EC6218 Soft Computing

01EC6322 Optimization Techniques

**SEMESTER III:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A		Elective IV	3-0-0	40	60	3	3
B		Elective IV	3-0-0	40	60	3	3
T	01EC6306	Seminar II	0-0-2	50			2
W		Project (Phase 1)	0-0-12	100			6
		<b>TOTAL</b>	<b>6-0-14</b>	<b>230</b>	<b>120</b>	<b>-</b>	<b>14</b>

TOTAL CONTACT HOURS : 20

TOTAL CREDITS : 14

**ELECTIVE IV**

01EC7311 VLSI Structures for Digital Signal Processing

01EC7313 Space Time Coding and MIMO Systems

01EC7315 Computer Vision

**ELECTIVE V**

01EC7317 Array Signal Processing

01EC7319 Bio Informatics

01EC7213 Secure Communication

**SEMESTER IV:**

<b>Examination Slot</b>	<b>Course Number</b>	<b>Name</b>	<b>L-T-P</b>	<b>Internal Marks</b>	<b>Marks</b>	<b>Duration (hours)</b>	<b>Credits</b>
W	01EC7394	Project (Phase 2)	0-0-23	70	70		12
		<b>TOTAL</b>	0-0-23	70	30	-	12

TOTAL CONTACT HOURS : 23

TOTAL CREDITS : 12

TOTAL NUMBER OF CREDITS: 67

## 7.1.3 Machine Design

**SEMESTER I:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A	01MA6011	Special Functions, Partial Differential Equations And Tensor	3-0-0	40	60	3	3
B	01ME6101	Advanced Theory of Vibration	3-1-0	40	60	3	4
C	01ME6103	Finite Element Method	3-1-0	40	60	3	4
D	01ME6105	Continuum Mechanics	3-0-0	40	60	3	3
E	01ME6107	Industrial Tribology	3-0-0	40	60	3	3
S	01ME6999	Research Methodology	0-2-0	100			2
T	01ME6191	Seminar-I	0-0-2	50			2
U	01ME6193	Machine Dynamics Lab	0-0-2	50			1
		<b>TOTAL</b>	<b>15-4-4</b>	<b>400</b>	<b>300</b>	<b>-</b>	<b>22</b>

TOTAL CONTACT HOURS : 23

TOTAL CREDITS : 22

**SEMESTER II:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A	01ME6102	Advanced Theory of Mechanisms	3-1-0	40	60	3	4
B	01ME6104	Design of Pressure Vessels and Piping	3-0-0	40	60	3	3
C	01ME6106	Experimental Stress Analysis	3-0-0	40	60	3	4
D		Elective I	3-0-0	40	60	3	3
E		Elective II	3-0-0	40	60	3	3
V	01ME6192	Mini Project	0-0-4	100			2
U	01ME6194	Modelling And Analysis Lab	0-0-2	50			1
		<b>TOTAL</b>	<b>15-1-6</b>	<b>350</b>	<b>300</b>	<b>-</b>	<b>19</b>

TOTAL CONTACT HOURS : 22

TOTAL CREDITS : 19

**ELECTIVE I**

01ME6112 Design of Power Transmission Elements

01ME6114 Design And Analysis of Composite Structures

01ME6116 Advanced Computer Graphics

01ME6118 Condition Monitoring And Maintenance Engineering

**ELECTIVE II**

01ME6122 Optimization Techniques for Engineering

01ME6124 Acoustics and Noise Control

01ME6126 Advanced Finite Element Methods

01ME6128 Robotics

**SEMESTER III:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A		Elective III	3-0-0	40	60	3	3
B		Elective IV	3-0-0	40	60	3	3
T	01ME7191	Seminar II	0-0-2	40			2
W	01ME7193	Project (Phase 1)	0-0-12	100			6
		<b>TOTAL</b>	<b>6-0-14</b>	<b>230</b>	<b>120</b>	<b>-</b>	<b>14</b>

TOTAL CONTACT HOURS : 20

TOTAL CREDITS : 14

**ELECTIVE III**

01ME7111 Advanced Numerical Methods

01ME7113 Advanced Non Destructive Evaluation

01ME7115 Advanced Design Synthesis

01ME7117 Mechatronics System Design

01ME7119 Computational Plasticity

**ELECTIVE IV**

01ME7121 Fracture Mechanics

01ME7123 Mechanical Behaviour of Materials

01ME7125 Computational Methods in Design And Manufacturing

01ME7127 Advanced Vehicle Dynamics

01ME7129 Control System

**SEMESTER IV:**

<b>Examination Slot</b>	<b>Course Number</b>	<b>Name</b>	<b>L-T-P</b>	<b>Internal Marks</b>	<b>Marks</b>	<b>Duration (hours)</b>	<b>Credits</b>
W	01ME7194	Project (Phase 2)	0-0-23	70	30		12
		<b>TOTAL</b>	0-0-23	70	30	-	12

TOTAL CONTACT HOURS : 23

TOTAL CREDITS : 12

TOTAL NUMBER OF CREDITS: 67

## 7.1.4 Power System and Control

**SEMESTER I:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A	01MA6021	Advanced Mathematics And Optimisation Techniques	3-0-0	40	60	3	3
B	01EE6101	Dynamics of Linear Systems	3-1-0	40	60	3	4
C	01EE6301	Modelling of Electrical Machines	3-1-0	40	60	3	4
D	01EE6405	Operation and Control of Power System	3-0-0	40	60	3	3
E	01EE6601	Power Conversion Techniques	3-0-0	40	60	3	3
S	01EE6999	Research Methodology	0-2-0	100			2
T	01EE6691	Seminar-I	0-0-2	50			2
U	01EE6693	Power System Simulation Lab	0-0-2	100			1
		<b>TOTAL</b>	<b>15-4-4</b>	<b>500</b>	<b>300</b>	<b>-</b>	<b>22</b>

TOTAL CONTACT HOURS : 23

TOTAL CREDITS : 22

**SEMESTER II:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A	01EE6402	Digital Protection of Power System	3-1-0	40	60	3	4
B	01EE6404	Design of Pressure Vessels and Piping Power System Dynamics and Control	3-0-0	40	60	3	3
C		Elective I	3-0-0	40	60	3	3
D		Elective II	3-0-0	40	60	3	3
E		Elective III	3-0-0	40	60	3	3
V	01EE6692	Mini Project	0-0-4	100			2
U	01EE6694	Advanced Power Systems Lab	0-0-2	100			1
		<b>TOTAL</b>	<b>15-1-6</b>	<b>400</b>	<b>300</b>	<b>-</b>	<b>19</b>

TOTAL CONTACT HOURS : 22

TOTAL CREDITS : 19

**ELECTIVE I**

01EE6612 Advanced Power Electronic Systems

01EE6412 New and Renewable Sources of Energy

01EE6414 Distributed Generation

01EE6416 Computer Aided Power System Analysis



**ELECTIVE II**

01EE6614 Control of Industrial Drives

01EE6616 Captive Power Systems

01EE6418 Flexible AC Transmission Systems

**ELECTIVE III**

01EE6126 Soft Computing Techniques

01EE6618 Control Techniques for power systems

01EE6426 Smart Grid Technologies and Applications

**SEMESTER III:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
A		Elective IV	3-0-0	40	60	3	3
B		Elective V	3-0-0	40	60	3	3
T	01EE7691	Seminar II	0-0-2	100			2
W	01EE7693	Project (Phase 1)	0-0-12	50			6
		<b>TOTAL</b>	<b>6-0-14</b>	<b>230</b>	<b>120</b>	<b>-</b>	<b>14</b>

TOTAL CONTACT HOURS : 20

TOTAL CREDITS : 14

**ELECTIVE IV**

01EE7411 EHVAC and DC Transmission

01EE7413 Energy Auditing, Conservation and Management

01EE7611 Power System Management

01EE7415 Restructured Power System

**ELECTIVE V**

01EE7417 Transient Analysis in Power System

01EE7419 Power System Stability and Reliability

01EE7421 SCADA System and Applications

**SEMESTER IV:**

Examination Slot	Course Number	Name	L-T-P	Internal Marks	Marks	Duration (hours)	Credits
W	01EE7694	Project (Phase 2)	0-0-23	70	30		12
		TOTAL	0-0-23	70	30	-	12

