



ADITYA COLLEGE OF ENGINEERING & TECHNOLOGY

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ADB ROAD, ADITYA NAGARA, SURAMPALEM-533437

Department of Civil Engineering

Reinforced cement concrete detailing Syllabus

1. Introduction.
2. Some highlighted aspects of Basics of Design.
3. Detailing of Beams.
4. Detailing of Slabs.
5. Detailing of Columns.
6. Detailing of Beam-Column Joints
7. Detailing of walls.
8. Detailing of Corbels.
9. Detailing of Cantilevers.
10. Detailing of transfer structures.
11. Detailing of footings.
12. Detailing of Pile Caps.
13. Design against Robustness.
14. Shrinkage and Creep.

Course Coordinator

Head of the Department

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Department of Civil Engineering

TEKLA Syllabus

1. Modelling steel members
2. Using system components
3. Modelling stairs, ladders and hand rails
4. Cuts in steel members
5. Importing and modelling around an IFC file created by other design software
6. Instruction on how to publish a model to Tekla BIMsight
7. Adding connections and bolt groups
8. Foundation reinforcement
9. Creating basic custom components
10. Creating models with reference to external drawings
11. Drawing settings
12. GA drawings
13. Assembly and part drawings
14. CE Marking role
15. Numbering and marking up
16. Editing drawings
17. Cloning drawings
18. Sub assemblies
19. Generating fabrication drawings
20. Drawing register

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Department of Civil Engineering

REVIT Syllabus

- 1: Introduction to BIM and Autodesk Revit.
- 2: Basic Drawing and Modify Tools.
- 3: Setting Up Levels and Grids.
- 4: Modeling Walls.
- 5: Working with Doors and Windows.
- 6: Working with Curtain.
- 7: Working with Views.
- 8: Adding Components.
- 9: Modeling Floors.
- 10: Modeling Ceilings.
- 11: Modeling Roofs.
- 12: Modeling Stairs, Railings, and Ramps.
- 13: Creating Construction Documents.
- 14: Annotating Construction Documents.
- 15: Adding Tags and Schedules.
- 16: Creating Details.

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STAAD Pro Syllabus

1. Creating Models, Structures, Graphical Interface.
2. How to Specify Member Properties, Material Constants, Supports, Loads, Analysis Type.
3. Annotating the Displacements.
4. Creating Models of a Reinforced Concrete Framed Structure
5. Modeling and Analysis of a Slab
6. Interoperability Feature
7. Interactive Design Information
8. Creating Models Using Graphical Interface
9. Performing Analysis and Designing
10. Viewing Results Using the Output File
11. Viewing Post -Processing
12. Stress Contours
13. Specifying Post-Analysis Print Commands
14. Producing on Onscreen Report
15. Viewing Supports Reactions

A. Naga Sai

Course Coordinator

A. Naga Sai

Head of the Department

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Department of Electrical and Electronics Engineering

PLC Programming Applications Syllabus

1. Introduction to PLC
2. Design of Logic Gates
3. Design of Logic Gates using PLC Program
4. Speed control of Induction Motor
5. Speed control of Induction Motor using PLC Program
6. Conveyor belt Motor
7. PLC program for Conveyor belt Motor
8. Relay switching
9. PLC program for Relay switching
10. Voltage control of electrical load
11. PLC program for Voltage control of electrical load


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Department of Electrical and Electronics Engineering

Power systems analysis on MATLAB Syllabus

1. Introduction to MATLAB
2. Formation of Y-bus
3. MATLAB program for Formation of Y-bus
4. Solving nodal equations by forward and backward substitution
5. MATLAB program for solving nodal equations by forward and backward substitution
6. Power flow studies by gauss and Newton Raphson method using Zbus
7. MATLAB program for Power flow studies by gauss and Newton Raphson method using Zbus


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9. PLC program for Relay switching
10. Voltage control of electrical load
11. PLC program for Voltage control of electrical load


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Department of Mechanical Engineering

Implementation of Meshing methods in CFD Syllabus

1. Introduction to CFD
2. Governing equations
3. Partial differential equations (Elliptical, Parabolic and Hyperbolic equations)
4. Meshing methods & Techniques
5. Grid generation
6. Staggered grid and unstaggered grid
7. Post processing Techniques
 - a. Finite Element Method
 - b. Finite Difference Method
 - c. Finite Volume Method
8. Problem solving using MATLAB.
9. Practicing the problems using MATLAB for grid independency check.

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Department of Mechanical Engineering

Design and Simulation using Ansys Workbench Syllabus

1. Introduction to ANSYS workbench
2. Geometry design in workbench
3. Meshing methods
4. Post processing Techniques
5. Heat transfer problems
6. Fluid flow problems
7. Fluent problems practicing
8. Conjugate heat transfer through pipes

Promod Kumar
Course Coordinator

19/11/21
Head of the Department

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Department of Mechanical Engineering

Introduction to Ansys Using CFD Syllabus

1. Introduction to ANSYS CFD workbench
2. Governing equations
3. Partial differential equations (Elliptical, Parabolic and Hyperbolic equations)
4. Meshing methods
5. Post processing Techniques
 - a. Finite Element Method
 - b. Finite Difference Method
 - c. Finite Volume Method
6. Heat transfer problems using FVM
7. Fluid flow problems using FVM
8. Conjugate heat transfer through pipes using FVM


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Department of Mechanical Engineering

SOLIDWORKS Syllabus

1. Introduction to SOLIDWORKS
2. Drawing Sketches in the Sketcher Workbench
3. Solid modeling
4. Drafting
5. Surface modeling
6. Assembly Modeling
7. Simulation for structural problems
8. Heat transfer simulation problems

P. S. V. V. Srinivas

Course Coordinator

P. Srinivas

Head of the Department

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Department of Mechanical Engineering

