SHRI DHARMASTHALA MANJUNATHESHWARA COLLEGE OF ENGINEERING AND TECHNOLOGY, DHARWAD -02.

Up-skilling Certification Program on

"Fundamentals of Automobile Electrical and Electronics Engineering"

Program Schedule

Sl. No.	Date	Theory / Demo with Practical	Topic	Name of the faculty
1	08.07.2022	Theory	Introduction of Speakers & Participants Orientation & Roadmap of course	Dr. K Gopinath
2	08.07.2022	Theory	Semiconductor's theory – P type, N type Diodes and its characteristics Different electronic components, types of transistors, operation of transistor	Dr.Vijaya C
3	08.07.2022	Theory	Rectifiers – Full & Half wave rectification – Connections, Checking waveforms , Measurement using Oscilloscope -Introduction to oscilloscope and wave forms interpretation and capturing	Dr. Kalmeshwar N Hosur
4	08.07.2022	Theory	Filtering & Regulating (Zener Diode) - Connections, Checking waveforms, Analog & Digital signals	Dr. S. S. Kerur
5	15.07.2022	Theory	Basic electrical principles, electron current and conventional current, voltage, resistance relationship, Ohm's law and KCL & KVL Conductors, insulators and semiconductors	Dr Basavaraj S. Shalavadi
6	15.07.2022	Theory	Basic concept of AC (single phase & 3 phase) AC vs DC Electrical & Electronic Symbols & Circuit reading Electric field and concept of capacitance, Capacitors Concept of Inductors, Variable/ Fixed resistors Magnetism and electromagnetism, electro magnetic induction	Prof. Sanjeeth P Amminabhavi
7	15.07.2022	Demo /Practical	Operational characteristics of electronic components like Diode, BJT and FET.	Dr.Vijaya C
8	15.07.2022	Demo /Practical	Half wave & Full wave rectifiers -wave forms with Oscilloscope	Dr. Kalmeshwar N Hosur
9	15.07.2022	Demo /Practical	Filtering & regulating circuits Analog & Digital Signals	Prof. Shrikanth S Shirkol
10	23.07.2022	Theory	Basics of Single-Phase Transformers Cables, color codes, termination, switches Fuses and circuit breakers Electrical safety and grounding	Prof. Sanjeeth P Amminabhavi
11	23.07.2022	Theory	Introduction and types of Amplifiers, Ideal amplifiers, CE Configuration, Operation Amplifiers , Differential Amplifiers, Inverting and Non inverting configuration	Prof. Raghuram K M

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12	23.07.2022	Demo /Practical	Verification of Ohm's law, Voltage, current and impedance relationship, Demonstration of transformer, Effect of temperature on conductors, semiconductors and insulators, Concept of magnetism and electro magnetism	Prof. Tejashwi. M Timsani Prof. Manjula S. Sureban
13	29.07.2022	Theory	Applications of Amplifiers (Summer, Integrater, differntiator, schmit trigger,) Real Time Applications, Block Diagram Simulation	Dr. S. V. Viraktamath
14	29.07.2022	Theory	Idea of signal conditioning passive and active filters, A/D and D/A converters	Dr. Siddalingesh S. Navalgund
15	29.07.2022	Demo /Practical	Demonstration of various functionalities for Op-amp	Dr. S.V.Viraktamath
16	29.07.2022	Demo /Practical	Operation of timer circuit	Dr. Siddalingesh S. Navalgund Dr. S. V. Viraktamath
17	05.08.2022	Theory	Construction and operation of PM motor, Types: Brushless DC motors (BLDC) and Brushless AC motor (PMSM), Characteristics and Applications, Topological Advancements for Vehicular	Mr. Pradeep S. Vibhuti
18	05.08.2022	Theory	Constructional aspects, Operating Principle and Types, Characteristics, Methods to control speed, Braking of DC motor	Mr. Sanjeeth P Amminabhavi
19	05.08.2022	Demo /Practical	Demonstration of microcontroller	Mr. Kotresh E. Marali
20	05.08.2022	Demo /Practical	Study behavior of various types of DC motors, Study behavior of various types of DC motors	Mr. Pradeep S. Vibhuti
				Mr. Sanjeeth P Amminabhavi
21	12.08.2022	Theory	To control the speed of a three-phase induction motor by V/f control method	Mr. Pradeep S. Vibhuti
22	12.08.2022	Theory	To perform starting & dynamic braking of a three phase induction motor	Mr. Sanjeeth P Amminabhavi
23	12.08.2022	Theory	To control the speed of a three-phase induction motor by V/f control method	Mr. Sanjeeth P Amminabhavi
24	12.08.2022	Theory	To perform starting & dynamic braking of a three phase induction motor	Mr. Sanjeeth P Amminabhavi
25	19.08.2022	Theory	Working Principle & Applications of Starter Motor & Wiper Motors used in Vehicle, Understanding the Working of Relays & Direct & Indirect Control	Dr. Sunilkumar Honnungar