TOTAL CONTACT HOURS : 23

TOTAL CREDITS : 12

TOTAL NUMBER OF CREDITS: 67

**7.2 B.Tech Degree Course 2016 Admission****7.2.1 S1S2 SYLLABUS-SEMESTER 1**

<b>Slot</b>	<b>Course No</b>	<b>Subject</b>	<b>L-T-P</b>	<b>Hours</b>	<b>Credit</b>
A	MA101	Calculus	3-1-0	4	4
B (1/2)	PH100	Engineering Physics	3-1-0	4	4
B (1/2)	CY100	Engineering Chemistry	3-1-0	4	4
C (1/2)	BE100	Engineering Mechanics	3-1-0	4	4
C (1/2)	BE110	Engineering Graphics	1-1-2	4	3
D	BE101-0X	Introduction to ..... Engineering	2-1-0	3	3
E	BE103	Introduction to Sustainable Engineering	2-0-1	3	3
F(1/4)	CE100	Basics of Civil Engineering	2-1-0	3	3
F(1/4)	ME100	Basics of Mechanical Engineering	2-1-0	3	3
F(1/4)	EE100	Basics of Electrical Engineering	2-1-0	3	3
F(1/4)	EC100	Basics of Electronics Engineering	2-1-0	3	3
S(1/2)	PH110	Engineering Physics Lab	0-0-2	2	1
S(1/2)	CY110	Engineering Chemistry Lab	0-0-2	2	1

**SEMESTER 1 Continued..**

Slot	Course No	Subject	L-T-P	Hours	Credit
T(2/4)	CE110/ME110/	Basic Engineering Workshops (CS110 for CS and related branches CH110 for CH and related branches only)	0-0-2	2	1
	EE110/EC110/ CS110/CH110		+	0-0-2	2
U		U100 Language lab/Bridge courses/ Remedial programmes/Micro Projects etc	0-0-3	3	
				30	24/23
V		V100 Entrepreneurship/TBI/NCC NSS/Physical Edn. etc	0-0-2	2	Activity points

**SEMESTER II**

Slot	Course No	Subject	L-T-P	Hours	Credit
A	MA102	Differential Equation	3-1-0	4	4
B (1/2)	PH100	Engineering Physics	3-1-0	4	4
B (1/2)	CY100	Engineering Chemistry	3-1-0	4	4
C (1/2)	BE100	Engineering Mechanics	3-1-0	4	4
C (1/2)	BE110	Engineering Graphics	1-1-2	4	3
D	BE102	Design and Engineering	2-0-2	4	3

**SEMESTER II Continued...**

Slot	Course No	Subject	L-T-P	Hours	Credit
E,F(2/4)	CE100	Basics of Civil Engineering	2-0-1	3	3
E,F(2/4)	ME100	Basics of Mechanical Engineering	2-0-1	3	3
E,F(2/4)	EE100	Basics of Electrical Engineering	2-0-1	3	3
E,F(2/4)	EC100	Basics of Electronics Engineering	2-0-1	3	3
S(1/2)	PH110	Engineering Physics Lab	0-0-2	2	1
S(1/2)	CY110	Engineering Chemistry Lab	0-0-2	2	1
T(2/4)	CE110/ME110/ EE110/EC110/	Basic Engineering Workshops	0-0-2	2	1
			+ 0-0-2	2	1
U		U100 Language lab/Bridge courses/ Remedial programmes/Micro Projects etc	0-0-2	2	
				30	24/23
V		V100 Entrepreneurship/TBI/NCC NSS/Physical Edn. etc	0-0-2	2	Activity points

**7.2.2 Electrical and Electronics Engineering****SEMESTER III:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA201	Linear Algebra and Complex Analysis	3-1-0	4	A
EE201	Circuits and Networks	3-1-0	4	B
EE203	Analog Electronic Circuits	3-1-0	4	C
EE205	DC Machines and Transformers	3-1-0	4	D
EE207	Computer Programming	2-1-0	3	E
HS200/HS210	Business Economics/Life Skills	3-0-0/2-0-2	3	F
EE231	Electronic Circuits Lab	0-0-3	1	S
EE233	Programming Lab	0-0-3	1	T

Total Credits = 24

Hours: 28/29

Cumulative Credits= 71

**SEMESTER IV:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA202	Probability Distributions, Transforms and Numerical Methods	3-1-0	4	A
EE202	Synchronous and Induction Machine	3-1-0	4	B
EE204	Digital Electronics and Logic Design	2-1-0	3	C
EE206	Material Science	3-0-0	3	D
EE208	Measurements and Instrumentation	3-1-0	4	E
HS210/ HS200	Life Skills/Business Economics	2-0-2/ 3-0-0	3	F
EE232	Electrical Machines Lab I	0-0-3	1	S
EE234	Circuits and Measurements Lab	0-0-3	1	T

Total Credits = 23

Hours 28/27

Cumulative Credits= 94

**SEMESTER V:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
EE301	Power Generation, Transmission and Protection	3-1-0	4	A
EE303	Linear Control Systems	2-1-0	3	B
EE305	Power Electronics	3-0-0	3	C
EE307	Signals and Systems	3-0-0	3	D
EE309	Microprocessor and Embedded Systems	2-1-0	3	E
	Elective 1	3-0-0	3	F
EE341	Design Project	0-1-2	2	S
EE331	Digital Circuits and Embedded Systems Lab	0-0-3	1	T
EEE333	Electrical Machines Lab II	0-0-3	1	U

Total Credits = 23

Hours: 28

Cumulative Credits= 117

**ELECTIVE 1**

1. EE361 Object Oriented Programming
2. EE363 Computer Organization and Architecture
3. EE365 Digital System Design
4. EE367 New and Renewable Energy Systems
5. EE369 High Voltage Engineering



**SEMESTER VI:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
EE302	Electromagnetics	2-1-0	3	A
EE304	Advanced Control Theory	3-1-0	4	B
EE306	Power System Analysis	3-0-0	3	C
EE308	Electric Drives	3-0-0	3	D
HS300	Principles of Management	3-0-0	3	E
	Elective 2	3-0-0	3	F
EE332	Systems and Control Lab	0-0-3	1	S
EE334	Power Electronics and Drives Lab	0-0-3	1	T
EEE352	Comprehensive Exam	0-1-1	2	U

Total Credits = 23

Hours: 27

Cumulative Credits= 140

**ELECTIVE 2**

1. EE362 Data Structures and Algorithms
2. EE364 Switched Mode Power Converters
3. EE366 Illumination Technology
4. EE368 Soft Computing
5. EE372 Biomedical Instrumentation

**SEMESTER VII:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
EE401	Electronic Communication	2-1-0	3	A
EE403	Distributed Generation and Smart Grids	3-0-0	3	B
EE405	Electrical System Design	3-1-0	4	C
EE407	Digital Signal Processing	3-0-0	3	D
EE409	Electrical Machine Design	3-0-0	3	E
	Elective 3	3-0-0	3	F
EE451	Seminar and Project Preliminary	0-1-4	2	S
EE431	Power System Lab	0-0-3	1	T

Total Credits = 22

Hours: 27

Cumulative Credits= 162

**ELECTIVE 3**

1. EE461 Modern Operating Systems
2. EE463 Computer Aided Power Systems Analysis
3. EE465 Power Quality
4. EE467 Nonlinear Control Systems
5. EE469 Electric and Hybrid Vehicles

**SEMESTER VIII:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
EE402	Special Electric Machines	3-0-0	3	A
EE404	Industrial Instrumentation and Automation	3-0-0	3	B
	Elective 4	3-0-0	3	C
	Elective 5(Non Departmental)	3-0-0	3	D
EE492	Project		6	

Total Credits = 18

Hours: 30

Cumulative Credits= 180

**ELECTIVE 4**

1. EE462 Design of Digital Control Systems
2. EE464 FACTS
3. EE466 Digital Image Processing
4. EE468 Computer Networks
5. EE472 Internet of Things
6. EE474 Energy Management and Auditing

**7.2.3 Electronics and Communication Engineering****SEMESTER III:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA201	Linear Algebra and Complex Analysis	3-1-0	4	A
EC201	Network Theory	3-1-0	4	B
EC203	Solid State Devices	3-1-0	4	C
EC205	Electronic Circuits	3-1-0	4	D
EC207	Logic Circuit Design	3-0-0	3	E
HS200/HS210	Business Economics/Life Skills	3-0-0/2-0-2	3	F
EC231	Electronic Devices and Circuits Lab	0-0-3	1	S
EC223	Electronic Design Automation Lab	0-0-3	1	T

Total Credits = 24

Hours: 28/29

Cumulative Credits= 71

**SEMESTER IV:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA204	Linear Algebra and Complex Analysis	3-1-0	4	A
EC202	Signals and Systems	3-1-0	4	B
EC204	Analog Integrated Circuits	4-0-0	4	C
EC206	Computer Organization	3-0-0	3	D
EC208	Analog Communication Engineering	3-0-0	3	E
HS210/HS200	Life Skills/Business Economics	2-0-2/3-0-0	3	F
EC232	Analog Integrated Circuits Lab	0-0-3	1	S
EC230	Logic Circuit Design Lab	0-0-3	1	T