Drafting & Modeling Using AutoCAD Syllabus

1. Introduction to Drawing, Projections and views.
2. Introduction to AutoCAD, Workspace, units, limits, sheet setting manager and co-ordinate systems, Layouts and settings.
3. 2D drawing, Introduction, draw tool commands, Drafting using draw tools practice, Drafting using draw tools practice, modifying tools in drafting practice, Trim, extension, fillet, chamfer, Mirror, copy, move, offset, Modifying tools in drafting practice, Arrays, Scale.
4. Annotations - Dimensioning, text, multi leader, hatching types, and styles, Layers - layer creation, properties, modifying, drawing objects, Blocks - creation and insertion, grouping commands, measuring and data extraction, Isometric projection in 2D, drawing objects in Isometric projections in 2D, Snap settings, drawing objects in Isometric, Types of files saving formats and exporting to other applications.
5. Modeling in 3D - Introduction, tools, Different geometries, Editing tools, Boolean operators, Views
6. Practicing 2D to 3D conversion, Material selection – rendering

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CATIA Syllabus

1. Introduction to CATIA
2. Drawing Sketches in the Sketcher Workbench
3. Solid modelling
4. Drafting
5. Surface modelling
6. Assembly Modelling


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Schedule of Drafting & Modeling Using AutoCAD Syllabus:

03.10.2018: Day-1

FN Inauguration of the Program and speakers talk about the objectives of the event

AN Introduction to projection of drawings

04.10.2018: Day-2

FN Introduction to AutoCAD, interface settings

AN Practicing design models with 2D drawing, draw tools

05.10.2018: Day-3

FN Practice of design models with Modifying tools like trim, extend, mirror in 2D

AN Practice of 2D drawings with modifying tools like arrays, scale, offset

06.10.2018: Day-4

FN Annotations utilization: Tables, leader concepts, Assigning dimensions- types of dimensions

AN Settings of annotations: Dimensions, dimension styles- text, size, lines, etc

08.10.2018: Day-5

FN Layers: Creating layers, isolating, properties, matching

AN Blocks: Creation of blocks, inserting, modifying

09.10.2018: Day-6

FN Line properties: weightage, types, practicing 2D drawings with all conditions

AN Introduction 3D modeling, modeling tools, Editing tools

10.10.2018: Day-7

FN Solids separation, slice and practice, Conversion of solids to surfaces

AN modifying tool, and doubts clarification.

11.10.2018: Day-8

FN Assessment test

AN Valedictory

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Workshop on Robotics Syllabus

1. Introduction to robotics
2. Aurdino board
3. Programming for aurdino
4. Types of aurdino pairing devices
5. Mobile application
6. Basic programming


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Welding Workshop Syllabus

1. Introduction to welding
2. welding classification and industrial applications
3. Types of welding
4. Arc welding
5. Gas welding
6. TIG welding
7. MIG Welding
8. Submerged arc welding
9. Friction stir welding

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Department of Mechanical Engineering

Diagnosis of Refrigeration & Air - Conditioning Syllabus

1. Introduction to refrigeration cycles
2. Vapor compression refrigeration
3. Vapor absorption refrigeration
4. Compressors- Classification, types
5. Working of reciprocating compressor
6. Working of rotary compressor
7. Maintenance of the refrigerator
8. Maintenance of the compressors

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Department of Mechanical Engineering

CFD simulation Introduction Syllabus

1. Introduction to ANSYS CFD workbench
2. Governing equations
3. Partial differential equations (Elliptical, Parabolic and Hyperbolic equations)
4. Meshing methods
5. Post processing Techniques
 - a. Finite Element Method
 - b. Finite Difference Method
 - c. Finite Volume Method
6. Heat transfer problems using FVM
7. Fluid flow problems using FVM
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Department of Electronics & Communication Engineering

C training for ECE Syllabus

1. Introduction. Straight-Line Code. Variables, Operators, Expressions and Conditionals
2. Loops and functions.
3. One-Dimensional Arrays and Pointers.
4. Recursion, Multi-dimensional Arrays, Linked Lists.
5. Operating on files.
6. Organizing C projects, working with multiple source directories, makefiles.

K.V. Prasad

Course Coordinator

A. Kumar

Head of the Department

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AWS MACHINE LEARNING SYLLABUS

1. Introduction to Cloud Computing & Account Registration in AWS, AWS Global Architecture.
2. Demo on Servers, How to launch instances (Servers) in Cloud.
3. AWS Security Groups, AMIs and Volumes in AWS.
4. To Configure Amazon Virtual Private Cloud (VPC).
5. VPC Peering, NAT Gateway, To Assign Elastic IP address.
6. Application Deployment in Cloud using EC2.


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BUILDING ROBOTS WITH TJBOT SYLLABUS

1. TJBOT overview.
2. TJBOT and IBM Watson services.
3. Setup the virtual simulator NODE-RED and configure the bot.
4. Experiment of move the robot arm.
5. Experiment of make the robot see.


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Python for ECE Syllabus

1. Python Introduction, Literate Programming, Jupyter Notebook Environment.
2. Markdown format for documentation, Python basics.
3. Keywords in Python, Operators in Python, Conditional Statements.
4. Iterations, Jump Statements (Break, Continue with examples), continue(with example).
5. Functions, Arguments in Functions, Strings, Python Data Structures.
6. Lists, List Methods, Tuples, Tuple Methods.
7. Dictionaries, Dictionary Methods, Sets, Set Methods.
8. Packages and Modules, Regular Expression, File Handling.
9. List Comprehension, Iterators, Generators.
10. Functional Programming: Maps, Filters, Lambda.

