



Dr. T. THINMAIAH INSTITUTE OF TECHNOLOGY
(Estd. 1986) Oorgaum, Kolar Gold Fields, Karnataka – 563 120
(Affiliated to VTU, Belgaum, Approved by AICTE - New Delhi)

INDEX

2.6.1 Teachers and students are aware of the stated Programme and course outcomes of the Programmes offered by the institution.

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21/4/21

PRINCIPAL

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Oorgaum, K.G.F. - 563 120.



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CIRCULAR

Date: 03/08/2020

As per the direction of Principal, All the HOD's are hereby informed to prepare the course outcomes for all the courses and program specific outcomes of the respective program as 2018 scheme in consultation with course instructors and course experts on or before 14/08/2020 and circulate to the concerned students and faculty.


IQAC Head



Principal
PRINCIPAL
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120.


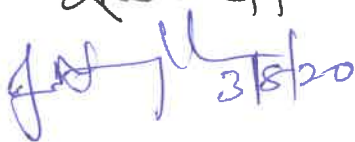
To,

All HOD's for circulation.

M. Maneda
03.08.2020

Dr. Sreedha Kumar S - 84
3/8/20
Kud Arival
03.8.2020


03/8/20


3/8/20

3/8/20



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CIRCULAR

Date: 05/08/2020

Department of Electronics and Communication Engineering

As per the direction of Principal, it is required to prepare course outcomes for all the courses for 2018 scheme syllabus, for the academic year and to prepare the program specific outcomes of ECE department. In view of this, a meeting has been scheduled on 10/08/2020 at 2:00 PM in e-Shikshana and all faculties are hereby informed to attend the meeting without fail.

Handwritten signature
05.08.2020
HOD-ECE

Head of the Department
Dept. of Electronics and Communication Engg.
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F.- 563 120.

To
All the faculty members.

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5/8/2020

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5/8/2020

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5/8/2020



Department of Electronics and Communication Engineering

Date: 11/08/2020

Minutes of Meeting

The department faculty meeting was conducted on 10/08/2020 at 2:00 PM with welcome by HOD to address the faculty about preparation of course outcomes and program specific outcomes.

The following are discussed in the minutes of the meeting:

- HOD briefed about the formation of course outcomes and program specific outcomes.
- Program specific outcome prepared in relation with program outcome as defined by NBA.
- Faculties are clustered as different stream as per their specialization.
- VTU in its new scheme (2018 scheme) has divided the courses as basic, core, profession elective and open elective. The different streams are i) Digital Electronics ii) Digital Communication & Networking iii) VLSI & Embedded Systems.
- Syllabus copy was hand out to all faculty members.
- The individual clusters prepared the course outcomes through the brain storming session.
- The same has been reviewed thoroughly by program assessment committee (PAC) and approved by HOD-ECE.

PAC Members

Vijaya Shree
Senth 11/8/2020

Faculty Members:

Senth
S. Phi
Mohane
Nandini
11/8/2020
11/8/2020
11/8/2020
11/8/2020

11-08-2020
HOD-ECE

Head of the Department
Dept. of Electronics and Communication Engg.
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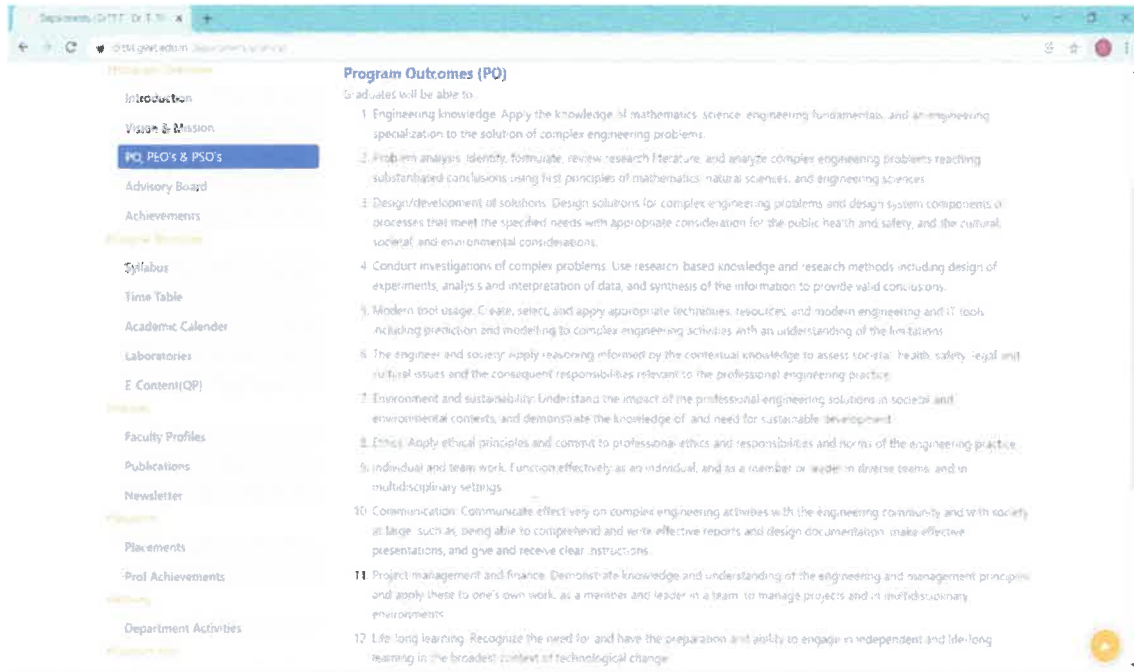


Figure 1: Program outcomes displayed on college website.