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26	19.08.2022	Theory	Introduction to Batteries and Chargers, Battery Fundamentals – Types and Parameters, Testing of Batteries, Battery Maintenance, Handling & Care (Lead Acid Batteries), Handling Care of E&E components	Mr. Shravankumar Nayak
27	19.08.2022	Theory	Starting, Lighting and Ignition Circuits, LED and Laser Lighting, Advanced Lighting Technology	Dr. Shreedhar A. Joshi
28	26.08.2022	Theory	Wiper control, Signaling Circuits: Flasher, Brake, Indicators, Electric Horn	Mr. Abilash H. Desai
29	26.08.2022	Theory	Central Locking System, Electrichorn, Electric Windows, Handling Careof E&Ecomponents, Doubt Clearing	Mr. Abilash H. Desai
30	26.08.2022	Theory	EMS, Measurement and Instrumentation, Basic awareness of Engine Management System, ECUs, Actuators, Current and Voltage sensors, Speed Sensors	Dr. Vijay Kamate
31	26.08.2022	Theory	Protection circuits, Inter locking Safety System actuation (ABS,Airbag,Enginestart)	Dr. Vyas R. Murnal
32	26.08.2022	Lab	Demonstration of sensors-voltage,current and speed	Dr. Sunil Mathad
33	26.08.2022	Theory	Cease,speed based door locking etc.) Concept of On board diagnostic (OBD)	Dr. Vyas R. Murnal
34	09.09.2022	Theory	Introduction to logic gates, combinational and sequential logic Encoders, Operation of logic gates in sequential and combinational circuit	Dr. Ramesh L Chakrasali
35	09.09.2022	Theory	Memory circuits, Timers and counters, Basic Microcontroller circuit	Prof. Sunil Joshi
36	09.09.2022	Theory	HVAC circuits, ABS, Electric Sun roof, Traction Control system, Hill Assist	Mr. Pradeep S. Vibhuti
37	09.09.2022	Theory	Electronic Brake Force Distribution System (EBD), Power Steering, Cruise Control, Advanced Driver Assist System (ADAS) & Park Assist	Dr. Sunilkumar Honnungar
38	16.09.2022	Theory	Comparison between EV and IC engine, Concept of HEV, Concept of CV	Mr. Abilash H. Desai
39	16.09.2022	Theory	Types of HEVs, Types of Evs, Concept of Driving Cycle, Relationship between Driving Cycle and Power Calculations	Mr. Pradeep S. Vibhuti
40	16.09.2022	Theory	Battery characteristics and selection,battery sizing, Battery management system ,tests, Charger types and charging techniques, impact of drive cycleon battery performance, New generation of energy storage mechanism (Super capacitor,Hydrogen Fuel Cell,	Mr. Pradeep S. Vibhuti

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41	23.09.2022	Theory	Repetition class on motors	Mr.Vishwakumar R Sheelavant
42	23.09.2022	Theory	DC- AC motors	Mr.Vishwakumar R Sheelavant
43	23.09.2022	Theory	Repetation class- Batteries	Mr. Shravankumar Nayak
44	23.09.2022	Lab	Demonstration on Batteries	Mr. Shravankumar Nayak
45	23.09.2022	Theory	Repetition of Digitial fundamental portion	Dr. Ramesh L Chakrasali
46		Theory	Construction and operation of stepper motor, types, characteristics & control, Construction and operation of servo motor, types, characteristics and control, Application of Stepper (Demo) & Servo Motors	Mr. Pradeep S. Vibhuti
47	23.09.2022	Theory	Robot motion control and related software demo and PID Lab	Dr. Sunil M Mathad
48	07.10.2022	Theory	Intra vehicular communication protocols Starting lighting LED	Dr. Shreedhar A. Joshi
49	07.10.2022	Theory	Integration of sensors and actuators with vehicle	Dr. Vyas R. Murnal
50	07.10.2022	Theory	Electronic Stability Program (ESP)	Mr. Raghuram K. M.
51	07.10.2022	Lab	Demonstration of Battery Management System(BMS)	Mr. Pradeep S. Vibhuti
52	07.10.2022	Lab	To demonstrate operation of controlrectifiers, To analyze operation of non-isolated dc-dc converters	Mr. Pradeep S. Vibhuti
53	07.10.2022	Lab	Starting a DC Motor & To analyze speed control of dcmotor using power electronic converter	Mr. Pradeep S. Vibhuti
54	14.10.2022	Theory	HighVoltage Safety considerations, Motor Selection Guidelines, Two-wheel & Four-Wheel Drive Concept	Mr. Sanjeeth P Amminabhavi

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