



DAAR-UL-REHMAT TRUST's
A.E. KALSEKAR DEGREE COLLEGE

KAUSA, MUMBRA
 Permanently Affiliated to University of Mumbai
 Accredited by NAAC with B++ Grade
 ISO certified 9001:2015

NAME OF THE PAPER: IMPERATIVE PROGRAMMING SEM: I

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	To learn Types of programming languages, history, features and application, structure of a program	Analyse & implement Types of programming languages, history, features and application, structure of a program
UNIT - II	To learn Operators and Expressions, Data Input and output	Analyse & implement Operators and Expressions, Data Input and output
UNIT III	To learn Conditional statements and loops- while, do-while, for loop	Analyse & implement Conditional statements and loops- while, do-while, for loop
UNIT IV	To learn Storage classes, automatic variable, external variables, library functions	Analyse & implement Storage classes, automatic variable, external variables, library functions
UNIT - V	To learn Pointers, Fundamentals, Arrays and pointers, passing functions to other functions.	Analyse & implement Pointers, Fundamentals, Arrays and pointers, passing functions to other functions.

NAME OF THE PAPER: Digital Electronics SEM: I

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	to Gain knowledge about the different techniques to synthesize digital circuits at logic level using	Apply the principles of number system, binary codes and Boolean algebra to minimize logic expressions
UNIT - II		Develop K-maps to minimize and optimize logic functions up to 5 variables

UNIT -III	combinational circuits, sequential circuits.	Acquire knowledge about various logic gates and logic families and analyze basic circuits of these families.
UNIT - IV	Understand optimization of logic circuits and technology mapping.	Design various combinational and sequential circuits such as encoders , decoders and counters using multiplexers, and flip - flops
UNIT - V		Describe and compare various memory systems, shift registers and analog to digital and digital to analog conversion circuits

NAME OF THE PAPER: Microprocessor and Assembly Language Processing SEM:II

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	Understand process and synchronization and scheduling of processes.	Understand the taxonomy of microprocessors and knowledge of contemporary microprocessors.
UNIT -II	Use system calls for managing processes, memory and the file system.	Describe the architecture, bus structure and memory organization of 8085 as well as higher order microprocessors.
UNIT III	Understand the data structures and algorithms used to implement an OS.	Explore techniques for interfacing I/O devices to the microprocessor 8085 including several specific standard I/O devices such as 8251 and 8255.
UNIT IV		Demonstrate programming using the various addressing modes and instruction set of 8085 microprocessor
UNIT -V		Design structured, well commented , understandable assembly language programs to provide solutions to real world control problems

NAME OF THE PAPER: Operating Systems SEM:I

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	Students will learn how Operating System is Important for Computer System	To understand the services provided by an operating system as a Resource Manager, process synchronization and scheduling.

UNIT - II	To make aware of different types of Operating System and their services	To understand different approaches to memory management; Implementing virtual memory using paging and segmentation.
UNIT -III	To learn different process scheduling algorithms and synchronization techniques to achieve better performance of a computer system.	To understand file structure and its organization, I/O management and resource deadlocks.
UNIT - IV	To know virtual memory concepts.	To understand the concept of virtualization (VM Hypervisors) and its requirements, multiprocessor systems.
UNIT - V	To learn secondary memory management.	To introduce the students with the structure of different OS like, Linux, Windows and android.

NAME OF THE PAPER: Web Programming SEM:II

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	About internet and WWW, basics of HTML and formatting using CSS.	To introduce about basic internet terminologies.
UNIT - II	To create navigational aids, table formatting, inserting multimedia and forms.	Learning to build the website using HTML
UNIT -III	About Basics of JavaScript along with event handling.	Learning javascript to build the dynamic website content.
UNIT - IV	About Basics of PHP and database connectivity using PHP.	Enhancing the skill to build a basic php website
UNIT - V		Learning advanced php concepts – connecting database for building wide variety of web applications.

NAME OF THE PAPER: Discrete Mathematics SEM:I

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	Understand the concept of logic theory, Proving using induction.	Write an argument using logical notation and determine if the argument is or is not valid.

UNIT - II	Gain knowledge on the use and implementation of basic concept of set theory as well as functions and their properties.	Demonstrate the ability to write and evaluate a proof or outline the basic structure of and give examples of each proof technique described.
UNIT -III		Prove basic set equalities Determine when a function is 1-1 and "onto"
UNIT - IV	Understand the concept of recursion, equivalence relations, properties of graphs and trees	Demonstrate an understanding of relations and functions and be able to determine their properties. Model problems in Computer Science using graphs and trees
UNIT - V		Apply counting principles to determine probabilities.

NAME OF THE PAPER: Numerical and Statistical Methods SEM:II

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	Formulation of mathematical models based on scientific principles to simulate the behavior of a simple physical system. Approximating roots through iteration method and implementation in programming language. Integration and differentiation through iterative method	Identify risks associated with floating point computations.
UNIT - II		Demonstrate a basic knowledge of the techniques for accurate and efficient solution of models based on linear and nonlinear systems of equations, ordinary differential equations and partial differential equations.
UNIT -III		Demonstrate a movement towards ongoing independent development of applying numerical methods to real engineering situations
UNIT - IV		Applying various graphical and data analysis methods for summarizing and understanding data.
UNIT - V		Applying various statistical models and methods for drawing conclusions and making decisions under uncertainty in engineering contexts.