T. Dew

Course Coordinator

Ashwini

Head of the Department

Principal
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GOOGLE CLOUD PLATFORM FUNDAMENTALS CORE INFRASTRUCTURE SYLLABUS

1. Introducing Google Cloud Platform.
2. Getting Started with Google Cloud Platform
3. Virtual Machines in the Cloud
4. Storage in the Cloud
5. Containers in the Cloud
6. Applications in the Cloud
7. Developing, Deploying and Monitoring in the Cloud
8. Big Data and Machine Learning in the Cloud

A. V. Harqui
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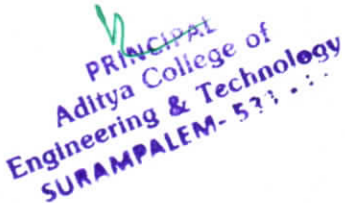
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Digital signal processing with MATLAB Syllabus

1. Introduction to MATLAB, History, Toolbox, Command Window, Script .m-file Function MATLAB Documentation, Uses of MATLAB.
2. **Basic Mathematics Using MATLAB:** Data types, Matrix, Differentiation, Integration.
3. **Logic Operations Using MATLAB:** Conditional Operators, for loop, While loop, While loop.
4. **Graph:** Plotting of linear variables, plotting of signals.
5. **Image Processing:** Image Processing Toolbox, Types of Image, Image Resizing.
6. MATLAB Simulink.


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Signals & Systems with MATLAB Syllabus

1. Introduction to MAT lab, applications.
2. Standard signals representation using MAT lab.
3. Fourier series representation of various signals using MAT lab.
4. Fourier transforms techniques using MAT lab.
5. Representation of Fourier transform for various signals using MAT lab.
6. Z-transform representation of various signals using MAT lab.

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NDG LINUX ESSENTIALS Syllabus

1. Introduction to Linux, Open Source Applications and Licenses.
2. Using Linux, command line skills, getting help.
3. Working with Files and Directories, Archiving and Compression, Pipes, Redirection, and REGEX.
4. Basic Scripting, Understanding Computer Hardware, Managing Packages and Processes.
5. Network Configuration, System and User Security.
6. Managing Users and Groups, Ownership and Permissions.

K. Madhavi

Course Coordinator

A. V. V. V.

Head of the Department

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Robotics Syllabus

1. **Introduction to Robotics:** Introduction to Robotics, The Engineering Design Process, Best practices in engineering design.
2. **Introduction to computer programming:** Fundamentals of computer languages and machine logic, loops, iterations, Variables, arithmetic operations and logical operations, libraries.
3. **Introduction to computer circuits:** Electricity, voltage and current. Fundamentals of electric circuits, Ideal sources and resistors, Ohm's law and Kirchhoff's law, Capacitors and RC circuits.
4. Early Robotic Topics, Sensors, Actuators and Manipulators
5. **Introduction to Robot Mechanics:** Power and torque, Acceleration and velocity, Design models for ground mobile robots, Design models for mechanic arms and lifting systems, Fundamentals of kinematics.
6. **Advanced topics on Robotics:** Sensing distance and direction. Line Following Algorithms. Feedback Systems. Other topics on advance robotic techniques.


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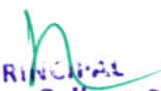
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SOLVE A THON Syllabus

1. Frame and personalize Solve's challenges.
2. Ideate and research potential solutions.
3. Refine and prototype solution designs.
4. Submit ideas and pitch to the group.
5. Personalize and frame Solve the problems
6. Come up with new ideas and do some research on potential solutions.
7. Solution designs should be fine-tuned and prototyped.


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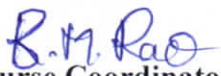
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Cyber security essentials Syllabus

1. Introduction to Cyber Security, Hacker Mindset, Attack Lifecycle.
2. Practical: Environment setup and troubleshooting. Setting up Kali Linux and vulnerable environments.
3. Theory: Introduction to Kali Linux and Metasploitable, vulnerability, assessment, Ransomware case study: Wannacry.
4. Practical: Network enumeration and analysis, networking commands, Exploiting Metasploitable.
5. Cyber Security Laws, IOT security, Data backup, log management.
6. Secure Configure management and security hardening.


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Introduction to JAVA for ECE Syllabus

1. Polymorphism
2. Collections
3. Recursion
4. Generics
5. Files, Streams, and Object Serialization
6. Lambda Expressions
7. Sorting and Searching
8. Concurrency
9. JDBC.

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Python for ECE Syllabus

1. Python Introduction, Literate Programming, Jupyter Notebook Environment.
2. Markdown format for documentation, Python basics.
3. Keywords in Python, Operators in Python, Conditional Statements.
4. Iterations, Jump Statements (Break, Continue with examples), continue(with example).
5. Functions, Arguments in Functions, Strings, Python Data Structures.
6. Lists, List Methods, Tuples, Tuple Methods.
7. Dictionaries, Dictionary Methods, Sets, Set Methods.
8. Packages and Modules, Regular Expression, File Handling.
9. List Comprehension, Iterators, Generators.
10. Functional Programming: Maps, Filters, Lambda.

T. Devi

Course Coordinator

Ankusha

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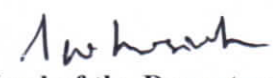
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ROBOTICS Syllabus

1. **Introduction to Robotics:** Introduction to Robotics, The Engineering Design Process, Best practices in engineering design.
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IOT training Syllabus

1. Introduction to Basics of Electronics.
2. Introduction to Arduino Programming.
3. Interfacing sensors to the Arduino board.
4. IOT protocols
5. Nodemcu Programming,
6. MQTT configuration.


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COMPUTER HARDWARE and NETWORKING SYLLABUS

1. Fundamentals of Information Technology & Operating Systems
2. Basics of Electronics & Microprocessor
3. PC Assembling & Troubleshooting
4. Programming in C
5. Communication & Soft Skills
6. Hardware Lab-I (PC Assembling & Troubleshooting).
7. Computer Networks
8. Windows 2003 Server Administration
9. Linux Administration
10. Database Administration
11. Software Lab-I (Windows 2003 Server & Linux)

N. Suryakala
Course Coordinator

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IOT training Syllabus

1. Introduction to IOT and cloud computing concepts.
2. How open platforms allow you to store your sensor data in the cloud.
3. Basic use of Arduino, Raspberry Pi, Node MCU environment for creating your own embedded devices at low cost.
4. How to connect Arduino, Raspberry Pi with your android phone.
5. Basic use of Raspberry Pi.
6. Use Arduino and Raspberry Pi in IOT.
7. How to create your own android app using MIT app inventor.
8. How to control any device from anywhere in the world.
9. MQTT protocols.
10. How to update sensor readings on any social networks.


