

PARUL UNIVERSITY

Office of the Registrar
December 17, 2024

R/Notification-1405/2024-25

NOTIFICATION

Sub: Revision in the syllabus of B.Sc (IT) (Hons.), M.Sc (IT) offered under Faculty of Information Technology & Computer Science

Ref: (i) Proceedings of the Eighteenth Meeting of the Governing Body held on December 2, 2024

(ii) Orders of the Provost

PREAMBLE:

Dean, Faculty of IT and CS proposed to 1) revise the credit assigned to “Fundamental of Cyber Security & Forensics” (second semester M.Sc (IT) programme) from 05 credits to 04 credits and 2) revise the syllabus of B.Sc. (IT) (Hons.) and M.Sc. (IT) and 3) revise the syllabus of “Fundamental of Web Development” and “Open Source Technology using PHP in BCA and B.Sc (IT) programmes during the Eighteenth Meeting of the Governing Body held on December 2, 2024 which was approved by the Governing Body. Hence, the Order.

ORDER:

The following revisions are made in the syllabus of B.Sc (IT) (Hons.), M.Sc (IT) offered under Faculty of Information Technology & Computer Science from AY 2024-25

1.The revision in the syllabus of M.Sc (IT) is as follows:

Current Teaching Scheme FITCS M Sc (IT)		Revised Teaching Scheme FITCS M Sc (IT)		Remark
Sem - 1		Sem - 1		
Code	Subject	Code	Subject	
05202108	Software Engineering with Agile	05202113	The Linux Operating System (Name change ‘Open Source Operating System’ shall be done from AY 2025-26)	Newly Introduced
05202111	Open Source Technology	05291151	Computer Oriented Numerical and Statistical Methods	Newly Introduced
Sem - 2		Sem - 2		
Code	Subject	Code	Subject	
05202157	Computer Networking	05202157	Computer Networks & Network Security	Revision in title and syllabus

Sem - 2 Elective - 1		Semester - 2 Elective - 1		
Code	Subject	Code	Subject	
05202181	Software Project Management	05202183	Data Science with Python	Newly Introduced
		05202184	Web Application Development using ASP.NET	Shifted from core to elective
Sem - 3		Semester - 3		
Code	Subject	Code	Subject	
05202207	Web Application Development using ASP.NET	05202209	Advanced Web Development using React-JS	Newly Introduced
Sem - 3 Elective - 2		Semester - 3 Elective - 2		
Code	Subject	Code	Subject	
05202285	Open Source Tools and Frameworks	05202287	Internet Of Things	Newly Introduced

2.The revision in the syllabus of B.Sc (IT) is as follows:

	Existing Subject		Proposed Subject		Remark
Sem	Remark	BSc. IT Subjects	Credit	B.Sc (IT) Subjects	
1	Deleted from A.Y 2024-25	Core 2 - Web Design & Development (Theory with 3 Credits)	4	Core 1 - Digital Electronics (Theory)	Newly Introduced from AY 2024-25
1		Core 2 - Web Design & Development (Practical with 1 Credit)			

3. Revision in the syllabus of “Fundamental of Web Development” and “Open Source Technology using PHP in BCA and B.Sc (IT) programmes is as follows:

Subject Title: Fundamental of Web Development

Unit No.	Current syllabus Topics	Revised syllabus Topics
1	Internet and WWW Internet Basics: Concept of Internet, Evolution, Specification and establishment details, Intranets and extranets. Internet Applications :Email ,Telnet ,FTPWorld Wide Web: Concept, Webpage: static, Dynamic, Active Scripting languages: Server side, Client Side Web:Designing, Development and Publishing, HTTP, URL registration, browsers, Web server	Introduction to Computer Network and it Applications Computer Network. Type of Computer Network, · Different Terminologies used in Computer Network, Internet, ISP (Internet Service Provider), Intranet, VSAT (very small aperture terminal), URL, Portal, Domain, Name Server, World Wide Web (WWW), Search Engine, Remote Login, Telnet, Email, E-Commerce, E- Business, E-Governance, Mobile Commerce · Website Basics (WebPages; Hyper Text Transfer Protocol, File Transfer Protocol, Domain Names; URL; Protocol Address; Website[Static, Dynamic, Responsive etc], Web browser, Web Servers; Web Hosting
2	Starting with HTML Introduction to HTML, Basic block of HTML, Setting up the Document Structure, Formatting Text by using Tags, Using Lists and Backgrounds, Creating Hyperlinks and Anchors	Basic of HTML & Advance HTML 5 Fundamental of HTML Basic Tag and Attribute, · The Formatting Tags The List Tags, · Link Tag, · inserting special characters, Adding images and Sound, · lists types of lists, Table in HTML · Frame in HTML · Forms HTML 5 HTML5 Syntax, HTML5 Document Structure (section, article, aside, header, footer, nav, dialog, figure), Attributes of HTML 5, Web Form (datetime, date, month, week, time, number, range, email, url), Audio / Video – Canvas