Total Credits = 23

Hours 27/28

Cumulative Credits= 94

**SEMESTER V:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
EC301	Digital Signal Processing	3-1-0	4	A
EC303	Applied Electromagnetic Theory	3-0-0	3	B
EC305	Microprocessors and Microcontrollers	3-0-0	3	C
EC307	Power Electronics and Instrumentation	3-0-0	3	D
HS300	Principles of Management	3-0-0	3	E
	Elective 1	3-0-0	3	F
EC341	Design Project	0-1-2	2	S
EC333	Digital Signal Processing Lab	0-0-3	1	T
EC335	Power Electronics and Instrumentation Lab	0-0-3	1	U

Total Credits = 23

Hours: 28

Cumulative Credits= 117

**ELECTIVE 1**

1. EC361 Digital System Design
2. EC363 Optimization Techniques
3. EC365 Biomedical Engineering
4. EC360 Soft Computing

**SEMESTER VI:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
EC302	Digital Communication	4-0-0	4	A
EC304	VLSI	3-0-0	3	B
EC306	Antenna and Wave Propagation	3-0-0	3	C
EC308	Embedded Systems	3-0-0	3	D
EC312	Object Oriented Programming	3-0-0	3	E
	Elective 2	3-0-0	3	F
EC332	Communication Engg Lab (Analog and Digital)	0-0-3	1	S
EC334	Microcontroller Lab	0-0-3	1	T
EC352	Comprehensive Exam	0-1-1	2	U

Total Credits = 23

Hours: 27

Cumulative Credits= 140

**ELECTIVE 2**

1. EC362 Modelling and Simulation of Communication Systems
2. EC364 Computer Vision
3. EC366 Real Time Operating Systems
4. EC368 Robotics
5. EC370 Digital Image Processing

**SEMESTER VII:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
EC401	Information Theory and Coding	4-0-0	4	A
EC403	Microwave and Radar Engineering	3-0-0	3	B
EC405	Optical Communication	3-0-0	3	C
EC407	Computer Communication	3-0-0	3	D
EC409	Control Systems	3-0-0	3	E
	Elective 3	3-0-0	3	F
EC451	Seminar and Project Preliminary	0-1-4	2	S
EC431	Communication Systems Lab (Optical and Microwave)	0-0-3	1	T

Total Credits = 22

Hours: 27

Cumulative Credits= 162

**ELECTIVE 3**

1. EC461 Microwave Devices and Circuits
2. EC463 Speech and Audio Processing
3. EC465 MEMS
4. EC467 Pattern Recognition
5. EC469 Opto Electronic Devices



**SEMESTER VIII:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
EC402	Nano electronics	3-0-0	3	A
EC404	Advanced Communication Systems	3-0-0	3	B
	Elective 4	3-0-0	3	C
	Elective 5(Non Departmental)	3-0-0	3	D
EC492	Project		6	

Total Credits = 18

Hours: 30

Cumulative Credits= 180

**ELECTIVE 4**

1. EC462 Mixed Signal Circuit Design
2. EC464 Low Power VLSI Design
3. EC466 Cyber Security
4. EC468 Secure Communication
5. EC472 Integrated Optics and Photonic Systems

**7.2.4 Information Technology****SEMESTER III:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA201	Linear Algebra and Complex Analysis	3-1-0	4	A
CS201	Discrete Computational Structures	3-1-0	4	B
IT201	Digital System Design	3-1-0	4	C
CS205	Data Structures	3-1-0	4	D
IT203	Data Communication	3-0-0	3	E
HS200/HS210	Business Economics/Life Skills	3-0-0/2-0-2	3	F
CS231	Data Structures Lab	0-0-3	1	S
IT231	Digital Circuits Lab	0-0-3	1	T

Total Credits = 24

Hours: 28/29

Cumulative Credits= 71

**SEMESTER IV:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA202	Probability Distributions, Transforms and Numerical Methods	3-1-0	4	A
CS202	Computer Organization and Architecture	3-1-0	4	B
IT202	Algorithm Analysis and Design	4-0-0	4	C
IT204	Object Oriented Techniques	3-0-0	3	D
CS208	Principles of Data Base Design	3-0-0	3	E
HS210/HS200	Life Skills/Business Economics	2-0-2/3-0-0	3	F
IT232	Object Oriented Programming Lab	0-0-3	1	S
IT234	Algorithm Design Lab	0-0-3	1	T

Total Credits = 23

Hours 27/28

Cumulative Credits= 94

**SEMESTER V:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
IT301	Software Architecture and Design Patterns	3-1-0	4	A
IT303	Theory of Computation	3-0-0	3	B
CS305	Microprocessors and Microcontrollers	2-1-0	3	C
IT305	Operating Systems	3-0-0	3	D
IT307	Computer Networks	3-0-0	3	E
	Elective 1	3-0-0	3	F
IT341	Design Project	0-1-2	2	S
IT331	Microcontroller Lab	0-0-3	1	T
IT333	Database Lab	0-0-3	1	U

Total Credits = 23

Hours: 28

Cumulative Credits= 117

**ELECTIVE 1**

1. IT361 Graph Theory
2. IT363 UNIX Shell Programming
3. IT365 Computer Architecture and Parallel Processing
4. IT367 Computer Graphics and Multimedia
5. MA361 Random Process and Queuing Theory

**SEMESTER VI:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
IT302	Internet Technology	4-0-0	4	A
CS304	Compiler Design	2-1-0	3	B
IT304	Information Retrieval	3-0-0	3	C
IT306	Distributed Systems	3-0-0	3	D
HS300	Principles of Management	3-0-0	3	E
	Elective 2	3-0-0	3	F
IT332	Internet Technology Lab	0-0-3	1	S
IT334	Computer Networks Lab	0-0-3	1	T
IT352	Comprehensive Exam	0-1-1	2	U

Total Credits = 23

Hours: 27

Cumulative Credits= 140

**ELECTIVE 2**

1. IT362 Data Warehousing and Mining
2. IT364 Software Testing and Quality Assurance
3. IT366 Advanced DBMS
4. IT368 Information Theory and Coding
5. MA362 Abstract Algebra and Number Theory

**SEMESTER VII:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
IT401	Embedded Systems	4-0-0	4	A
IT403	Mobile Computing	3-0-0	3	B
IT405	Internet Working with TCP/IP	3-0-0	3	C
IT407	Knowledge Engineering	3-0-0	3	D
IT409	Web Application Development	3-0-0	3	E
	Elective 3	3-0-0	3	F
IT451	Seminar and Project Preliminary	0-1-4	2	S
IT431	Web Application Lab	0-0-3	1	T

Total Credits = 22

Hours: 27

Cumulative Credits= 162

**ELECTIVE 3**

1. IT461 Software Project Management
2. IT463 Semantic Web
3. IT465 Cyber Forensics
4. CS467 Machine Learning

**SEMESTER VIII:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
IT402	Cryptography and Cyber Security	3-0-0	3	A
IT404	Data Analytics	3-0-0	3	B
	Elective 4	3-0-0	3	C
	Elective 5(Non Departmental)	3-0-0	3	D
IT492	Project		6	

Total Credits = 18

Hours: 30

Cumulative Credits= 180

**ELECTIVE 4**

1. IT462 Internet of Things
2. CS468 Cloud Computing
3. IT464 Evolutionary Computing
4. IT466 Adhoc and Sensor Networks
5. IT468 Service Oriented Architecture

**7.2.5 Mechanical Engineering****SEMESTER III:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA201	Linear Algebra and Complex Analysis	3-1-0	4	A
ME201	Mechanics of Solids	3-1-0	4	B
ME203	Mechanics of Fluids	3-1-0	4	C
ME205	Thermodynamics	3-1-0	4	D
ME210	Metallurgy and Materials Engineering	3-0-0	3	E
HS200/HS210	Business Economics/Life Skills	3-0-0/2-0-2	3	F
ME231	Computer Aided Machine Drawing Lab	0-0-3	1	S
CE230	Material Testing Lab	0-0-3	1	T

Total Credits = 24

Hours: 28/29

Cumulative Credits= 71



**SEMESTER IV:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA202	Probability Distributions, Transforms and Numerical Methods	3-1-0	4	A
ME202	Advanced Mechanics of Solids	3-1-0	4	B
ME204	Thermal Engineering	3-1-0	4	C
ME206	Fluid Machinery	2-1-0	3	D
ME220	Manufacturing Technology	3-0-0	3	E
HS210/HS200	Life Skills/Business Economics	2-0-2/3-0-0	3	F
ME232	Thermal Engineering Lab	0-0-3	1	S
ME230	Fluid Mechanics and Machines Lab	0-0-3	1	T

Total Credits = 23

Hours 27/28

Cumulative Credits= 94

**SEMESTER V:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
ME301	Mechanics of Machinery	3-1-0	4	A
ME303	Machine Tools and Digital Manufacturing	3-0-0	3	B
ME305	Computer Programming and Numerical Methods	2-1-0	3	C
EE311	Electrical Drives and Control for Automation	3-0-0	3	D
HS300	Principles of Management	3-0-0	3	E
	Elective 1	3-0-0	3	F
ME341	Design Project	0-1-2	2	S
EE335	Electrical and Electronics Lab	0-0-3	1	T
ME331	Manufacturing Technology Lab 1	0-0-3	1	U