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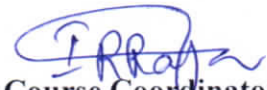
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Introduction to JAVA for ECE Syllabus

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4. Generics
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6. Lambda Expressions
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8. Concurrency
9. JDBC.



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4. Iterations, Jump Statements (Break, Continue with examples), continue(with example).
5. Functions, Arguments in Functions, Strings, Python Data Structures.
6. Lists, List Methods, Tuples, Tuple Methods.
7. Dictionaries, Dictionary Methods, Sets, Set Methods.
8. Packages and Modules, Regular Expression, File Handling.
9. List Comprehension, Iterators, Generators.
10. Functional Programming: Maps, Filters, Lambda.

g.w. prasad

Course Coordinator

A. S. S. S.

Head of the Department

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RHCSA(Red Hat Certified System Administrator)Syllabus

1. Understand and use essential tools, Create simple shell scripts
2. Operate running systems, Configure local storage
3. Create and configure file systems, Deploy, configure, and maintain systems
4. Manage basic networking, Manage users and groups
5. Manage security
6. Manage containers


Course Coordinator


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SUSTAINABILITY AND ENTREPRENEURSHIP Syllabus

1. Introduction to entrepreneurship and ideation.
2. Market research and validation.
3. Legal component,
4. Mobilizing resources.
5. Operations, management & value creation.
6. Growth and social responsibility

N. Suryakala
Course Coordinator

Ankur
Head of the Department

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Signals & Systems with MATLAB Syllabus

1. Introduction to MAT lab, applications.
2. Standard signals representation using MAT lab.
3. Fourier series representation of various signals using MAT lab.
4. Fourier transforms techniques using MAT lab.
5. Representation of Fourier transform for various signals using MAT lab.
6. Z-transform representation of various signals using MAT lab.


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Digital signal processing with MATLAB Syllabus

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2. Basic Mathematics Using MATLAB: Data types, Matrix, Differentiation, Integration.
3. Logic Operations Using MATLAB: Conditional Operators, for loop, While loop, While loop.
4. Graph: Plotting of linear variables, plotting of signals.
5. Image Processing: Image Processing Toolbox, Types of Image, Image Resizing.
6. MATLAB Simulink.


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Machine Learning Syllabus

1. Introduction to Machine Learning and its types
2. Regression and its types
3. Perceptron Learning
4. Artificial Neural Networks - Early Models and Backpropagation
5. Decision Trees and Regression Trees
6. Evaluation Measures and ROC curve
7. Random Forests and Bayesian Networks
8. Clustering and Gaussian Mixture models
9. Linear Theory and Reinforcement Learning

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RPA (Ui Path) Syllabus

1. Introduction to UiPath
2. Variables and Control Flow
3. Data Manipulation
4. Recording
5. Advanced UI Interaction
6. Selectors
7. Image and Text Automation
8. Advanced Citrix Automation
9. Excel and DataTables
10. PDF Introduction
11. Email Automation

E. Aishwarya

Course Coordinator

M. Anil Kumar

Head of the Department

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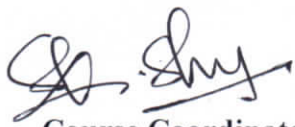
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Department of Computer Science and Engineering

Software Testing Using Selenium Syllabus

1. Introduction of Selenium
2. Components of Selenium
3. Locators of Selenium
4. Introduction of Selenium IDE
5. Selenium IDE concepts
6. Selenium IDE Commands
7. Selenium Webdriver
8. Selenium – JAVA language
9. SeleniumDriver – IDE – JAVA – Junit
10. Concepts of Framework
11. Training on Real Time Projects


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2D Gaming Syllabus

1. Introduction to Gaming,
2. Unity Interface,
3. Components, GameObjects
4. Physics
5. Animations
6. Audio and Video
7. Instantiating
8. PlayerPrefs

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Visualisation Tools in Python Syllabus

1. Introduction to Visualization Tools
2. Basic Visualization Tools
3. Specialized Visualization Tools
4. Advanced Visualization Tools
5. Creating Maps and Visualizing Geospatial Data

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MEAN STACK Syllabus

1. Introduction to HTML
2. Introduction CSS
3. Applying CSS to HTML
4. Introduction to JavaScript
5. Applying JavaScript (internal and external)
6. ReactJS
7. NodeJS
8. SQL and NoSql Concepts
9. Create and Manage MongoDB
10. Migration of Data into MongoDB
11. Developing a Python Application
12. Connect MongoDB with Python

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Schedule of RHCSA Syllabus:

Day-1:

- FN Inauguration of the Program and speakers talk about the objectives of the event
- AN Introduction and use essential tools

Day-2:

- FN Create simple shell scripts
- AN Operate running systems

Day-3:

- FN Configure local storage
- AN Create and configure file systems

Day-4:

- FN Create and configure file systems
- AN Deploy, configure, and maintain systems

Day-5:

- FN Manage basic networking
- AN Configure IPv4 and IPv6 addresses, hostname resolution, network services

Day-6:

- FN Manage users and groups
- AN Manage security

Day-7:

- FN Practice session
- AN Practice session

Day-8:

- FN Manage containers
- AN Perform basic container management such as running, starting, stopping, and listing running containers

Day-9:

- FN Practice and doubts clarification.
- AN Valedictory

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iOS Syllabus

1. Introduction to Swift
2. Introduction to Xcode
3. User Interfaces
4. Collections
5. Localization
6. Data Persistence
7. Web Services