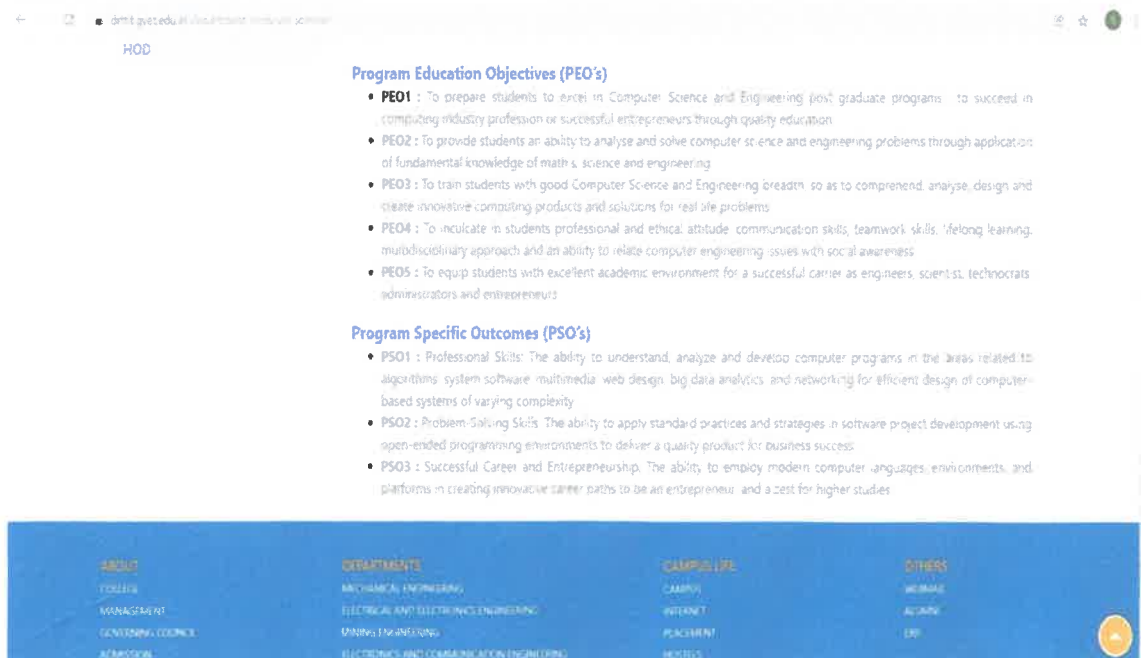


Figure 2: Computer Science Engineering PEOs and PSOs displayed on college website

Signed 21/4/21
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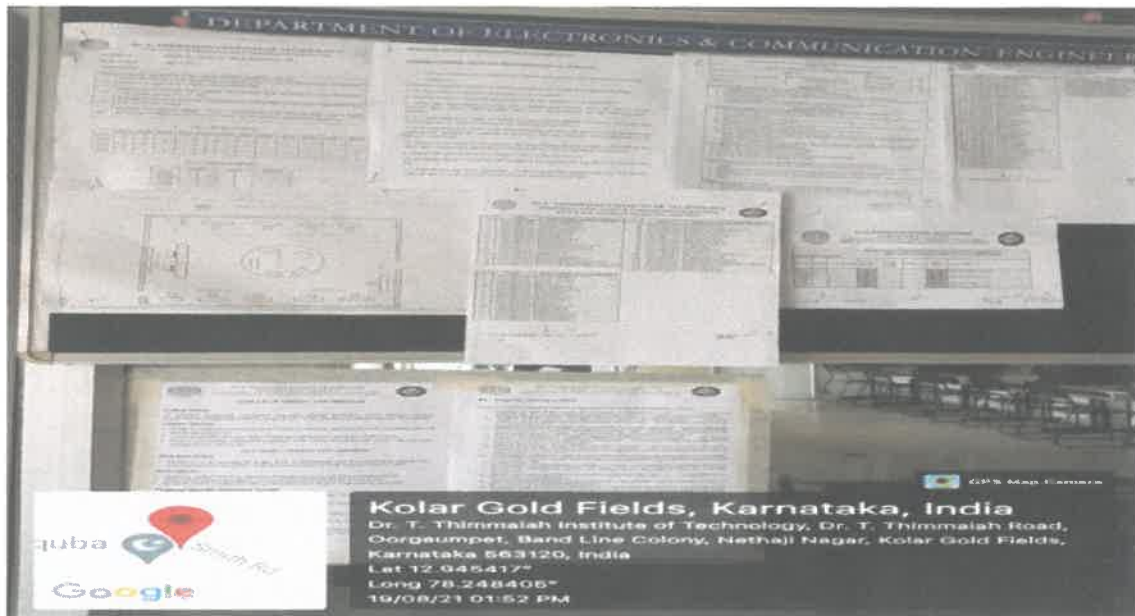


Figure 3: POs displayed on ECE department LAB notice board.