Total Credits = 23

Hours: 28

Cumulative Credits= 117

**ELECTIVE 1**

1. ME361 Advanced Fluid Mechanics
2. ME363 Composite Materials and Mechanics

3. ME365 Advanced Metal Casting
4. ME367 Non-Destructive Testing
5. ME369 Tribology
6. ME371 Nuclear Engineering
7. ME373 Human Relations Management

### SEMESTER VI:

Course Code	Course Name	L-T-P	Credits	Exam Slot
ME302	Heat and Mass Transfer	3-1-0	4	A
ME304	Dynamics of Machinery	2-1-0	3	B
ME306	Advanced Manufacturing Technology	3-0-0	3	C
ME308	Computer Aided Design and Analysis	3-0-0	3	D
ME312	Metrology and Instrumentation	3-0-0	3	E
	Elective 2	3-0-0	3	F
ME332	Computer Aided Design and Analysis Lab	0-0-3	1	S
ME334	Manufacturing Technology Lab II	0-0-3	1	T
ME352	Comprehensive Exam	0-1-1	2	U

Total Credits = 23

Hours: 27

Cumulative Credits= 140

**ELECTIVE 2**

1. ME362 Control System Engineering
2. ME364 Turbo Machinery
3. ME366 Advanced Metal Joining Technology
4. ME368 Marketing Management
5. ME372 Operations Research
6. ME374 Theory of Vibration
7. ME376 Maintenance Engineering

**SEMESTER VII:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
ME401	Design of Machine Elements 1	3-1-0	4	A
ME403	Advanced Energy Engineering	3-0-0	3	B
ME405	Refrigeration and Air Conditioning	2-1-0	3	C
ME407	Mechatronics	3-0-0	3	D
ME409	Compressible Fluid Flow	2-1-0	3	E
	Elective 3	3-0-0	3	F
ME451	Seminar and Project Preliminary	0-1-4	2	S
ME431	Mechanical Engineering Lab	0-0-3	1	T

Total Credits = 22

Hours: 27

Cumulative Credits= 162

**ELECTIVE 3**

1. ME461 Aerospace Engineering
2. ME463 Automobile Engineering
3. ME465 Industrial Hydraulics
4. IE306 Supply Chain and Logistics Management
5. ME467 Cryogenic Engineering
6. ME469 Finite Element Analysis
7. ME471 Optimization Techniques

**SEMESTER VIII:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
ME402	Design of Machine Elements II	3-0-0	3	A
ME404	Industrial Engineering	3-0-0	3	B
	Elective 4	3-0-0	3	C
	Elective 5(Non Departmental)	3-0-0	3	D
ME492	Project		6	

Total Credits = 18

Hours: 30

Cumulative Credits= 180

**ELECTIVE 4**

1. ME462 Propulsion Engineering
2. ME464 Robotics and Automation
3. ME466 Computational Fluid Dynamics
4. ME468 Nanotechnology
5. ME472 Failure Analysis and Design
6. ME474 Micro and Nano Manufacturing
7. ME476 Material Handling and Facilities Planning

**7.2.6 Civil Engineering****SEMESTER III:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA201	Linear Algebra and Complex Analysis	3-1-0	4	A
CE201	Mechanics of Solids	3-1-0	4	B
CE203	Fluid Mechanics I	3-1-0	4	C
CE205	Engineering Geology	3-0-1	4	D
CE207	Surveying	3-0-0	3	E
HS200/HS210	Business Economics/Life Skills	3-0-0/2-0-2	3	F
CE231	Civil Engineering Drafting Lab	0-0-3	1	S
CE233	Surveying Lab	0-0-3	1	T

Total Credits = 24

Hours: 28/29

Cumulative Credits= 71

**SEMESTER IV:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
MA202	Probability Distributions, Transforms and Numerical Methods	3-1-0	4	A
CE202	Structural Analysis I	3-1-0	4	B
CE204	Construction Technology	4-0-0	4	C
CE206	Fluid Mechanics II	3-0-0	3	D
CE208	Geotechnical Engineering I	3-0-0	3	E
HS210/HS200	Life Skills/Business Economics	2-0-2/3-0-0	3	F
CE232	Materials Testing Lab I	0-0-3	1	S
CE234	Fluid Mechanics Lab	0-0-3	1	T

Total Credits = 23

Hours 28/27

Cumulative Credits= 94



**SEMESTER V:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
CE301	Design of Concrete Structures I	3-1-0	4	A
CE303	Structural Analysis II	3-0-0	3	B
CE305	Geotechnical Engineering II	3-0-0	3	C
CE307	Geomatics	3-0-0	3	D
CE309	Water Resources Engineering	3-0-0	3	E
	Elective 1	3-0-0	3	F
CE341	Design Project	0-1-2	2	S
CE331	Materials Testing Lab II	0-0-3	1	T
CE333	Geotechnical Engineering Lab	0-0-3	1	U

Total Credits = 23

Hours: 28

Cumulative Credits= 117

**ELECTIVE 1**

1. CE361 Advanced Concrete Technology
2. CE363 Geotechnical Investigation
3. CE365 Functional Design of Buildings
4. CE367 Water Conveyance Systems
5. CE369 Disaster Management

6. CE371 Environment and Pollution
7. CE373 Advanced Mechanics of Materials

**SEMESTER VI:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
CE302	Design of Hydraulic Structures	4-0-0	4	A
CE304	Design of Concrete Structures II	3-0-0	3	B
CE306	Computer Programming and Computational Techniques	3-0-0	3	C
CE308	Transportation Engineering I	3-0-0	3	D
HS300	Principles of Management	3-0-0	3	E
	Elective 2	3-0-0	3	F
CE332	Transportation Engineering Lab	0-0-3	1	S
CE334	Computer Aided Civil Engineering Lab	0-0-3	1	T
CE352	Comprehensive Exam	0-1-1	2	U

Total Credits = 23

Hours: 27

Cumulative Credits= 140

**ELECTIVE 2**

1. CE362 Ground Improvement Techniques
2. CE364 Advanced Foundation Engineering
3. CE366 Traffic Engineering and Management
4. CE368 Prestressed Concrete
5. CE372 Engineering Hydrology
6. CE374 Air Quality Management

**SEMESTER VII:**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Exam Slot</b>
CE401	Design of Steel Structures	4-0-0	4	A
CE403	Structural Analysis III	3-0-0	3	B
CE405	Environmental Engineering I	3-0-0	3	C
CE407	Transportation Engineering II	3-0-0	3	D
CE409	Quantity Surveying and Valuation	3-0-0	3	E
	Elective 3	3-0-0	3	F
CE451	Seminar and Project Preliminary	0-1-4	2	S
CE431	Environmental Engineering Lab	0-0-3	1	T

Total Credits = 22

Hours: 27

Cumulative Credits= 162

**ELECTIVE 3**

1. CE461 Water Hydrodynamics and Coastal Engineering
2. CE463 Bridge Engineering
3. CE465 Geo-Environmental Engineering
4. CE467 Highway Pavement Design
5. CE469 Environmental Impact Assessment
6. CE471 Advanced Structural Design
7. CE473 Advanced Computational Techniques and Optimization

**SEMESTER VIII:**

Course Code	Course Name	L-T-P	Credits	Exam Slot
CE402	Environmental Engineering II	3-0-0	3	A
CE404	Civil Engineering Project Management	3-0-0	3	B
	Elective 4	3-0-0	3	C
	Elective 5(Non Departmental)	3-0-0	3	D
CE492	Project		6	

Total Credits = 18

Hours: 30

Cumulative Credits= 180

**ELECTIVE 4**

1. CE462 Town and Country Planning
2. CE464 Reinforced Soil Structures and Geosynthetics
3. CE466 Finite Element Methods
4. CE468 Structural Dynamics and Earthquake Resistant Design
5. CE472 Transportation Planning
6. CE474 Municipal Solid Waste Management