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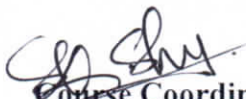
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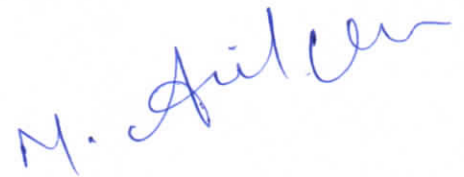
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Software Testing Using Selenium Syllabus

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Visualisation Tools using Python Syllabus

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Department of Information Technology

DATA VISUALISATION USING R Syllabus

1. Introduction to R programming
2. Basic charting.
3. Charts for data distribution.
4. Plots exploring differences in groups.
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6. Compositional data.
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8. Scatter plot matrices.
9. Conditioning plots.
10. Lattice graphs.
11. Interaction plots.
12. Adding to charts.
13. Additional data series.
14. Best-fit lines.
15. Customizing graphical parameters.
16. Altering margins.
17. Working with colour.
18. Changing graphical parameters.
19. Saving graphs.
20. Export graphics to disk files.

Course Coordinator

Head of the Department

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Department of Information Technology

ARTIFICIAL INTELLIGENCE Syllabus

1. Introduction to AI
2. Problem formulation
3. Search-I
4. Search - II
5. Production system
6. Ontology
7. Propositional logic
8. First order predicate logic
9. Fuzzy logic
10. Pattern Recognition
11. Distance-Based Neural Networks
12. Multilayer Neural Networks
13. Decision trees
14. Population-based search

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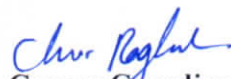
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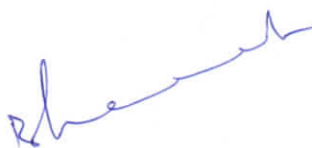
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Department of Information Technology

AUGUMENT REALITY Syllabus

1. Introduction
2. The difference between VR and AR
3. Virtual Reality
4. Augmented Reality
5. AR Companies
6. Mixed reality
7. Virtual Reality
8. Introduction
9. Augmented Reality
10. Introduction
11. Examples of AR
12. Creation & Applications of AR and VR
13. SDK and Games Engine
14. Extended Reality in Marketing
15. Application of AR and VR in different industries


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MEAN STACK Syllabus

1. Introduction to HTML
2. Browsers and HTML
3. Editor's Offline and Online
4. Tags, Attribute and Elements
5. Introduction CSS
6. Applying CSS to HTML
7. Selectors, Properties and Values
8. CSS Colors and Backgrounds
9. Introduction to JavaScript
10. Applying JavaScript (internal and external)
11. Understanding JS Syntax
12. Introduction
13. Templating using JSX
14. Components, State and Props
15. Python Installation & Configuration
16. Developing a Python Application
17. Connect MongoDB with Python

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Department of Information Technology

ANGULAR JS Syllabus

1. Introduction to HTML
2. Introduction to CSS
3. Introduction to JavaScript
4. Working with Objects
5. Angular JS Basics
6. Angular Expressions
7. Filters
8. Directives
9. Controllers
10. Angular JS Modules
11. Angular JS Forms
12. Scope
13. Dependency Injection & Services
14. Single Page Application (SPA)
15. Angular JS Animation
16. Introduction to Node JS
17. Setup Development Environment
18. Node JS Modules
19. Creating Web Server
20. File System
21. Serving Static Resources
22. Database Connectivity
23. Project Development

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Department of Information Technology

DATA VISUALISATION USING R Syllabus

1. Introduction to R programming
2. Basic charting.
3. Charts for data distribution.
4. Plots exploring differences in groups.
5. Relationships between variables.
6. Compositional data.
7. Exploratory charts.
8. Scatter plot matrices.
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Department of Master of Computer Applications

DEVOPS Syllabus

1. Version Control with Git
2. Git, Jenkins & Maven Integration
3. Continuous Integration using Jenkins
4. Configuration Management Using Ansible
5. Containerization using Docker Part – I
6. Containerization using Docker Part – II
7. Orchestration using Kubernetes Part - I
8. Orchestration using Kubernetes Part - II
9. Monitoring using Prometheus and Grafana
10. Provisioning using Terraform Part - I
11. Provisioning using Terraform Part - II
12. Selenium
13. Nagios
14. DevOps on Cloud
15. AWS EC2 and IAM

M.M. Siva Krishna
Course Coordinator

N. Ramakrishna
Head of the Department

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M.M. Siva Kai-shna
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N. Renuka
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M.M. Siva Krishna
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N. Ravikiran
Head of the Department

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Department of Master of Computer Applications

APPLIED DATA SCIENCES Syllabus

1. Using R for statistical modelling and decision making
2. Linear and generalised linear models are used for experimental and observational data
3. Artificial intelligence
4. Artificial intelligence
5. Applied statistics
6. Information retrieval
7. Digital economy
8. Survey sampling

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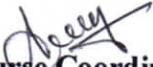
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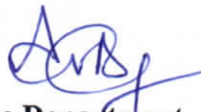
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Department of Management

Banking Products and Services Syllabus

1. Introduction to Banking history, types of banks in India and role of banking in the economic sector.
2. Understanding the types of Deposits and explain features, benefits, variants of Savings, Current, Fixed and recurring deposit, Types of Loans- Retail lending, secured and unsecured.
3. Financial Markets structure, institution and operating mechanism and its role in Economic development, Importance and features of money market in India, measures to strengthen the money market in India.
4. Capital Market and Stock Exchange in India, Different types of products and services offered by banks.
5. Understanding the concept of interest on savings, FD, Loans and overdrafts, understanding the trends and challenges in banking.
6. Understanding the role of Reserve bank of India and banking policies, CASA deposits and customer segments of CASA.


