

SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE



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PART- TWO

(Extra Ordinary)

Saturday, the 18th June, 2022

NOTIFICATION

No.60 /2022

Date : 18/06/2022

Subject: Revised Syllabus of Semester V of B.E. (Electronics & Telecommunication Engg.) (C.B.C.S.) as per A.I.C.T.E. Model Curriculum...

It is notified for general information of all concerned that the authorities of the University have accepted to implement the **revised Syllabus** of the subject **5ETC01 Microcontroller of Semester V of B.E. (Electronics & Telecommunication Engg.) (C.B.C.S.)** as per A.I.C.T.E. Model Curriculum to be implemented from the academic session 2022-23 onwards as per **Appendix – A** as given below:

Sd/-
(Dr.T.R.Deshmukh)
Registrar

Appendix A

REVISED SYLLABUS OF SEM. V 5ETC01 MICROCONTROLLER [C.B.C.S.]

Course Objectives:

1. To study fundamentals of microprocessor systems with Assembly Language Programming concepts
2. To deal interfacing of different peripheral devices with Microprocessor.
3. To study fundamentals of microcontroller systems.
4. Understanding microcontroller C Language Programming concepts.
5. To get knowledge of interfacing different peripheral devices with Microcontroller.
6. To get familiar with RISC Architecture.

Course Outcomes:

Upon completion of this course, students will demonstrate the ability to:

1. Understand architectural difference between Microprocessor and Microcontroller.
2. Equipped with C Language Programming concepts of Microprocessor & Microcontroller.
3. Capable of interfacing of different peripheral devices with Microprocessor and Microcontroller.

Unit-I: Introduction to Microprocessor:

8085: Pin Diagram and Architecture, Addressing Modes and Instruction Set, Data transfer schemes, Interrupt system. (8L)

Unit-II: I/O Interfacing & Programming of 8085:

Address space partitioning schemes, Architecture, interfacing and programming of Intel 8085 with: PPI 8255, PIT 8254, ADC 0808 (8L)

Unit-III: An Introduction to uC 8051: Architecture of 8051, Signal description of 8051, Register set of 8051, Timer structure and their modes, Serial Port & I/O port structure. (9L)

Unit-IV: 8051 programming in C : Data types and time delay in 8051 C, IO programming in 8051 C, Logic operations in 8051 C, Data conversion programs in 8051 C, Accessing code ROM space in 8051 C, Data serialization using 8051 C. (8L)

Unit-V: Interfacing and programming using C with 8051:

LCD, Keyboard, Relays and Opto-isolators, Stepper Motor interfacing, DC motor, DAC 0808. (8L)

Unit-VI: Introduction to RISC Processors:

Difference of CISC and RISC, Study of ARM Philips NXP LPC2148 Microcontrollers with details of 32 bit ARM 7 architecture. (7L)

TEXT BOOKS:

1. Gaonkar R.S., : Microprocessor Architecture Programming and Applications with the 8085, Penram International Pub.
2. M. A. Mazidi, J. G. Mazidi and R. D. McKinley : The 8051 Microcontroller and Embedded Systems using Assembly and C, Pearson Education (2nd Ed.)
3. K. J. Ayala : The 8051 Microcontroller, Penram Int. Pubs., 1996
4. Furber: ARM System on Chip Architecture, 2nd Edition, Person India
5. Phillips NXP LPC 2148 User Manual.

NOTIFICATION

No. 61 /2022

Date : 18/06/2022

Subject: Revised Syllabus of Semester III of B.Tech. (Chem. Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Technology) (C.B.C.S.)

It is notified for general information of all concerned that the authorities of the University have accepted to implement the **revised Syllabus** of the subject **3CT04 Applied Thermodynamics of Semester III of B.Tech. (Chem. Tech.) (Food, Pulp & Paper, Oil & Paint and Petrochemical Technology) (C.B.C.S.)** as per A.I.C.T.E. Model Curriculum to be implemented from the academic session 2022-23 onwards as per **Appendix – A** as given below:

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Appendix A

REVISED SYLLABUS OF SEM. III 3CT04 APPLIED THERMODYNAMICS [C.B.C.S.]