## 8 ACADEMIC CALENDER

### APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY Academic Calendar July 2017-July 2018

Day	July 2017	August 2017	September 2017
Mon			
Tue		1	Commencement of S1,S3&S5 Classes, Registration Starts
Wed		2	
Thu		3	
Fri		4	1 Onam Vacation Begins Bakrid
Sat	1	5	2
Sun	2	6	3 1 <sup>st</sup> Onam
Mon	3	7	4 Course Committee/Class Committee Meeting Thiruvonam
Tue	4	8	5 3 <sup>rd</sup> Onam
Wed	5	9	6 SreeNarayana Guru Jayanthi
Thu	6	10	7
Fri	7	11	8
Sat	8	12	9
Sun	9	13	10
Mon	10	14	11 Re-Opening
Tue	11	15	12 Independence Day Sreekrishna Jayanthi
Wed	12	16	13 Registration Ends Publish Attendance
Thu	13	17	14
Fri	14	18	15
Sat	15	19	16 Test 1 to be Completed
Sun	16	20	17
Mon	17	21	18 Commencement of Orientation programme for new entrant.
Tue	18	22	19
Wed	19	23	20
Thu	20	24	21 SreeNarayana Guru
Fri	21	25	22 Publish Test 1 Marks
Sat	22	26	23
Sun	23	27	24 KarkadakaVaavu
Mon	24	28	25 Birthday of Ayyankali
MTu	25	29	26 AICTE Orientation Programme
Wed	26	30	27 KTU Orientation Programme
Thu	27	31	28 Sankethapravesam2017
Fri	28		29 KTU Orientation Programme Mahanavami
Sat	29		30 Vijayadasami , Muharram
Sun	30		
Mon	31		

Day	October 2017		November 2017		December 2017	
Mon						
Tue						
Wed			1			
Thu			2			
Fri			3		1	
Sat			4		2	
Sun	1		5		3	Milad-i-Sherif
Mon	2	Gandhi Jayanthi	6		4	Commencement of S1/S3/S5 Exams Exam S1/S5 Slot A
Tue	3		7		5	Exam S3 Slot F
Wed	4		8		6	Exam S1/S5 Slot B
Thu	5		9		7	Exam S3 Slot A
Fri	6	Publish Attendance	10		8	Exam S1/S5 Slot C
Sat	7		11		9	
Sun	8		12		10	
Mon	9		13		11	Exam S3 Slot B
Tue	10		14		12	Exam S1/S5 Slot D
Wed	11		15		13	Exam S3 Slot C
Thu	12		16		14	Exam S1/S5 Slot E
Fri	13		17		15	Exam S3 Slot D
Sat	14		18	Zonal level Sports meet To be completed	16	
Sun	15		19		17	
Mon	16		20		18	Exam S1/S5 Slot F
Tue	17		21	Course Committee/Class Committee Meeting	19	Exam S3 Slot E
Wed	18	Deepavali	22		20	
Thu	19		23	Last date for evaluation of Jury/Practicals	21	University Sports Meet
Fri	20	Test 2 to be Completed	24	Classes End, Publish Internal Marks, Publish Attendance	22	
Sat	21	College level Sports meet To be completed	25		23	Christmas Vacation Begins
Sun	22		26		24	
Mon	23		27	Forward Attendance & Internal Marks to KTU	25	Christmas
Tue	24		28		26	
Wed	25		29		27	
Thu	26		30		28	
Fri	27				29	
Sat	28				30	
Sun	29				31	
Mon	30	Publish Test 2 Marks				
Tue	31					

Day	January 2018	February 2018	March 2018
Mon	1 Registration Starts Commencement of Even Semester Classes		
Tue	2 Mannam Jayanthi		
Wed	3		
Thu	4	1	1
Fri	5	2	2
Sat	6	3	3
Sun	7	4	4
Mon	8 Course Committee/Class Committee Meeting	5	5
Tue	9	6	6
Wed	10	7	7
Thu	11	8	8
Fri	12 Registration Ends	9	9
Sat	13	10	10
Sun	14	11	11
Mon	15	12	12
Tue	16	13	13
Wed	17	14	14
Thu	18	15	15
Fri	19	16	16
Sat	20	17	17
Sun	21	18	18
Mon	22	19	19
Tue	23	20	20
Wed	24	21	21
Thu	25	22	22
Fri	26 Republic Day	23	23
Sat	27	24	24
Sun	28	25	25
Mon	29	26	26
Tue	30	27	27
Wed	31	28	28
Thu			29
Fri			30
Sat			31
Sun			
Mon			
Tue			



Day	April 2018	May 2018	June 2018	July 2018
Mon				
Tue		1 <b>May Day</b>		
Wed		2 Exam S2 / S6 Slot D		
Thu		3 Exam S4 Slot C		
Fri		4 Exam S2 Slot E1/S6 Slot E	1 Commencement of Supplementary Exams Exam S1 Slot A	
Sat		5	2	
Sun	1 <b>Easter</b>	6	3	1
Mon	2	7 Exam S4 Slot D	4 Exam S3 Slot A	2 Exam S6 Slot A
Tue	3	8 Exam S2 Slot E2/S6 Slot F	5 Exam S1 Slot D	3 Exam S6 Slot B
Wed	4	9 Exam S4 Slot E	6 M.Tech/M.Arch/M.Planning Viva begins Exam S3 Slot B	4 Exam S6 Slot C
Thu	5	10 Exam S2 Slot E3 - Commencement of Summer Courses	7 Exam S1 Slot E	5 Exam S6 Slot D
Fri	6 Course Committee/Class Committee Meeting	11 Exam S2 Slot F1- Last date for submission of project report in the college (M.Tech/M.Arch/M.Planning)	8 Exam S3 Slot C <i>B.Tech/S4 result declaration</i>	6 Exam S6 Slot E
Sat	7 College level Arts fest To be completed	12	9	7
Sun	8	13	10	8
Mon	9 Publish Internal Marks, Summer Course Registration	14 Exam S2 Slot F2	11 Exam S3 Slot D	9 Exam S6 Slot F
Tue	10	15	12 Exam S3 Slot E	10
Wed	11 Last date for evaluation of Jury/Practical's Classes End.	16 University Arts Fest	13	11 Exam S2 Slot A
Thu	12 Publish Attendance	17	14 <i>B.Tech/S6 result declaration</i>	12 Exam S1/S2 Slot B1
Fri	13 Forward Attendance & Internal Marks to KTU	18	15 <b>Id-ul-Fitr</b>	13 Exam S1/S2 Slot B2
Sat	14 <b>Vishu</b>	19	16	14
Sun	15	20	17	15
Mon	16	21 Exam S5 Slot A (Suppl'y)	18	16 Exam S1/S2 Slot C1
Tue	17	22 Exam S5 Slot B (Suppl'y)	19	17 Exam S1/S2 Slot C2
Wed	18	23 Exam S5 Slot C (Suppl'y)	20 M.Tech/M.Arch/M.Planning Viva ends	18 Exam S2 Slot D
Thu	19	24 Exam S5 Slot D (Suppl'y)	21 Exam S3/S4 Slot F1	19 Exam S1/S2 Slot E1
Fri	20	25 Exam S5 Slot E (Suppl'y)	22 <i>B.Tech/S2 Result Declaration</i> Exam S3/S4 Slot F2	20 Exam S1/S2 Slot E2
Sat	21	26	23	21
Sun	22	27	24	22
Mon	23 Commencement of S2/S4/S6 Exams Exam S2 / S6 Slot A	28 Exam S5 Slot F (Suppl'y)	25 Exam S4 Slot A	23 Exam S2 Slot E3
Tue	24 Exam S4 Slot F	29 Last date for M.Tech/M.Arch/M.Planning Project report to the university by the principal	26 Exam S4 Slot B	24 Exam S1/S2 Slot F1
Wed	25 Exam S2 / S6 Slot B	30 Report Eligibility of Students after Summer Course	27 Exam S4 Slot C	25 Exam S1/S2 Slot F2
Thu	26 Exam S4 slot A Last date for M.Tech/M.Arch/M.Planning Project evaluation in the department committee	31	28 Exam S4 Slot D	26
Fri	27 Exam S2/ S6 Slot C		29 Publication of M.Tech/M.Arch/M.Planning Results Exam S4 Slot E	27
Sat	28		30	28
Sun	29		31	29
Mon	30 Exam S4 Slot B			30
Tue				31
Wed				

## 9 STAFF DIRECTORY

### Principal

Dr. Rajasree M.S

Phone : 0471 2300484 (Office)

0471 2300485 (Office)

e-mail : principal@gecbh.ac.in

### 9.1 Department of Electrical and Electronics Engineering

#### 9.1.1 Teaching

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Professor</b>			
Dr. Dinesh Pai A ( <b>Head</b> )	Ph.D	9446101858	adpai@yahoo.com
<b>Associate Professors</b>			
Prof.K L Sreekumar	M.Tech	9446070050(M)	sreekumarkl@yahoo.com
Dr. W.C Arun Kishore	Ph.D	9496254061(M)	wcakishore@gmail.com
<b>Assistant Professors</b>			
Prof.Sreeja S	M.Tech	9447906670(M)	sreejamtech@yahoo.com
Ansarudeen. H	M.Tech	9961021662(M)	ansarplr@gmail.com
Biji G	M.Tech	9496119870 (M)	biji2engg@gmail.com
Remyamol. N	M.Tech	9605489518 (M)	remyanikariyil@gmail.com
Monish. M	M.Tech	9447736688 (M)	monishkply@gmail.com
Rajikrishna	M.Tech	9497421627 (M)	rvrajijayaraj@yahoo.com
Frieda Mohan	M.Tech	8547660914	frieda_mohan@yahoo.co.in