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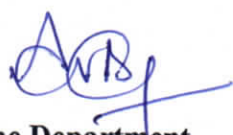
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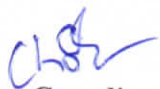
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Department of Information Technology

AWS Academic Cloud Foundations Syllabus

1. Introduction to AWS Academy Cloud Foundations, Introduction to Cloud Computing, Six Advantages of Cloud Computing, Amazon Web Services (AWS), The AWS Cloud Adoption Framework (CAF)
2. Introduction to Cloud Economics, Introduction to the AWS Infrastructure, AWS Global Infrastructure,
3. Introduction to Core Services, Compute Services Overview, Introduction to Amazon Elastic Compute Cloud (EC2), Amazon EC2 Cost Optimization
4. Introduction to AWS Lambda, Introduction to AWS Elastic Beanstalk, Amazon Elastic Block Store (EBS), Amazon Simple Storage Service (S3), Amazon Elastic File System (EFS)
5. Amazon Glacier, Amazon Virtual Private Cloud (VPC), Amazon VPC Security Groups, AmazonCloudFront, Amazon Relational Database Service (RDS), Amazon DynamoDB, Amazon Redshift
6. Amazon Aurora, Elastic Load Balancing (ELB), Amazon CloudWatch, Auto Scaling
7. Balancing, Scaling, and Monitoring, Introduction to Cloud Security, AWS Identity and Access Management (IAM), AWS CloudTrail,
8. AWS Security and Compliance Programs, AWS Security Resources, AWS Shared Responsibility Model, AWS Identity and Access Management (IAM).


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Department of Electronics & communication Engineering

CCNA Syllabus

Network Fundamentals -role and function of network components, Routers, L2 and L3 switches, Next-generation firewalls and IPS, Access points, Controllers (Cisco DNA Center and WLC), Endpoints, Servers

Network topology architectures- 2 tier, 3 tier, Spine-leaf , WAN , Small office/home office (SOHO), On-premises and cloud,

Physical interface and cabling types- Single-mode fibre, multimode fibre, Connections (Ethernet shared media and point-to-point), Concepts of PoE

Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed), TCP to UDP, Configure and verify IPv4 addressing and subnetting, verify IPv6 addressing.

IPv6 address types- Global unicast, Unique local, Link local, Anycast, Multicast, Modified EUI 64, Verify IP parameters for Client OS (Windows, Mac OS, Linux)

wireless principles- Nonoverlapping Wi-Fi channels, SSID, RF, Encryption, virtualization fundamentals (virtual machines)

switching concepts- MAC learning and aging , Frame switching , Frame flooding , MAC address table


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Department of Information technology

RHCSA(RED HAT CERTIFIED SYSTEM ADMINISTRATOR)Syllabus

1. Access the command line
2. Manage files from the command line
3. Get help in Red Hat Enterprise Linux
4. Create, view, and edit text files
5. Manage local users and groups
6. Control access to files
7. Monitor and manage Linux processes
8. Control services and daemons
9. Configure and secure SSH
10. Manage networking
11. Archive and transfer files
12. Install and update software
13. Access Linux files systems

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Department of Computer Science Engineering

CCNA CyberOps Syllabus

Network Concepts-network models, operations, network services, network device types, network security systems as deployed on the host, network, or the cloud, IP subnets and communication, VLANs and data visibility, operation of ACLs, packet filters, interfaces of network devices, deep packet inspection with packet filtering and stateful firewall operation, inline traffic interrogation and taps or traffic mirroring, network traffic.

Security Concepts-Risk, Threat, Vulnerability, Exploit, Threat actor, Run book automation (RBA), Chain of custody (evidentiary), Reverse engineering, Sliding window anomaly detection, PII& PHI, Principle of least privilege, Risk scoring/risk weighting, Risk reduction, Risk assessment, Discretionary access control, Mandatory access control, Nondiscretionary access control, Network and host antivirus, Agentless and agent-based protections, SIEM and log collection, Asset management, Configuration management, Mobile device management, Patch management, Vulnerability management

Cryptography-hash algorithm, encryption algorithms, symmetric and asymmetric encryption algorithms, digital signature creation and verification, PKI, secure communications protocols, cryptographic exchange impacts security investigation.

Host-Based Analysis-security monitoring, Host-based intrusion detection, Antimalware and antivirus, Host-based firewall, Application-level whitelisting/blacklisting, Systems-based sandboxing (such as Chrome, Java, Adobe reader), Windows security event logs, Unix-based syslog, Apache access logs, IIS access logs

Security Monitoring-TCP Dump, NetFlow, Next-Gen firewall, Traditional stateful firewall, Application visibility and control, Web content filtering, Email content filtering, Full packet capture, Session data, Transaction data, Statistical data, Extracted content, Alert data, Access control list, NAT/PAT, Tunneling, TOR, Encryption, P2P, Encapsulation, Load balancing, NextGen IPS event types, Connection event, Intrusion event, Host or endpoint event, Network


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discovery event, NetFlow event, function of protocols in security monitoring, DNS, NTP, SMTP/POP/IMAP, HTTP/HTTPS

Attack Methods-attack surface and vulnerability, network attacks, Denial of service, Distributed denial of service, Man-in-the-middle, web application attacks, SQL injection, Command injections, Cross-site scripting, Phishing, Evasion methods, Encryption and tunnelling, Resource exhaustion, Traffic fragmentation, Protocol-level misinterpretation, Traffic substitution and insertion, Pivot endpoint-based attacks, Buffer overflows, Command and control (C2), Malware, Rootkit, Port scanning, Host profiling, privilege escalation, remote exploit and a local exploit

Course Coordinator

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Department of Mechanical Engineering

Workshop on Robotics Syllabus

1. Introduction to robotics
2. Aurdino board
3. Programming for aurdino
4. Types of aurdino pairing devices
5. Mobile application
6. Basic programming

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Department of Computer Science Engineering MEAN STACK Syllabus