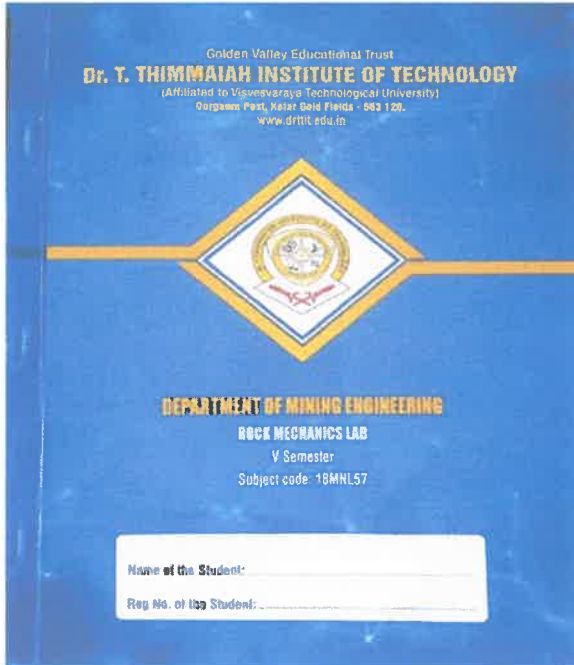
Figure 4: PEOs, PSOs and POs near mechanical HOD office

[Handwritten Signature]
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Course Outcomes		Level
Upon completion of this course, the students will be able to:		
CO1	Plot stereographic projections of rock discontinuities.	1.2
CO2	Demonstrate the preparation of rock specimens for laboratory tests.	1.2
CO3	Determine engineering properties rocks.	1.1
CO4	Determine various rock indices.	1.3

Figure 5: Department of Mining Engineering Course Outcomes disseminated in Lab manuals.

TTIT	Lesson Plan & Execution
Name of the Faculty	<i>Mr Srinivas Babu N</i>
Dept-Sem-Sec:	<i>EC-6-A</i>
Date of Commencement	<i>19 Apr 2021</i>
Last working day of Semester	<i>18 Oct 2021</i>
Source Material List	
1	Charles R. Seeseance, "Python for Everybody: Exploring Data Using Python 3", 1st Edition, Create Space Independent Publishing Platform, 2016
2	Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2nd Edition, Green Tea Press, 2015
1	Mark Lutz, "Programming Python", 4th Edition, O'Reilly Media, 2011, ISBN-13: 978-9350232878
2	Wesley J. Chun, "Core Python Applications Programming", 3rd Edition, Pearson Education India, 2015, ISBN-13: 978-9332555365
3	Reema Thareja, "Python Programming using problem solving approach", Oxford university press, 2017
Course Outcome List	
1	Examine Python syntax and semantics and be fluent in the use of Python flow control and functions
2	Demonstrate proficiency in handling Strings and File Systems
3	Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions
4	Interpret the concepts of Object-Oriented Programming, as used in Python
5	Implement exemplary applications related to Network Programming, Web Services and Databases in Python
Subject Name	PYTHON APPLICATION PROGRAMMING

Figure 6: Course outcomes in ECE Lesson Plan


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F.No:DrTTTH/QAC/2020-21/C3/3A/D1/01

Department of Civil Engineering
B.E VI Semester I Internal Assessment Test

Scheme : 2018 Academic Year: 2020-2021
 Course Name : Applied Geotechnical Engineering Course Code : 18CV62
 Duration : 90 Minutes Max Marks : 50
 Course Instructor : M.Manuela Date : 25.05.2021

Answer any one full Question from each part

Part-A (30 marks)			
Q.No.	Question	Marks	CO RBT
1	a) Discuss the necessity of subsoil exploration. Mention the stages involved in it	10	CO1 L2
	b) What are the methods available for dewatering? Explain any two methods	10	CO1 L1 & L2
2	a) What is stabilization of boreholes? Explain any two methods?	10	CO1 L1 & L2
	b) Explain with neat sketch seismic method of soil Exploration.	10	CO1 L2
Part-B (20 marks)			
3	a) Explain the construction and use of Newmark's chart for determining stress distribution.	10	CO2 L2
	b) Derive the equation for vertical stress below the centre of a circular area with uniform load intensity "q"	10	CO2 L3
4	a) What do you mean by pressure bulb? Illustrate with a sketch?	10	CO2 L1
	b) What are different types of settlements? Explain	10	CO2 L1
Part-C (10 marks)			
5	Define Contact Pressure distribution in soils and its factors affecting it?	10	CO2 L1
6	Distinguish between Boussinesq's and Westergaard's theory of stress distribution.	10	CO2 L3

M. Manuela 25/5/21
 Course Instructor

M. Manuela 25/5/21
 PAC Member (Name & Signature)
 Dr. V. Ramana Rao

Dr. V. Ramana Rao
 HOD

Figure 7: Course outcomes in question paper

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BLUE BOOK Certificate

This is to certify that M. Manuela has satisfactorily completed the course of study and assignments as prescribed by Visvesvaraya Technological University for 1st Semester B.E. at Belgaum Degree in E.C.E. Branch Specialization for the academic year 2020 for the Subject Geotechnical Engineering and Code 18CV62