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Assistant Professors</b>			
Shaini S. P	M.Tech	9961816100(M)	Shaini1016@gmail.com

### 9.1.2 Technical

NAME	PHONE	E-MAIL
<b>Trade Instructor</b>		
Biju Raj R. S	9495303236 (M)	bijupulimath@gmail.com
<b>Tradesman</b>		
Shabi. B.S	8547088759 (M)	shabibsaslam@gmail.com

## 9.2 Department of Electronics and Communication Engineering

### 9.2.1 Teaching

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Professor and Head</b>			
Dr. Vijayakumar. N.	Ph.D	9446700859 (M)	dr.nvkr@gmail.com
Dr.Suresh Babu(Head)	Ph.D	9495502300 (M)	vsbsreeragam@gmail.com
<b>Associate Professors</b>			
Christy James Jose	M.Tech	9447424040 (M)	jjchristy@gmail.com

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Assistant Professors</b>			
Alex Raj S M	M.Tech	9497878895 (M)	alexrajasm@gmail.com
Biju K S	M.Tech	9446311606 (M)	bijukarunnya@gmail.com
Nadheera K M	M.Tech	9447156686 (M)	nadheera2007@yahoo.com
Ambily. N	M.Tech	9447897939 (M)	nambily1972@gmail.com
Anu Mohammed	M.Tech	9048344991 (M)	amdec07@gmail.com
Nelsa Abraham	M.Tech	9495975074 (M)	nelaarun@yahoo.com
Beena.S	M.Tech	9446177658 (M)	beenasomanath@gmail.com
<b>1st Grade Instructor</b>			
Jyothy T S	B.Tech	9447769911 (M)	tsjyothy@gmail.com

### 9.2.2 Technical

NAME	PHONE	E-MAIL
<b>Trade Instructors</b>		
Jinu. V Nair	9497003008 (M)	anadjinu@gmail.com
Anil Kumar. D	9446075515 (M)	authram@gmail.com
Gopakumar. P	9447714050 (M)	gopakumarpillai.p@gmail.com
Jayasree R	9496748363 (M)	jayasreecet@gmail.com

NAME	PHONE	E-MAIL
<b>Tradesmen</b>		
Nirmal S R	9961540939 (M)	nirmal20579@gmail.com

### 9.3 Department of Information Technology

#### 9.3.1 Teaching

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Associate Professors</b>			
Sathee Bhai. P. R	M.Tech	9495391592 (M)	sathi_siva@yahoo.com
Balu John(Head)	M.E	9895259420 (M)	balujohn@gmail.com
<b>Assistant Professors</b>			
Shamna H R	M.Tech	8156973459 (M)	shamnahr@gmail.com
Vijayanand K.S	M.Tech	9447868592 (M)	ksvijayanand@gmail.com
Josna. V.R	M.Tech	9495166066 (M)	josna.chandu@gmail.com
Divya Prasad K H	M.Tech	7012293277(M)	divyaprasadkh@gmail.com
Simi Krishna. K.R	M.Tech	9447140283 (M)	simikrishnkr@gmail.com
Jayasree. P	M.Tech	9048067190 (M)	jayasreesaji@gmail.com
Shijin Knox G. U	M.Tech	9961395039 (M)	shijinknox@gmail.com
Anju J.S	M.Tech	9496760020 (M)	anjujs@gmail.com
Dhanya C.K	M.Tech	9446897555 (M)	ck.dhanya@gmail.com
Sreedivya R.S	M.Tech	8547013554 (M)	rssreedivya@gmail.com

**9.3.2 Technical**

NAME	PHONE	E-MAIL
<b>System Analyst</b>		
Jeejo. M Thankappan	9847357385 (M)	jeejomthankappan@gmail.com
<b>Computer Programmers</b>		
Bavakutty. T	9447265499 (M)	bavakutty@gmail.com
Gijimole. M	9496330560 (M)	jijibshaji@gmail.com
<b>Trade Instructors</b>		
Suresh B	8547888294 (M)	sureshgec2013@gmail.com
Jean V.B	9496277037 (M)	vbjean@gmail.com
<b>Tradesmen</b>		
Mayadevi. S	9995055879 (M)	mayasaif@gmail.com
Biju G	9446105406 (M)	biju.govind82@gmail.com

## 9.4 Department of Mechanical Engineering

### 9.4.1 Teaching

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Professor</b>			
Dr.S Anil Lal (Head)	Ph.D	9447007935 (M)	anillal65_ @gmail.com
<b>Associate Professors</b>			
Dr. Suneesh. S. S	Ph.D	9495902548 (M)	sssuneesh @gmail.com
Remesh. S	M.Tech	9895342277 (M)	remeshnair2000 @gmail.com
Dr.Rajesh. N.R	Ph.D	2338181 (R) 9497849848 (M)	rajeshnrtvm @gmail.com
Dr.Rakesh P	Ph.D	8138031001 (M)	rakp73 @gmail.com
Satheesh Kumar. S	M.Tech	2449481 (R) 9496064680 (M)	satheeshgecb @gmail.com
<b>Assistant Professors</b>			
Anitha. S Nair	M.Tech	949318045 (M)	anithasnair94 @rediffmail.com
Gopakumar. S	M.Tech	9496253060 (M)	gopan_yes @yahoo.co.in
Santhosh Kumar. S. V	M.Tech	9446530385 (M)	svsunthoshkmr @gmail.com
Ganesh. J	M.Tech	9446421570 (M)	ganeshmd5 @yahoo.co.in
Dr. Anish K John	Ph.D	9446100541 (M)	anishkjohn @gmail.com
Jyothish Abraham	M.Tech	8281942432(M)	jyothishaj @gmail.com

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Adjunct Faculty</b>			
Dr.Ramesh Kumar	Ph.D	9446551792,(M)	rameshkumar9446@gmail.com
<b>Assistant Processors (Adhoc)</b>			
Rajesh S. L.	M.Tech	7012469585(M)	rajeshsl598@gmail.com
Gautham Chand M	M.Tech	9497539880(M)	gauthamchandm@gmail.com
Rajeev V.R	M.Tech	9645217877(M)	rajeevraju707@yahoo.co.in

#### 9.4.2 Technical

NAME	PHONE	E-MAIL
<b>Trade Instructors</b>		
S. Venugopal	9048664393 (M)	
D. Sudheer Kumar	9496254080 (M)	
Kaneesh.K	9567275824 (M)	kaneeshkpsla@gmail.com
N. K Anil Kumar	9495901855 (M)	
V.S. Sunil Krishnan	9037355717 (M)	vssunilkrishnan@gmail.com
Babu R	9446182660 (M)	
M. Fasaludheen	9497781577 (M)	salmafasaludeen@gmail.com
Nishad S	9567322443 (M)	nishadvipanchika@gmail.com



NAME	PHONE	E-MAIL
<b>Tradesmen</b>		
T. K Saji Kumar	9387837928 (M)	
S Aneesh	9895498059 (M)	aneeshkattakada@gmail.com
P S Shaiju	9961449871 (M)	ps.shaiju@gmail.com
V S Vijin	8281248815 (M)	vijinvs4@gmail.com
S Shameer	9446294995 (M)	kssminnath@gmail.com
Lalu D S	9446144266 (M)	laluds1001@gmail.com
Sajeev V	9847904355 (M)	sajeevkunnil76@gmail.com

## 9.5 Department of Civil Engineering

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Professors</b>			
Dr. Jaya. V ( <b>Head</b> )	Ph.D	8547111246 (M)	jayagecbh@gmail.com
<b>Associate Professors</b>			
Dr. Suja R	Ph.D	9495058367 (M)	sujasreekumar2014@gmail.com
<b>Assistant Professors</b>			
Dr. R. Wilbert	Ph.D	9495043483 (M)	
Dr. Jiji Anna Varughese	Ph.D	9446018863 (M)	Jijianna.cet@gmail.com
Dr. Raji M	Ph.D	8281617934 (M)	rajisubash009@gmail.com
Kiran C.J,	M. Tech	9539063463 (M)	kiranchingu@gmail.com
Divya Chandran	M. Tech	9562062594 (M)	Divyac86@gmail.com
Sunil C Behanan	M. Tech	9446536171 (M)	sunilbehanan@gmail.com
Thushara	M. Tech	9744087807 (M)	thusharatkm@gmail.com

### 9.5.1 Technical

NAME	PHONE	E-MAIL
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#### Trade Instructors