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Department of Information Technology

MACHINE LEARNING USING PYTHON Syllabus

Machine Learning Basics
Understanding Machine Learning
Deep Learning, Python Libraries for Deep Learning
Machine Learning Methods
The CRISP-DM Process Model
NumPy
Creating Arrays
Pandas
Scikit-learn
Tensorflow
Time Series Analysis
Processing, Wrangling, and
Visualizing Data
Data Wrangling, Visualizing with Pandas
Binarization
Transforming Ordinal Features
One Hot Encoding Scheme
Dummy Coding Scheme

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Department of Electronics & Communication Engineering

IOT TRAINING TO ECESyllabus

1. Things and Connections
2. Sensors, Actuators and Microcontrollers
3. Software is Everywhere
4. Networks, Fog and Cloud Computing
5. Digitization of the Business IoT application in Business
6. Create an IoT Solution

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Department of Computer Science Engineering

INDUSTRIAL AUTOMATION Syllabus

1. Introduction to Automation, Basic principles and strategies of automation,
2. Overview of manufacturing operations, Basic elements of an automated system,
3. Overview of industrial control systems, Hardware components; sensors, actuators, ADC, DAC
4. Automation and Process Control, Logic control systems,
5. Programmable Logic Controllers
6. Microcontrollers, Robotics and Automated Manufacturing Systems,
7. Industrial robotics
8. NC technology, Flexible manufacturing systems, Computer Integrated Manufacturing

M. Venkata Reddy
Course Coordinator

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Head of the Department

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UI DESIGNINGSyllabus

UI/UX Overview, Figma Basics

Interaction Design, Figma Grayscales

Grayscales & User Testing,

UX Principles, Blocking Grayscales,

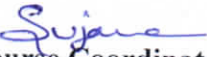
User FlowFigma Prototype, Understanding user testing,

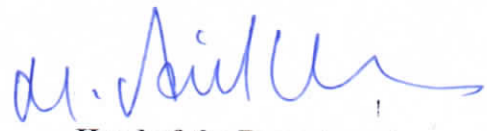
UI Principles, UI Analysis,

Non-Traditional UI,UI Special Topics, Creating UI Design

Style Guide Analysis, Responsive Design,

Visual Display of Information


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Department of Information Technology

CYBER SECURITY ESSENTIALS Syllabus

Cybersecurity Fundamentals -critical factors of information assurance, *vulnerability* and *risk*, concepts of cybersecurity risk management, cybersecurity threats to an organization, national and industry standards and regulations that relate to cybersecurity, cyberattack surface of various organizations.

Computer Networks as a Foundational Element of Cybersecurity-wired network, wireless networks, networking conceptual models, services and potential vulnerabilities, network types, concept of the Internet as a network of connected systems, Identify networking protocols.

Cyber Threats and Vulnerabilities-types of cyber threats, types of current cyber threats, concept of malware and the techniques to guard against it, Identify the perpetrators of different types of malicious hacking, characteristics of vulnerabilities, Identify the prevention of and protections against cyber threats, Identify the cyber risks associated with bring your own device (BYOD) opportunities on computer networks.

Ethics as it Relates to Cybersecurity-*cyberbullying*, constitute cyberbullying,

Netiquette relates to cybersecurity, Identify laws applicable to cybersecurity, data Privacy

Securing Operating Systems-components of an operating system, types of operating systems. desktop and server operating systems, potential vulnerabilities, threats, and common exploits to an operating system, best practices for protecting operating systems, cybersecurity, implications for Current and Emerging Technologies.


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Department of Electronics & communication Engineering

CCNA ROUTING AND SWITCHING: INTRODUCTION TO NETWORKS Syllabus

Network Fundamentals -role and function of network components, Routers , L2 and L3 switches , Next-generation firewalls and IPS, Access points, Controllers (Cisco DNA Center and WLC), Endpoints, Servers

Network topology architectures- 2 tier, 3 tier, Spine-leaf , WAN , Small office/home office (SOHO), On-premises and cloud,

Physical interface and cabling types- Single-mode fibre, multimode fibre, Connections (Ethernet shared media and point-to-point), Concepts of PoE

Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed), TCP to UDP, Configure and verify IPv4 addressing and subnetting, verify IPv6 addressing.

IPv6 address types- Global unicast, Unique local, Link local, Anycast, Multicast, Modified EUI 64, Verify IP parameters for Client OS (Windows, Mac OS, Linux)

wireless principles- Nonoverlapping Wi-Fi channels, SSID, RF, Encryption, virtualization fundamentals (virtual machines)

switching concepts- MAC learning and aging, Frame switching , Frame flooding , MAC address table

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CCENTSyllabus

1. Introduction to TCP/IP Networking, Fundamentals of Ethernet LANs, Fundamentals of WANs
2. Fundamentals of IPv4 Addressing and Routing, Fundamentals of TCP/IP Transport Applications
3. Using the Command Line Interface, Analyzing Ethernet LAN Switching, Configuring Basic Switch Management, Configuring Switch Interfaces,
4. Analyzing Ethernet LAN Designs, Implementing Ethernet Virtual LANs, Troubleshooting Ethernet LANs, Perspectives on IPv4
5. Subnetting, Analyzing Classful IPv4 Networks, Analyzing Subnet Masks, Analyzing Existing Subnets
6. Operating Cisco Routers, Configuring IPv4 Addresses and Static Routes, Learning IPv4 Routes with RIPv2, DHCP and IP Networking on Hosts,
7. Subnet Design, Variable Length Subnet Masks, IPv4 Troubleshooting Tools, Troubleshooting IPv4 Routing, Basic IPv4 Access Control Lists, Advanced IPv4 ACLs and Device Security,
8. Network Address Translation, Fundamentals of IPv6, IPv6 Addressing and Subnetting, Implementing IPv6 Addressing on Routers, Implementing IPv6 Addressing on Hosts, Implementing IPv6 Routing,
9. Device Management Protocols, Device Security Features, Managing IOS Files, IOS License Management