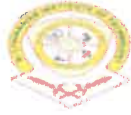
For Departmental Use Only:

Sl. No.	En	Max Marks	Marks obtained				Total	Signature of Faculty	Signature of Student
			1st	2nd	3rd	4th			
1	1	20	15	-	-	15	[Signature]	Manuela P	
2	2	20	15	-	-	15	[Signature]	Manuela P	
3	3	20	15	15	-	30	[Signature]	Manuela P	
Grand Total		60	45	15	0	60	[Signature]	Manuela P	

Course Outcome #	Description of Course Outcome
CO1	Explain vertical stress distribution due to a given load and give typical stress.
CO2	Explain the performance of T.L. of diff. soil on slope & stability T.L. failure cell.
CO3	Explain the phenomenon of overland consolidation & spot grading and application of eq. codes.
CO4	Discuss reliability and quality of distribution test.
CO5	
CO6	
CO7	
CO8	

Figure 8: Course outcomes in bluebook

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PROGRAM OUTCOMES

Graduation students of Bachelor of Electronics and Communication Engineering program at Dr. T Thimmaiah Institute of Technology, KGF will attain the following program outcomes in the field of Electronics and Communication engineering.

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.



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PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



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PROGRAM SPECIFIC OUTCOMES

The graduates of Electrical and Electronics engineering program of Dr. T Thimmaiah Institute of Technology should be able to attain the following at the time of graduation.

1. Ability to analyze, design and synthesize different electrical and electronic systems for applications with knowledge of various materials used and its feasibility with the environment.
2. To develop software based comprehension and use of MATLAB, CAD, and MIPOWER etc., in applied science.
3. To understand the concepts of modeling analysis of electrical and electronic systems and application of different converters and processors to optimize the process.


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PROGRAM EDUCATIONAL OBJECTIVES

The program educational objectives are the statements that describe the expected achievements of graduates within first few years of their graduation from the program. The program educational objectives of Bachelor of Computer Science Engineering at Dr. T Thimmaiah Institute of Technology can be broadly defined on five counts:

PEO1: To prepare students to excel in Computer Science and Engineering post graduate programs, to succeed in computing industry profession or successful entrepreneurs through quality education.

PEO2: To provide students an ability to analyse and solve computer science and engineering problems through application of fundamental knowledge of math's, science and engineering.

PEO3: To train students with good Computer Science and Engineering breadth, so as to comprehend, analyse, design and create innovative computing products and solutions for real life problems.

PEO4: To inculcate in students professional and ethical attitude, communication skills, teamwork skills, lifelong learning, multidisciplinary approach and an ability to relate computer engineering issues with social awareness.

PEO5: To equip students with excellent academic environment for a successful carrier as engineers, scientist, technocrats, administrators and entrepreneurs.


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DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS & COMMUNICATION
ENGINEERING

F.No:DrTTIT/IQAC/2020-21/075L

Semester: 3

Course1: Transform Calculus, Fourier series and Numerical Techniques

Course1 Code: 18MAT31

Course Outcomes: After studying this course, the students will be able to:

CO 1	Use Laplace transforms and inverse Laplace transforms in solving differential/ Integral equation arising in network analysis, control systems and other field of
CO 2	Demonstrate Fourier series to study the behavior of periodic functions and their applications in system communication, digital signal processing and field theory
CO 3	Make use of Fourier transform and Z transform to illustrate discrete/ continuous function arising in wave and heat propagation, signals and systems
CO 4	Solve I and II order ODE's arising in engineering problems using single and multi step numerical methods.
CO 5	Determine the extremals of functional using calculus of variations and solve problems arising in dynamics of rigid bodies and vibrational analysis.

Course Instructor: *Manjunatha S*

Signature *[Handwritten Signature]*

Course2: Network Theory

Course2 Code: 18EC32

Course Outcomes: After studying this course, the students will be able to:

CO 1	Compute currents and voltages using source transformation and shifting, kvl, kcl, node and mesh analysis, and star-delta transformation.
CO 2	Apply superposition, reciprocity, thevinins, nortons, milmans, maximum power transfer theorems and electrical laws to reduce circuit complexities and to arrive
CO 3	Estimate the values of currents and voltages for given circuit under transient conditions.
CO 4	Apply the laplace transform to solve the any given network using matlab, python.
CO 5	Solve the network using two port network parameters like z/y/h/t.

Course Instructor: *SHASHI KIRAN S*

Signature *[Handwritten Signature]*

Vijaya B
HOD
Head of the Department
Dept. of Electronics and Communication Engg
Dr. T. Thimmaiah Institute of Technology
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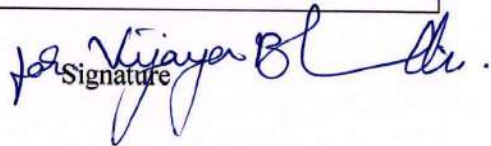
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Course3: Electronic Devices**Course3 Code: 18EC33**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Describe the principles of semiconductor physics.
CO 2	Illustrate the principles and characteristics of pn junctions and optoelectronic devices.
CO 3	Analyze and illustrate the principles and characteristics of different types of semiconductor devices (BJT, FETs).
CO 4	Elucidate the fabrication of pn junctions and integrated circuits.