Sheela      9497688831 (M)      Sheela\_s\_06@yahoo.com

#### Tradesmen

Sreejith      9947147218 (M)      Sreejith.artic@gmail.com

## 9.6 Department of Mathematics

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Assistant Professors</b>			
Anitha Kumari S S(Head).	M. Phil	9495301118 (M)	anithakumariss1234@gmail.com
Sheeba G.	M. Phil	9847541300 (M)	sheebaben97@gmail.com
Dr.Rahumathulla K.	Ph. D	9447104551 (M)	rrh4rrh@gmail.com
Deepa Devi. V	M. Phil	9446100974 (M)	vdeepadevi@gmail.com
Dr.Indu. R.S	Ph. D	9895120338 (M)	induarun2504@yahoo.com

## 9.7 Department of Physics

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Assistant Professor</b>			
Dr.Neena Sugathan	PhD	9497880192 (M)	sugathanneena@gmail.com

## 9.8 Department of Chemistry

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Assistant Professor</b>			
Dr.Ajith Dain Thomas	Ph.D	9446193345 (M)	ajithdainthomas@yahoo.com

## 9.9 Department of Physical Education

NAME	QUALIFICATION	PHONE	E-MAIL
<b>Assistant Professor</b>			
Dr.Anilkumar N	Ph.D	9387772287 (M)	anilkumarcoach@gmail.com

**9.10 Administrative Staff**

NAME	DESIGNATION	PHONE	E-MAIL
Dr. Rajasree M S	Principal	04712300484	rajasree40@gmail.com
Sri. Joseph Jolly.A	AO	8547902606 (M)	josephjollya@gmail.com
Sri. Shajahan. M.	Sr. Supdt.	9446966944 (M)	shajahan371963@gmail.com
Smt. Krishna raj R.K.	Chief Accountant	9847804470 (M)	krishnarajinduraj@gmail.com
Mr.Sathianayagam.S.	TSK	9633622461 (M)	sathianayagam@gmail.com
Madhusoodanan.S.R	Sergeant	9495902778 (M)	madhugecbh@gmail.com
Mr. Arun Kumar. R	Sr. Clerk	9037865581 (M)	aviramomarun@gmail.com
Mr.Binu T.V	Sr.Clerk	9400217484 (M)	binutv7@gmail.com
Mr.Manu Mohan	Clerk	9809678776 (M)	manumanappally@gmail.com
Mrs.Divya.S.P.	Clerk	9048690239 (M)	Spdivya123@gmail.com
Mr. Kapil Sreedhar	Clerk	9526430936 (M)	kapstvm@gmail.com
Mrs.Sreedevi V	Clerk	8547122456 (M)	sreedevi63397@gmail.com
Mrs.Remya.R	Clerk	9605809050 (M)	remyaachoo84@gmail.com
Mr.Anas.S	Clerk	9633633094 (M)	Anas.achus@gmail.com
Mr.Shaji Shangar.CS	Clerk	9020342113 (M)	tonrump@gmail.com
Mr.Nishad TA	Sr.Typist	9446397868 (M)	Nishad.t.a@gmail.com
Mr.Murugan.C.	LDTypist	9995779345 (M)	cmuruganskm@gmail.com

NAME	DESIGNATION	PHONE	E-MAIL
Mr.Daniel M.	O A	8589898904 (M)	
Mr.Akhil Krishnan.K.S	O A		
Mr.Rajesh Kumar.G.	O A	9447427607 (M)	
Mr.Rajeev V.R.	O A	9744767372 (M)	
Mr.Pradeep A.S.	O A	9895042827 (M)	
Mr.Sreejith B.S.	O A	8593038549 (M)	sreebs1982@gmail.com
Mr.Sudheera Chandran Nair.N.V.	O A	9349874146 (M)	
Mr.Girichandran.K	Driver(Senior Grade)	9995476703 (M)	
Mr.Jayachandran.S.	Driver	9495226218 (M)	
Mr.Shajahan.S.	Driver	9446218625 (M)	
Mr.Vinod Kumar.P.S.	Bus Cleaner	9645060945 (M)	
Mr.Rejeesh.V.	Watchman	9809935213 (M)	
Mr.Santhosh P.	Watchman	9633186618 (M)	
Mr.Arun Chandran	Watchman	9605513503 (M)	
Mr.Rahul Raj.B	Watchman	8893139303 (M)	
Mr.Bijoy EB	Gardener	9995689959 (M)	
Mr.Suresh.K.	FTS	9656847668 (M)	
Mr.Krishna Kumar S.	FTS	7025155098 (M)	
Mr.Anil Kumar R.	FTS	8086506170 (M)	
Mrs.Lilly Kutty	PTS	9995689959 (M)	
Mr.Muhammed Hussain	PTS	8891946592 (M)	
Mr.Muraleedharan.VS	PTS		
Mrs.Sanooja.E	PTS	9656010857 (M)	

**9.11 Library Staff**

NAME	DESIGNATION	PHONE	E-MAIL
Latha.N.	Scientific Information Officer	9388705514 (M)	Lathaanil72 @gmail.com
Sajith	Librarian.Gr.II	9495896732 (M)	Sajithmlib @gmail.com
Sakhi Lekha	Librarian Gr.IV	9495430250 (M)	lekhasakhi @gmail.com
Mahesh Kumar M	NTA	9496252084 (M)	maheshmanikkompillai @gmail.com
Robinson B	NTA	9895033921 (M)	robinsonpirayil @gmail.com
Joy.P.T.	NTA	8089291915 (M)	joypthptc @gmail.com
Sherly T.K.	NTA	8281179113 (M)	
Anil Kumar S.	NTA		

## 10 ENGINEERING COLLEGES IN KERALA

### 10.1 Under the Directorate of Technical Education (DTE)

#### 10.1.1 Government

NAME	PHONE
Government Engineering College Painavu, Idukki	0486 2233250
Government Engineering College Kozhikode	0495 2383220
Government College of Engineering Kannur	0497 2780226
Rajiv Gandhi Institute of Technology Pampady, Kottayam	0481 2506153
Government Engineering College Sreekrishnapuram, Palakkad	0466 2260350
Government Engineering College Thrissur	0487 2334144
Government Engineering College Barton Hill, Thiruvananthapuram	0471 2300485
College of Engineering Thiruvananthapuram	0471 2598370
Government Engineering College Mananthavady, Wayanad	04935 271261

#### 10.1.2 Aided

NAME	PHONE
Mar Athanasius College of Engineering, Kothamangalam	0485 2822363
NSS College of Engineering Akathethara, Palakkad	0491 2555255
TKM College of Engineering, Kollam	0474 2712022

**10.2 Under The Kerala Agricultural University (KAU)**

NAME	PHONE
College of Dairy Science and Technology Mannuthy, Trissur	0487 2372861
Kelappaji College of Agril.Engineering and Technology Tavanur, Malappuram	0494 2686214

**10.3 Self-Financing Colleges  
Under The Institute of Human Resource Development (IHRD)**

NAME	PHONE
College of Engineering Adoor Pathanamthitta	04734 231995
College of Engineering Attingal	04702627400
College Of Engineering Kottarakara, Kollam	0474 2453300
College of Engineering Cherthala Alappuzha	0478 2553416
College of Engineering Chengannur, Alappuzha	0479 2451424
College of Engineering Karunagapally, Kollam	0476 2665935
Model Engineering College Trikkakara, Ernakulam	0484 2577379
College of Engineering Poonjar, Kottayam	0482 2271737
College of Engineering Kallooppara, Pathanamtitta	0469 2678983



**10.4 Self-Financing Colleges**  
**Under The Lal Bahadur Sastri Centre For Science and Technology**  
**(LBS)**

NAME	PHONE
LBS College Of Engineering Muliyar Kasargod	04994 250290
LBS Institute of Technology For Women Poojappura, Thiruvananthapuram	0471 2349232

**10.5 Self-Financing Colleges**  
**Under The Co-operative Academy of Professional Education (CAPE)**

NAME	PHONE
College of Engineering Kidangoor, Kottayam	04822 255056
College of Engineering Perumon, Kollam	0474 2550400
College of Engineering and Management Punnappa, Alappuzha	0477 2267311
College of Engineering Trikarapur, Kasargod	04672250750
College of Engineering Thalassery, Kannur	0490-2388930
Co-operative Institute of Technology Vadakara, Kozhikode	0496 2536125
College of Engineering Pathanapuram, Kollam	0475 2022810
College of Engineering Aranmula, Pathanamthitta	0468 2319131

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NAME	PHONE
College of Engineering Muttathara, Thiruvananthapuram	0471 2500211

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**10.6 Self-Financing Colleges**  
**Under Department of Transport, Govt. of Kerala**

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NAME	PHONE
Sree Chitra Thirunna College of Engineering Pappanamcode, Thiruvananthapuram	0471 2449470572

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## 11 IMPORTANT TELEPHONE NUMBERS

### Director of Technical Education

Reception	0471 2561200
	0471 2451741
Director	0471 2451369
	0471 2561222
CA to Director	0471 2561307
Senior Joint Director ECS	0471 2451747
Director SPFU	0471 2463822
Finance Officer	0471 2561401
Administrative Officer	0471 2561201