Course Objectives: To learn about work and heat interactions, and balance of energy between system and its surroundings.

1. To evaluate the changes in properties of substances in various processes
2. To learn about of 1st law for systems and heating value of fuels
3. To learn about gas and vapour cycles and their first law and second law efficiencies
4. To familiarize with the terminology associated with IC engines.
5. To understand the basics of IC engines.
6. To understand combustion, and various parameters and variables affecting it in various types of IC engines.

Course Outcomes:

- To understand the fundamentals of various thermodynamic system and devices.
- To analyze the performance and understand the applications of thermodynamic systems.
- To understand applications and working of Boilers and Steam Engines, IC engines

SECTION-A

Unit I: Introduction to basic concepts of thermodynamics, Macroscopic and microscopic approaches, properties of system, state, processes and cycle, thermodynamic equilibrium, types of thermodynamic systems, Temperatures and Zeroth law of thermodynamics, Quasi-static process, Gas Laws and Ideal gas equation of states, and universal gas constant.

Unit II: First law of thermodynamics: Energy of a system, classification of energy, law of conservation of energy. Property of system, internal energy. Application of first law to non-flow processes. First Law applied to flow processes: Steady state, steady flow process, Second Law of thermodynamics: Limitations of 1st law. Kelvin-Planck and Clausius statements.

Unit III: Steam Boilers: Classification, Fire tube and water tube boilers, tube, shape and position, firing, heat sources, fuel, fluid, circulation, furnace position, furnace type, general shape. Boiler mountings and accessories. Boiler draught: Types of draught, expression for diameter, height of chimney.

SECTION -B

Unit IV: Reciprocating Steam Engines: Constructional features of steam engine and its development, expansive and non expansive working. Hypothetical and actual indicator diagrams. Simple and compound steam engines. Condensers: Construction and working of jet and surface condensers.

Unit V : I.C.Engines: Classification of I.C. engines, Constructional features and development. Working of two stroke and four strokes. General description of petrol and diesel engine, working of simple carburetor, fuel pump and fuel injector. Valve timing diagram, cooling and lubrication.

Unit VI: Cycles: Air standard efficiency, Otto and Diesel cycles. Engine H.P., their efficiencies and mean effective pressure, specific fuel consumption. Vapour Cycles: - Rankine and Modified Rankine Cycle.

Recommended Books:

1. Thermal Engineering, by R.L.Ballaney - Khanna, Pub.
2. Engineering Thermodynamics, by Gupta and Prakash, Nemchand and Bros, Roorkee
3. Fundamentals of I.C. Engines by Gill, Smith and Ziurys.
4. Heat Engines and Thermodynamics by S.Domkundwar, Dhanpat Rai and sons, New Delhi.
5. Thermal Engineering - by Rajput R.K.
6. Thermodynamics - An Engineering Approach of Cengel and Boles Mc-Graw Hill Publications
7. Thermal Engineering by R.Yadav.
8. Basic Engineering Thermodynamics - by Joel.
9. Engineering Thermodynamic - by P.K.Nag.
10. I.C. Engines- by Rajput R.K.

3CT09 APPLIED THERMODYNAMICS – lab.

Minimum EIGHT (8) practicals based on the syllabus 3CT04 APPLIED THERMODYNAMICS evenly distributed, shall be studied/performed and report/journal thereof should be submitted by each student.

NOTIFICATION

No. 62 /2022

Date : 18/06/2022

Subject :- Book prescribed as a Reference Book for the subject of 'Introduction to Research Methodology' in the syllabus of Ph.D. Course work.

It is notified for general information of all concerned that the authorities of the University have accepted to prescribe the book 'Introduction to Research Methodology' by Dr.N.W.Ingole, Dr.Milind Mohod and Dr.Shrikant Harle, published by M/s Tantradyan Printers, Amravati as a reference book for the subject of Research Methodology in the syllabus of Ph.D. Course work to be implemented from the academic session 2022-23 onwards.

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