Course Instructor: **KANIMOZHI . S.**

Signature


Course4: Digital System Design**Course4 Code: 18EC34**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Explain the concept of combinational and sequential logic circuits.
CO 2	Analyze and Design the combinational logic circuits.
CO 3	Analyze and Design the sequential circuits using SR, JK, D, T flip-flops and Mealy & Moore machines
CO 4	Design applications of Combinational & Sequential Circuits.

Course Instructor: **Mohana . c**

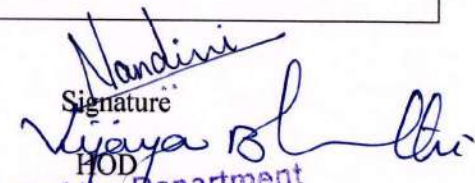
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Course5: Computer Organization & Architecture**Course5 Code: 18EC35**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Able to describe the basic structure of a computer and to analyze the different addressing modes.
CO 2	Able to analyze different ways of accessing input/output devices including interrupts.
CO 3	Able to analyze different types of semiconductor and other secondary storage memories
CO 4	Able to illustrate simple processor organization based on hardwired control and micro-programmed control.

Course Instructor: **Nandini G N**

Signature


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 Dept. of Electronics and Communication Engg.
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Course6: Power Electronics & Instrumentation**Course6 Code: 18EC36**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Build and test the power electronics circuits using power electronic devices.
CO 2	Analyze and design the controlled rectifier and DC to DC converters.
CO 3	Analyze the Inverters, SMPS and Develop the Circuits for multi range Ammeters and voltmeters to measure passive component values.
CO 4	Illustrate the principle of operation of Digital voltmeter, Digital multi meter and bridges.
CO 5	Describe the types of Transducers and PLC
CO 6	Use Instrumentation amplifier for measuring physical parameters.

Course Instructor:

Dr. Bhuvanendhiran T

Signature

*[Signature]***Course7: Electronic Devices & Instrumentation Laboratory****Course7 Code: 18ECL37**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Understand the characteristics of various electronic devices and measurement of parameters.
CO 2	Design and test simple electronic circuits.
CO 3	Use of circuit simulation software for the implementation and characterization of electronic circuits and devices

Course Instructor:

Nandini GN

Signature

*Nandini***Course8: Digital System Design Laboratory****Course8 Code: 18ECL38**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Able to demonstrate the truth table of various expressions and combinational circuits using logic gates.
CO 2	Able to design the combinational circuits such as adders, Subtractors and comparator.
CO 3	Able to construct flip flops, counters and shift registers.
CO 4	Able to simulate binary multiplier using Pspice Simulation tool

Course Instructor:

Mohana c

Signature

HOD

[Signature]
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 Dept. of Electronics and Communication Engg.
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Semester: 4th

Course1: Complex Analysis, Probability and Statistical Methods Course1 Code: 18MAT41

Course Outcomes: After studying this course, the students will be able to:

CO 1	Use the concept of analytic functions and complex potential to solve the problems arising in electromagnetic field theory
CO 2	Utilize conformal transformation and complex integral arising in aerofoil theory
CO 3	Apply discrete and continuous probability distributions arising in engineering fields.
CO 4	Make use of correlation regression analysis to fit suitable mathematical module for the statistical data.
CO 5	Construct joint probability distribution and demonstrate validity of testing the hypothesis.

Course Instructor: *Shailaja*

Signature *H. Moreela*

Course2: Analysis of determinate structures

Course2 Code: 18CV42

Course Outcomes: After studying this course, the students will be able to:

CO 1	Identify different forms of structural systems.
CO 2	Construct ILD and analyses the beams and trusses subjected to moving loads
CO 3	Understand the energy principles and energy theorems and its applications to determine the deflections of trusses and beams
CO 4	Determine the stress resultants in arches and cables.

Course Instructor: *Prashanthi.C.S*

Signature *[Signature]*

Course3: Applied Hydraulics

Course3 Code: 18CV43

Course Outcomes: After studying this course, the students will be able to:

CO 1	Apply dimensional analysis to develop mathematical modeling and compute the parametric values in prototype by analyzing the corresponding model
CO 2	Design the open channels of various cross sections including economical channel sections
CO 3	Apply Energy concepts to flow in open channel sections, Calculate Energy dissipation,
CO 4	Compute water surface profiles at different conditions
CO 5	Design turbines for the given data, and to know their operation characteristics under different operating conditions

Course Instructor: *Manjunatha Singh*

Signature *[Signature]*

Head of the Department
Dept. of Civil Engineering

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Course4:Concrete Technology**Course4 Code: 18CV44**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Relate material characteristics and their influence on microstructure of concrete.
CO 2	Distinguish concrete behavior based on its fresh and hardened properties
CO 3	Illustrate proportioning of different types of concrete mixes for required fresh and hardened properties using professional codes
CO 4	Adopt suitable concreting methods to place the concrete based on requirement.
CO 5	Select a suitable type of concrete based on specific application

Course Instructor: *Praven.k*Signature *Praven.k***Course5:Advanced surveying****Course5 Code:18CV45**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Apply the knowledge of geometric principles to arrive at surveying problems
CO 2	Use modern instruments to obtain geo-spatial data and analyse the same to appropriate engineering problems
CO 3	Capture geodetic data to process and perform analysis for survey problems with the use of electronic instruments;
CO 4	Design and implement the different types of curves for deviating type of alignments

Course Instructor:

Signature

Course6: Water supply and treatment Engineering**Course6 Code: 18CV46**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Estimate average and peak water demand for a community.
CO 2	Evaluate available sources of water, quantitatively and qualitatively and make appropriate choice for a community
CO 3	Evaluate water quality and environmental significance of various parameters and plan suitable treatment system.
CO 4	Design a comprehensive water treatment and distribution system to purify and distribute water to the required quality standards.