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Department of Computer Science Engineering

WEB Development using PHP Syllabus

1. Introduction to PHP, Evaluation of PHP, Basic Syntax, Defining variable and constant, PHP Data type, Operator and Expression.
2. Decisions and loop Making Decisions, Doing Repetitive task with looping, Mixing Decisions and looping with Html.
3. Function What is a function, define a function, Call by value and Call by reference, Recursive function, String Creating and accessing, String Searching & Replacing String, Formatting String, String Related Library function.
4. Array Anatomy of an Array, creating index based and Associative array Accessing array, Element Looping with Index based array, looping with associative array using each () and foreach (), Some useful Library function.
5. Handling Html Form with PHP Capturing Form, Data Dealing with Multi-value field, and Generating File uploaded form, redirecting a form after submission.
6. Working with file and Directories, Understanding file & directory, Opening and closing, a file, Copying, renaming and deleting a file, working with directories, Creating and deleting folder, File Uploading & Downloading.
7. Session and Cookie Introduction to Session Control, Session Functionality What is a Cookie, Setting Cookies with PHP. Using Cookies with Sessions, Deleting Cookies, Registering Session variables, Destroying the variables and Session.
8. Database Connectivity with MySQL Introduction to RDBMS, Connection with MySQL Database, performing basic database operation (DML) (Insert, Delete, Update, Select), Setting query parameter, Executing query- Join (Cross joins, Inner joins, Outer Joins, Self joins.)
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Department of Computer Science Engineering

AWS Sys OpsSyllabus

Monitoring and Reporting

High Availability

Deployment and Provisioning

Storage and Data Management

Security and Compliance

Networking

Automation and Optimization

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Department of Computer Science Engineering

CCNA CyberOps Syllabus

Network Concepts-network models, operations, network services, network device types, network security systems as deployed on the host, network, or the cloud, IP subnets and communication, VLANs and data visibility, operation of ACLs, packet filters, interfaces of network devices, deep packet inspection with packet filtering and stateful firewall operation, inline traffic interrogation and taps or traffic mirroring, network traffic.

Security Concepts-Risk, Threat, Vulnerability, Exploit, Threat actor, Run book automation (RBA), Chain of custody (evidentiary), Reverse engineering, Sliding window anomaly detection, PII& PHI, Principle of least privilege, Risk scoring/risk weighting, Risk reduction, Risk assessment, Discretionary access control, Mandatory access control, Nondiscretionary access control, Network and host antivirus, Agentless and agent-based protections, SIEM and log collection, Asset management, Configuration management, Mobile device management, Patch management, Vulnerability management

Cryptography-hash algorithm, encryption algorithms, symmetric and asymmetric encryption algorithms, digital signature creation and verification, PKI, secure communications protocols, cryptographic exchange impacts security investigation.

Host-Based Analysis-security monitoring, Host-based intrusion detection, Antimalware and antivirus, Host-based firewall, Application-level whitelisting/blacklisting, Systems-based sandboxing (such as Chrome, Java, Adobe reader), Windows security event logs, Unix-based syslog, Apache access logs, IIS access logs

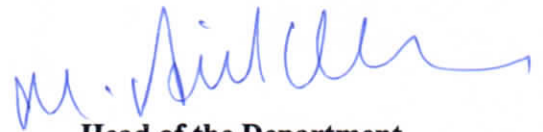
Security Monitoring-TCP Dump, NetFlow, Next-Gen firewall, Traditional stateful firewall, Application visibility and control, Web content filtering, Email content filtering, Full packet capture, Session data, Transaction data, Statistical data, Extracted content, Alert data, Access control list, NAT/PAT, Tunneling, TOR, Encryption, P2P, Encapsulation, Load balancing, NextGen IPS event types, Connection event, Intrusion event, Host or endpoint event, Network

discovery event, NetFlow event, function of protocols in security monitoring, DNS, NTP, SMTP/POP/IMAP, HTTP/HTTPS

Attack Methods-attack surface and vulnerability, network attacks, Denial of service, Distributed denial of service, Man-in-the-middle, web application attacks, SQL injection, Command injections, Cross-site scripting, Phishing, Evasion methods, Encryption and tunnelling, Resource exhaustion, Traffic fragmentation, Protocol-level misinterpretation, Traffic substitution and insertion, Pivot endpoint-based attacks, Buffer overflows, Command and control (C2), Malware, Rootkit, Port scanning, Host profiling, privilege escalation, remote exploit and a local exploit



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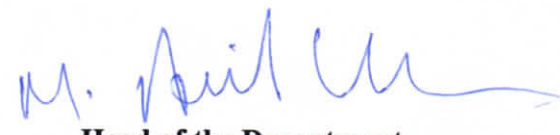
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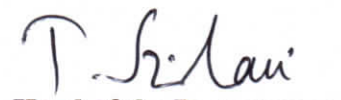
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Department of Mechanical Engineering

Workshop on Anukiran - mimicking robots Syllabus

1. Introduction to Robotics, History of Mimic Robotics Technology & Importance of Mimic Robots in Medical Treatment, Various Engineering Applications of Mimic Robots.
2. Design Considerations & Configurations of Mimic Robots, Development of Mimic Robots.
3. Understanding Actuation systems to Mimic Robots, Assembly of Parts and manipulators.
4. Programming for Actuation of Mimic Robots, Understanding the complicity in different ways of programming for Mimic Robots, Robotic arms learns to mimic using Artificial Intelligence.


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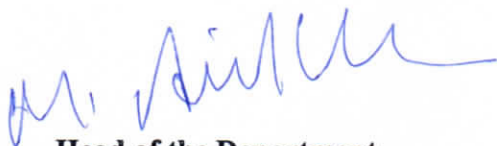
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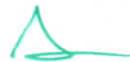
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