NAME OF THE PAPER: Communication Skills SEM:I

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	Understand communication, and its importance in management skills.	Learning 7 C's of communication for effective communication.
UNIT - II	Understand the interpersonal	Developing skills in business writing – letters, reports, proposals and resumes.

UNIT - III	communication process	To enhance listening skill to gain undivided attention during conversation, meeting, group discussion and team briefing.
UNIT - IV	Gain knowledge about the importance and appropriate use of written and oral communication.	Learning basic etiquettes in business communication which is a part in every sphere of life
UNIT - V		Learning techniques and tools to design attractive, flawless and impressive business presentation.

NAME OF THE PAPER: Green Computing SEM:II

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	Attain economic viability and improve the way computing devices are used.	Develop understanding to reduce the use of hazardous materials, guidelines to measure company's carbon footprints.
UNIT - II	Understand Green computing practices	To develop the understanding of global initiatives and standards in Green IT.
UNIT - III	Understand the importance of Green Computing in design and manufacturing stages of EEE.	To understand power usage problems in cooling of data centers and various low cost data center design options.
UNIT - IV		To understand the benefits of changing the way of working like Telecommuting, Outsourcing, going paperless etc.
UNIT - V		To understand the problem of e-waste and ways to handle it. To calculate power usage using metrics like PUE and DE and tracking the progress.

NAME OF THE PAPER: Object Oriented Programming SEM:II

SYLLABUS (UNIT WISE)	OBJECTIVES	OUTCOME
UNIT - I	to implement real world entities like inheritance, hiding, polymorphism etc. in programming	In-depth coverage of object-oriented programming principles and techniques.

UNIT - II	to bind together the data and the functions that operates on them so that no other part of code can access this data except that function.	Declare aclass;createobjects, arrayofobjects,pointer toanobjectofa classandusing accessmodifiers.
UNIT -III		Understandingpolymorphismandvirtualfunctions.
UNIT - IV		CreationofclasshierarchiesusingInheritance.Error Handlingusingexception.
UNIT - V		Usinggeneric classandfunctions.Workingwithfiles.

CourseName:ImperativeProgrammingPractical

CO	Problemsolvingusingstandardprogrammingtechniques andTurboCcompiler.
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CourseName:DigitalElectronicsPractical

CO1	Studyoflogicgates,their IC's anduniversalgates
CO2	FormulateandemployaKarnaughMapto reduceBooleanexpressionsandlogiccircuitsto theirsimplestforms
CO3	Designandimplementcombinationallogiccircuitsusingreprogrammablelogicdevices for BinaryArithmetic.
CO4	InterfacingwiththeAnalogWorld:Multiplexing, Demultiplexing, Encoder anddecoder.
CO5	ImplementingsequentialCircuits:Latches, ClockSignalsandClockedFlip-Flops.

CourseName:CommunicationSkillsPractical

CO1	Toimproveoverallcommunicationskillabilitytowardsempathy,friendlinessand professionalisminspeakingandattitude.
CO2	Toinfusehealthyfeelingofcompletion andpositivebehaviorandcollaborativeeffortsin solvingproblems

CourseName:OperatingSystemsPractical

CO1	InstallingvirtualmachineandvariousoperatingsystemsonVM.
CO2	To understandtheuseofvariousLINUX Commandslike, filesrelated,directoryrelated, processrelated andsystemadminrelated.
CO3	To understandtheuseofDOSCommands.
CO4	To understandtheworkingofvarious desktoputilitiesin like,word,paint, browsers, configuringnetwork settingsandcreatingusers,vieditoret.c.
CO5	ToinstallutilitysoftwareonWINDOWSandLINUX.

CourseName:DiscreteMathematicsPractical

CO1	InstallationofthesoftwareScilab. Basicsyntax,MathematicalOperators,Predefinedconstants,Builtinfunctions
CO2	Complexnumbers,Polynomials, Vectors,Matrix. Handlingthesedatastructuresusingbuiltinfunctions
CO3	Programing-Functions-Loops-Conditionalstatements-Handling.scifiles

CourseName:ObjectOrientedProgrammingPractical

CO1	Implementationof objectorientedprogrammingconcepts inC++usingTurboC.
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CourseName:MicroprocessorArchitecturePractical

CO1	Developingandimplementingassemblylanguageprogramsto performarithmeticand logicaloperations
CO2	Performvariousmemoryrelatedoperationswith8085microprocessor.
CO3	Utilizeinternalregisterstructureof8085microprocesortoperformvariousoperations.

CourseName:WebProgrammingPractical

CO1	ImplementingwebprogrammingconceptofHTML,javascriptandphp.
CO2	Toattainexpertise inbuildingwebsiteswithadvancedprogrammingfeatures.

CourseName:NumericalandStatisticalMethodsPractical

CO1	Implementationandapplicationofnumericalmethodstosolvecomplexengineering problems.
CO2	UseScilabandprogrammingasatoolinsolvingproblems.

CourseName:GreenComputingPractical

CO1	To do a small research project on any environmental related topic like, Carbon Footprint,EnergyConservation,Recycling,Datacentersdesignforefficientenergyusage,Reviewof GreenInitiatives inIndia andabroad
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