Course Instructor: *Sonamma*Signature *Sonamma*

Sonamma
PRINCIPAL
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Oorgaum, K.G.F. - 563 120.

Sonamma
Head of the Department
Dept. of Civil Engineering
Dr. T. Thimmaiah Institute of Technology
Oorgaum, K.G.F. - 563 120

Course7: Engineering Geology laboratory**Course7 Code: 18CVL47**

Course Outcomes: After studying this course, the students will be able to:

CO 1	The students able to identify the minerals, rocks and utilize them effectively in civil engineering practices
CO 2	The students will interpret and understand the geological conditions of the area for implementation of civil engineering project
CO 3	The students will interpret subsurface information such as thickness of soil, weathered zone, depth of hard rock and saturated zone by using geophysical methods.
CO 4	The students will learn the techniques in the interpretation of LANDSAT Imageries to find out the lineaments and other structural features for the given area.
CO 5	The students will be able to identify the different structures in the field.

Course Instructor: *Dr. Ramesh**[Signature]*
Signature**Course8: Fluid mechanics and hydraulics mechanics laboratory****Course8 Code: 18CVL48**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Properties of fluids and the use of various instruments for fluid flow measurement.
CO 2	Working of hydraulic machines under various conditions of working and their characteristics.

Course Instructor: *Manjunatha Singh**[Signature]*
Signature**Semester: 5****Course1: Construction Management and Entrepreneurship****Course1 Code: 18CV51**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Prepare a project plan based on requirements and prepare schedule of a project by understanding the activities and their sequence
CO 2	Understand labor output, equipment efficiency to allocate resources required for an activity / project to achieve desired quality and safety
CO 3	Analyze the economics of alternatives and evaluate benefits and profits of a construction activity based on monetary value and time value
CO 4	Establish as an ethical entrepreneur and establish an enterprise utilizing the provisions offered by the federal agencies

Course Instructor: *Praveen**[Signature]*
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DR.T.THIMMAIAH INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MINING ENGINEERING

F.No:DrTTIT/IQAC/2020-21/075L

Semester: 5th

Course: Mine Management

Course Code: 18MN51

Course Outcomes: After studying this course, the students will be able to:

CO 1	Summarize Evolution of management, management vis-à-vis administration functions of management, organization structure and industrial ownership, MBE and MBO (Understand)
CO 2	Explain personal management, motivational techniques, industrial disputes and provisions of industrial legislation (Understand)
CO 3	Summarize work study used in organization, (Understand)
CO 4	Make use of work study in relation to improvement of productivity of the system (Apply)
CO 5	Summarize components of Management information system (MIS) and its implementation (Understand)

Course Instructor: *Dr. Manas Mukhopadhyay*

Manas Mukhopadhyay
Signature

Course: Underground Coal Mining

Course Code: 18MN52

Course Outcomes: After studying this course, the students will be able to:

CO 1	Identify the mode of access to reach coal seam and choice of mining method
CO 2	Demonstrate and design Bord and pillar method of mining
CO 3	Demonstrate and design Longwall method of mining
CO 4	Design the extraction of thick coal seam by special methods of mining .

Course Instructor: **JOHN GLADIOUS . J**

John Gladious . J
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John Gladious . J
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Course: Surface Mining

Course Code: 18MN53

Course Outcomes: After studying this course, the students will be able to:

CO 1	Understand the basic concept of surface mining and its associated methods.
CO 2	Estimate the number of drills and heavy earth moving machinery required for medium to very hard rocks during surface mining operation.
CO 3	To analyze the safety of machineries and slopes during various surface mining operation.

Course Instructor: P. Viknam

Signature 

Course: Mine Ventilation

Course Code: 18MN54


Course Outcomes: After studying this course, the students will be able to:

CO 1	Summarize the occurrence of mine gases, dusts and methane drainage and its control strategies
CO 2	Explain the principles and control measures of heat and humidity behaviour in underground airways (Understand)
CO 3	Apply the principles of air flow in an underground mine ventilation system (Application)
CO 4	Understand the principles of mine fan selection, natural ventilation and its application in underground mines (Understand)
CO 5	Plan a proper mine ventilation systems and solve the ventilation network problems (Application)

Course Instructor: Paul Prasanna Kumar

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Course: Rock Mechanics

Code: 18MN55

Course Outcomes: After studying this course, the students will be able to:

CO 1	Ability to describe the importance of Rock Mechanic in the field of mining
CO 2	Identify of the physical and mechanical properties of rocks
CO 3	Ability a calculate the stress & strain in rocks & rock mass
CO 4	Ability to understand the time dependent behaviour by geological models

Course Instructor: *yunakeshwar Gowind*

Signature *[Signature]*

Course: Mine Electrical Engineering

Course Code: 18MN56

Course Outcomes: After studying this course, the students will be able to:

CO 1	Students will be aware of Indian Electricity Rules 1956.
CO 2	They will be able to differentiate various Motors and generators.
CO 3	They will be able to draw the single line diagram of distribution system in Mines.
CO 4	They will understand types of lighting used in mines and its design.
CO 5	They will be familiar with Electrical Safety devices and its operating principles.

