



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal - 500 043, Hyderabad, Telangana

COURSE CONTENT

SCRIPTING LANGUAGES								
VII Semester: CSE								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
ACSD50	Elective	L	T	P	C	CIA	SEE	Total
		3	-	-	3	40	60	100
Contact Classes:48	Total Tutorials: Nil	Total Practical Classes: Nil			Total Classes: 48			
Prerequisites: Database Management Systems								

I. COURSE OVERVIEW:

This course provides a comprehensive introduction to scripting languages used in web and software development. It begins with the fundamentals of scripting, highlighting the differences between scripts and traditional programs and their role in creating dynamic and interactive web applications. The course covers JavaScript for client-side scripting, including reactive web page elements, event handling, and form validation. It further introduces PERL for text processing and pattern matching, PHP for server-side scripting and web form handling, and Ruby for developing flexible and efficient web applications. Emphasis is placed on practical programming skills, enabling learners to design, implement, and deploy dynamic web-based solutions using multiple scripting languages.

II. COURSE OBJECTIVES:

The students will try to learn:

- The fundamentals of scripting languages and develop interactive web applications using JavaScript, including variables, control structures, functions, objects, and event-driven programming.
- JavaScript programming techniques to create dynamic and responsive web pages with form handling, event management, frames, and client-side form validation.
- The scripting solutions using Perl and PHP by utilizing data structures, control statements, regular expressions, file handling, and form processing for text manipulation and web-based applications
- The applications using Ruby by employing object-oriented programming concepts, modules, collections, file handling, and form processing to solve real-world scripting problems.

III. COURSE OUTCOMES:

At the end of the course, students should be able to:

- CO1** Understand the fundamentals of scripts and scripting languages for web-based applications.
- CO2** Apply core JavaScript to develop interactive web pages.
- CO3** Implement JavaScript programming rules to create reactive web elements
- CO4** Analyze and develop PERL programs for pattern matching.
- CO5** Design server-side applications and form processing techniques.
- CO6** Develop scripting solutions and form handling for web applications.

IV. COURSE CONTENT:

MODULE I: INTRODUCTION TO SCRIPTING LANGUAGES (9)

Introduction to Scripts and Scripting Languages–Scripts and Programs, Uses for Scripting Languages, Web Scripting.

Java Script: Variables, Data Types, Operators, Conditional statements, Loops, Arrays, Functions, Objects - Predefined objects, Accessing objects, Object Methods

MODULE II : JAVASCRIPT PROGRAMMING RULES (10)

JavaScript programming of reactive webpages elements: Java Script Events-Mouse events, Keyboard events, Form events, window events, Event handlers, Frames, Form object, Java Script Form Validation.

MODULE III: PERL (10)

PERL Programming: Data Types, Variables, Scalars, Operators, Conditional statements, Loops, Arrays, Strings, Hashes, Lists, Built-in Functions.

Pattern Matching and Regular Expression Operators: Regular Expression Syntax, Metacharacters, Character Classes, Quantifiers, Anchors, Grouping, Alternation, Pattern Matching, Match Operator, Substitution Operator, Transliteration Operator, Search and Replace, Text Processing and Validation Applications.

MODULE IV: HYPERTEXT PROCESSOR (10)

PHP: Data Types, Variables, Operators, Conditional statements, Loops, Arrays-Indexed Array, Associative Array, String Functions, Functions-Parameterized Function, Call By Value, Call all By Reference, File Handling, PHP Form handling.

MODULE V: RUBY (9)

Ruby: Data types, Variables, Operators, Conditional statements, Loops, Methods, Blocks, Modules, Arrays, Strings, Hashes, File I/O, Ruby Form handling.

V. TEXT BOOKS:

1. The World of Scripting Languages, David Barron, Wiley Publications.
2. Learning PHP, MySQL, JavaScript, CSS&HTML5: A Step-by- Step Guide to Creating Dynamic Websites 3rd Edition, O'Reilly Publications

VI. REFERENCE BOOKS:

1. The Ruby Programming Language, David Flanagan and Yukihiro Matsumoto, O'Reilly Publications.
2. Beginning Java Script with Dom scripting and AJAX, Russ Ferguson, Christian Heilmann Apress.
3. Programming Perl, Larry Wall, T. Christiansen and J.Orwant, O'Reilly, SPD.
4. Open Source Web Development with LAMP using Linux Apache, MySQL, Perl and PHP, J. Lee and B. Ware (Addison Wesley) Pearson Education.

VII. ELECTRONICS RESOURCES:

1. [https://www.coursera.org/learn/machine-learning /](https://www.coursera.org/learn/machine-learning/)
2. [https://www.kaggle.com /](https://www.kaggle.com/)
3. <https://cloud.google.com/docs>

VIII. MATERIALS ONLINE

1. Course Outline Description
2. Tutorial question bank
3. Tech talk topics
4. Open-ended experiments
5. Definitions and terminology
6. Assignments
7. Model question paper – I
8. Model question paper – II
9. Lecture notes
10. PowerPoint presentation
11. E-Learning Readiness Videos (ELRV)