### Collegiate Education

Director	0471 2303548
Reception	0471 2303107

### University of Kerala

Vice Chancellor	0471 2306634
Registrar	0471 2305631
Controller of Examinations	0471 2305946
Enquiry	0471 2305994

### APJ Abdul Kalam Technological University

Vice Chancellor	0471 2598222
Registrar	0471 2598722
Controller of Examinations	0471 2598822
Enquiry	0471 2593120

### Government Polytechnics

Central Polytechnic, Vattiyoor kavu	0471 2360391
Women's Polytechnic, Karamana	0471 2491682
Government Polytechnic, Attingal	0470 2622643
Government Polytechnic, Neyyatinkara	0471 2222935
Government Polytechnic, Nedumangad	0472 2802686

## Telephone Numbers (continued)

### General Information

Ministor for Education, Kerala	0471 2327561
	0471 2321228
Principal Secretary Higher Education.	0471 2328410
Enquiry	0471 2336576
Finance Secretary	0471 2518521
MLA	
Sri Binu I P, Counsellor	9645822288
Entrance Commissioner	0471 2338487
JCTE, Kaimanam	0471 2492032
Friends	0471 2338652
KSEB (Enquiry)	0471 155333
Vanchiyoor Post Office	0471 2474534
Assistant Executive Engineer (PWD)	0471 2303412
	9847102278
Water Supply Enquiry	0471 2328654
Information Center	0471 2518471
GPO	0471 2473071
BSNL Fault Repair	0471 2302198
Finger Tips	0471 2722722

### Hospitals

Medical College	0471 2444270
General Hospital	0471 2443870
Cosmopolitan Hospital	0471 2521252
KIMS Hospital	0471 2447575
PRS Hospital	0471 2344443
SUT Hospital	0471 4077777
SP Fort Hospital	0471 2450540
Anadiyil Hospital	0471 2304086

### Police

Control Room	100
	0471 2331843

**Telephone Numbers** (continued)

Help Line 9622100100

**Railways**

Enquiry	1361
Trivandrum Central	0471 2323066
Reservation Center, Pattom	0471 2542130

## 12 BUS ROUTE

### BUS NO.1

#### MORNING

#### EVENING

BOARDING POINT	TIME	BOARDING POINT	TIME
CET	7.45 AM	College	4:10 PM
Chavadimukku	7.50 AM	PMG	4:15 PM
Sreekaryam	7.55 AM	Pettah	4:20 PM
Elamkulam	8.05 AM	Kannammoola	4:25 PM
Pongummoodu	8.10 AM	Medical College	4:30 PM
Ullor	8.15 AM	Ullor	4:35 PM
Medical College	8.20 AM	Pongummoodu	4:40 PM
Kannammoola	8.25 AM	Elamkulam	4:45 PM
Pettah	8.30 AM	Sreekaryam	4:50 PM
PMG	8.35 AM	Chavadimukku	4:55 PM
College	8.40 AM	CET	5:00 PM

### BUS FARE FOR ONE SEMESTER

BOARDING POINT	SIS2	S3/S5/S7 ( For one sem)	College Staff (Monthly )
College - Ullor	Rs. 1050	Rs.750	Rs.250/-
Beyond Ullor	Rs.1350	Rs.900	Rs.250/-

Bus Ticket Rs.10/-

**BUS NO.2****MORNING****EVENING**

<b>BOARDING POINT</b>	<b>TIME</b>	<b>BOARDING POINT</b>	<b>TIME</b>
College (Departure)	7:45 AM	College (Departure)	4:10 PM
Pattom	7:53 AM	PMG	4:13 PM
Kesavadasapuram	7:55 AM	Marappalam	4:18 PM
Paruthippara	7:57 AM	Kuravankonam	4:20 PM
Nalanchira	8:01 AM	Kowdiar	4:22 PM
Kottamukal	8:04 AM	Kottamukal	8:04 PM
Mannanthala	8:07 AM	Vazhayila	4:32 PM
Mukkola	8:10 AM	Peroorkada	4:36 PM
Kudappanakkunnu	8:15 AM	Kudappanakkunnu	4:40 PM
Peroorkada	8:19 AM	Mukkola	4:45 PM
Vazhayila	8:23 AM	Mannanthala	4:48 PM
Ambalamukku	8:30 AM	Kottamukal	4:51 PM
Kowdiar	8:33 AM	Nalanchira	4:54 PM
Kuravankonam	8:35 AM	Paruthippara	4:58 PM
Marappalam	8:37 AM	Kesavadasapuram	5:00 PM
PMG	8:42 AM	Pattom	5:02 PM
College(Arrival)	8:45 AM	College(Arrival)	5:05PM

**BUS FARE FOR ONE SEMESTER**

<b>BOARDING POINT</b>	<b>SIS2</b>	<b>S3/S5/S7 ( For one sem)</b>	<b>College Staff (Monthly )</b>
College - Peroorkada	Rs. Rs. 1200	Rs.1000	Rs.300/-
Beyond Peroorkada	Rs.1500	Rs.1150	Rs.300/-

Bus Ticket Rs.10/-

**BUS NO.3****MORNING****EVENING**

<b>BOARDING POINT</b>	<b>TIME</b>	<b>BOARDING POINT</b>	<b>TIME</b>
College (Departure)	7.25 AM	College (Departure)	4.10 PM
Vellayambalam	7.35 AM	PMG	4.15 PM
Sasthamangalam	7.40 AM	Panavila	4.20 PM
Maruthankuzhy	7.43 AM	Model School	4.25 PM
Vattiyoorkkavu	7.50 AM	Thampanoor	4.35 PM
P.T.P	7.55 AM	East Fort	4.40 PM
Pallimukku(pangodu)	8.00 AM	Manacaud	4.45 PM
Poojappura	8.05 AM	Attakkulangara	4.50 PM
Kunjalummoodu	8.08 AM	Killippalam	4.55 PM
Karamana	8.10 AM	Karamana	5.00
Killippalam	8.12 AM	Kunjalummoodu	5.05
Attakkulangara	8.17 AM	Poojappura	5.10
Manacaud	8.20 AM	Pallimukku(pangodu)	5.15
East Fort	8.25 AM	P.T.P	5.20
Thampanoor	8.32 AM	Vattiyoorkkavu	5.25
Model School	8.35 AM	Maruthankuzhy	5.30
Panavila	8.40 AM	Sasthamangalam	5.35
PMG	8.45 AM	Vellayambalam	5.40
College (arrival)	8.50 AM	College (arrival)	5.45 PM



**BUS FARE FOR ONE SEMESTER**

<b>BOARDING POINT</b>	<b>SIS2</b>	<b>S3/S5/S7 ( For one sem)</b>	<b>College Staff (Monthly )</b>
College - East Fort	Rs. 1200	Rs.1000	Rs.300/-
Beyond East Fort	Rs.1500	Rs.1150	Rs.300/-

Bus Ticket Rs.10/-

**13 NEAR BY HOSTELS****MEN'S HOSTEL****HOSTEL**

Model Hostel for Boys,Vellayambalam  
LMS WILLS Hostel Palayam  
YMCA Men's Hostel,Statue

**PH NO**

9496330072  
04712316778  
04712330059

**WOMEN'S HOSTEL****HOSTEL**

Ladies Hostel, GECBH  
LMS girls Hostel  
YWCA Women's Hostel Spencer junction

**PH NO**

9447303825  
04712311878  
04712463690  
8547263690(M)

## 14 GECBH HIGHLIGHTS

- \* The Government Engineering College, Barton Hill, Thiruvananthapuram, was founded by the Government of Kerala in August 1999 on the land donated by His Highness Sri.Chithira Thirunal Balrama Varma, the last ruling Maharaja of the Princely State of Travancore.
- \* The only college in Kerala that gave an IAS first rank holder.
- \* The only campus in Kerala that hosts Mercedes Benz for campus placement.
- \* One among the premier institutions at the national level which has been selected for the implementation of the world bank aided Technical Education Quality Improvement program (TEQIP) by the MHRD, Government of India in its second phase.
- \* Most preferred college in Kerala by Top rank holders of Entrance examinations conducted by Government of Kerala.
- \* Excellent academic performance bagging many university ranks.
- \* The pass percent of this college is far ahead compared to similar institutions in the state.
- \* One of the highest percentage of faculty members, who are IIT alumni.
- \* Many research publications of staff and M.Tech students have been published in National and International Journals/ Conference proceedings.
- \* Every year college hosts a National Conference (NCET) and also conducts Aagneya ,the inter college Techno-cultural festival since 2008.
- \* Excellent campus placement records with number of job offers greater than the number of eligible students.
- \* M.Tech program in collaboration with Montreal and Colombia University.
- \* Many innovative projects by students have been adjudged as best at various levels.