Ronald Lawrence . J
Course Instructor:

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DR.T.THIMMAIAH INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

F.No:DrTTIT/IQAC/2020-21/075L

Semester: 3

Course1: Transform Calculus, Fourier series & Numerical Techniques **Course1code:**18MAT31

Course Outcomes: After studying this course, the students will be able to:

CO 1	Use laplace transforms and inverse Laplace transforms in solving differential /integral equations arising in network analysis and control systems and other fields of engineering.
CO 2	Demonstrate Fourier series to study the behavior of periodic functions and their applications in system communications, digital signal processing and field theory.
CO 3	Make use of Fourier transform and Z-transform to illustrate discrete/continuous function arising in wave and heat propagation, signals and systems
CO 4	Solve first and second order ordinary differential equations arising in engineering problems using single step and multi step numerical methods.
CO 5	Determine the extremals of functional using calculus of variations and solve problems arising in dynamics of rigid bodies and vibrational analysis

Course Instructor: *Sriraksha Prakash*

Sriraksha Prakash
Signature

Course2: Electric Circuit Analysis

Course2 Code: 18EE32

Course Outcomes: After studying this course, the students will be able to:

CO 1	Understand the basic concepts, basic laws and methods of analysis of DC and AC networks and reduce the complexity of network using source shifting, source transformation and network reduction using transformations
CO 2	Solve complex electric circuits using network theorems.
CO 3	Discuss resonance in series and parallel circuits and also the importance of initial conditions and their evaluation
CO 4	Synthesize typical waveforms using Laplace transformation.
CO 5	Solve unbalanced three phase systems and also evaluate the performance of two port

S. SOBHASHINI
Course Instructor:

Sobha
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S. Sobha Shini
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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

F.No:DrTTIT/IQAC/2020-21/075L

Semester: 6

Course1: Control Systems

Course1 Code: 18EE61

Course Outcomes: After studying this course, the students will be able to:

CO 1	Analyze and model electrical system using analogous
CO 2	Analyze and model mechanical system using analogous
CO 3	Formulate transfer function using block diagram and signal flow graphs.
CO 4	Analyze the stability of control system, ability to determine transient and steady state time response
CO 5	Illustrate the performance of the given system in time and frequency domains, Stability analysis using Root Locus

Course Instructor: Mrs. Daphny Shallet M

Signature

Course2: Power System Analysis – 1

Course2 Code:18EE62

Course Outcomes: After studying this course, the students will be able to:

CO 1	Define per unit system, and explain advantages and computation and Show the concept of one line diagram and its implementation in problems
CO 2	Illustrate short circuit analysis on a synchronous machine and simple power system to select a circuit Breaker for the system
CO 3	Evaluate symmetrical components of voltages and currents in un-balanced three phase circuits
CO 4	Analyze three phase synchronous machine and simple power systems for different unsymmetrical faults using symmetrical components
CO 5	Discuss the dynamics of synchronous machine, stability and types of stability

Course Instructor: B. Somashelka

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Course3: Digital Signal Processing**Course3 Code: 18EE63**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Compute DFT and IDFT of a given sequence using the basic definition
CO 2	Apply fast and efficient algorithms for computing DFT and inverse DFT of a given sequence
CO 3	Design and realize infinite impulse response Butterworth and Chebyshev digital filters using impulse invariant and bilinear transformation techniques
CO 4	Develop a digital IIR filter by direct, cascade, parallel, ladder and FIR filter by direct, cascade and linear phase methods of realization

Course Instructor: *Jillian Reefus J*Signature **Course4: Computer Aided Electrical Drawing****Course4 Code: 18EE643**

Course Outcomes: After studying this course, the students will be able to:

CO 1	Develop armature winding diagram for DC and AC machines
CO 2	Develop a Single Line Diagram of Generating Stations and substation using the standard symbols
CO 3	Construct sectional views of core and shell types transformers using the design data
CO 4	Construct sectional views of assembled DC and AC machine and their parts using the design data or the

Ronald Lawrence J

Course Instructor:

RLawrence

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Course7: Digital Signal Processing Laboratory

Course7 Code: 18EEL67

Course Outcomes: After studying this course, the students will be able to:

CO 1	To explain the use of MATLAB software in evaluating the DFT and IDFT of a given sequence
CO 2	To verify the convolution property of the DFT
CO 3	To Design and implement IIR and FIR filters for given frequency specifications
CO 4	To realize IIR and FIR filters

Course Instructor: *Jillian Rufus-J*

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DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

F.No:DrTTIT/IQAC/2020-21/075L

Semester: 7

Course1: Web Technology and its applications

Course1 Code:17CS71

Course Outcomes: After studying this course, the students will be able to:

CO 1	Define HTML and CSS syntax and semantics to build web pages.
CO 2	Understand the concepts of Construct, visually format tables and forms using HTML using CSS
CO 3	Develop Client-Side Scripts using JavaScript and Server-Side Scripts using PHP to generate and display the contents dynamically.
CO 4	List the principles of object-oriented development using PHP
CO 5	Illustrate JavaScript frameworks like jQuery and Backbone which facilitates developer to focus on core features.

Course Instructor: *Manjunath Singh*

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11/9/2020

Course2: Advanced Computer Architectures

Course2 Code: 17CS72

Course Outcomes: After studying this course, the students will be able to:

CO 1	Explain Various parallel computing and computer architecture of scalable, pipeline and parallel processors
CO 2	Illustrate concepts of memory organization and hardware technology
CO 3	Analyze evaluate and design various processor functional units and memory units
CO 4	Illustrate parallel programming concepts

Course Instructor:

SANTHOSH KUMARI

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11/9/2020

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Course3: Machine Learning

Course3 Code: 17CS73

Course Outcomes: After studying this course, the students will be able to:

CO 1	Recall the problems for machine learning. And select the either supervised, unsupervised or reinforcement learning.
CO 2	Understand theory of probability and statistics related to machine learning
CO 3	Illustrate concept learning, ANN, Bayes classifier, k nearest neighbor, Q,

Course Instructor: *Sudha V*

Signature *[Handwritten Signature]*
11/1/2020

Course4: Information and Network Security

Course4 Code: 17CS743

Course Outcomes: After studying this course, the students will be able to:

CO 1	Students will be able to recognize Cryptographic Algorithms
CO 2	Analyze various cryptographic Protocols
CO 3	Able to Demonstrate Private and Public Key Attacks on the Cryptosystem
CO 4	Analyze Various Cryptographic Applications

Course Instructor: *Lekshmy SR*

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1-9-2020

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DR.T.THIMMAIAH INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

F.No:DrTTIT/IQAC/2020-21/075L

Semester: 8

Course -1: Operations Research

Course -1 Code: 17ME81

Course Outcomes: After studying this course, the students will be able to:

CO-1	derive optimal solution to linear programming problems by graphical method.
CO-2	Formulate as LPP and derive optimal solution to linear programming problems by simplex method, Big-M method and Dual Simplex method.
CO-3	Formulate as Transportation and Assignment problems and derive solutions for Transportation, Assignment and Travelling salesman problems.
CO-4	Solve waiting line problems M/M/1 and M/M/K Queuing models and construct Network diagrams and determine Critical path , Floats for deterministic and PERT networks including crashin
CO-5	Solve problems on Game Theory for pure and mixed strategy under competitive environment and determine minimum processing times for sequencing of n-jobs 2 machines, n-jobs 3 machines, n jobs m machines and johnsons algorithm.

Course Instructor: Dr H G Shenoy

Signature:

Course -2: Additive Manufacturing

Course -2 Code: 17ME82

Course Outcomes: After studying this course, the students will be able to:

CO-1	Understand the different process of AM, guidelines and applications of AM.
CO-2	Undersatand the hydraulic and Pneumatic motors,Electrical Motors and Actuators.
CO-3	Understand the diferent process of AM using polymers and powder production technology.
CO-4	Analyse the different characterisation techniques in nano materials Manufacturing.
CO-5	Describe the NC , CNC Machine programming and automation techniques.

Course Instructor: PHM

Signature:

Course -3:Product Life Cycle Management

Course -3 Code: 17ME835

Course Outcomes: After studying this course, the students will be able to:

CO-1	Explain the various strategies of PLM and Product Data Management
CO-2	Describe decomposition of product design and model simulation
CO-3	Apply the concept of New Product Development and its structuring
CO-4	Analyze the technological forecasting and the tools in the innovation
CO-5	Apply the virtual product development and model analysis

Course Instructor:

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Course -4: INTERNSHIP

Course -4 Code: 17ME84

Course Outcomes: After studying this course, the students will be able to:

CO-1	Apply engineering and management principles
CO-2	Analyze real-time problems and suggest alternate solutions
CO-3	Communicate effectively and work in teams
CO-4	Imbibe the practice of professional ethics and need for lifelong learning.
CO-5	

Course Instructor:

Head of the Department
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Signature:

Course -5: PROJECT F

Course -5 Code: 17MEP85

Course Outcomes: After studying this course, the students will be able to:

CO-1	IDENTIFY AND ANALYZE PROBLEMS BY APPLYING ENGINEERING CONCEPTS.
CO-2	SELECT AND APPLY EFFICIENT TOOLS FOR DESIGNING PROJECT MODULES.
CO-3	WORK IN A TEAM TO SOLVE REAL LIFE PROBLEMS AND MAINTAIN PROFESSIONALISM.
CO-4	PREPARE A REPORT AS PER RECOMMENDED FORMAT AND DEFEND THE WORK.
CO-5	

Course Instructor: DR. MNS

Signature:

Course -6: TECHNICAL SEMINAR

Course -8 Code: 17MES86

Course Outcomes: After studying this course, the students will be able to:

CO-1	perform survey and review relevant information to the field of study
CO-2	enhance presentation skills and report writing skills
CO-3	develop alternative solutions which are sustainable
CO-4	
CO-5	

Course Instructor: Balasubramaniam N.S.

Signature:

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