3	Style Sheets and Graphics Introduction to Style Sheets, Formatting Text by Using Style Sheets, Formatting Paragraphs by Using Style Sheets, Displaying Graphics	Cascading Style Sheet: CSS3 • Introduction to CSS, Types of Style Sheets, Class , ID Selector, CSS Pseudo, CSS Font Properties, CSS Text Properties, CSS Background Properties, CSS List Properties, CSS Margin Properties, CSS Comments, CSS 3, Border Property, Background, Gradient Property, Drop Shadow Property - 2D & 3D Transform, Property - Transition Property, Box Sizing Property, Position Property, Media Query CSS Flexbox Properties (display, flex-direction, flex-wrap, flex-flow, justify-content, align-items, align-content, gap row-gap, column-gap) CSS Advance Properties (Overflow, text-overflow, Cursor, Visibility, filter, backdrop-filter, object-fit) How to use Google Fonts & Custom Fonts (@font-face) BEM Naming Convention
4	Page Layout and Navigation Creating Navigational Aids, & Creating Division- Based Layouts, Creating and Formatting Tables, Creating User Forms, Including Java Script and External Content	Java Script Introduction to JavaScript Variables, · JavaScript Operators, · Conditional Statements, · JavaScript Loops, · JavaScript Break and Continue Statements, · Dialog Boxes, JavaScript Arrays, · JavaScript User Define Function, · Built in Function, (string, Maths, Array, Date), · Events (onclick, ondblclick, onmouseover, onmouseout, onkeypress, onkeyup, onfocus, onblur, onload, onchange, onsubmit, onreset) · DOM & History Object, · Form Validation & E-mail Validation

5	Publishing on WebPublishing Pages, HTML for Email	Bootstrap Framework Introduction to Bootstrap - Bootstrap Layout (Container, Row, Columns, Responsive classes, Offset Column, Reordering Columns), Bootstrap Content (Typography, Tables, Images, Forms), Bootstrap Components (Navbar, Navs and tabs, Dropdowns, Buttons, Button Groups, Breadcrumb, Pagination, Labels, Alerts, Progress Bars, Accordion, Card, Modal), Bootstrap Utilities (Colors, Background, Borders, Display, Overflow, Position, Spacing, Text, Vertical align)
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Subject Title: Open Source Technology using PHP

Unit No.	Current syllabus Topics	Revised syllabus Topics
2	Configuration & Installation of PHP: System Requirements for PHP, PHP installation & Configuration in IIS / Apache Web Server, Working with WAMP / XAMP, Php.ini & .ht access files	Configuration & Installation of PHP: Installation of Xampp/Wampp, Php.ini & .ht access files
4	State Management: Query string, Cookies, Session, Hidden fields	State Management: Query string, Cookies, Session, Hidden fields, Introduction to JSON, Json_encode, Json_decode
5	Working with MySQL: Introduction to MySQL, MySQL Data Types. MySQL functions: mysql_connect, mysql_close, mysql_error, mysql_errno, mysql_select_db, mysql_query, mysql_fetch_array, mysql_num_Rows, mysql_affected_Rows, mysql_fetch_assoc, mysql_fetch_field, mysql_fetch_object, mysql_fetch_	Working with MySQL: Introduction to MySQL, MySQL Data Types. MySQLi library functions: mysqli_connect, mysqli_fetch_array.

	row, mysql_insert_id, mysql_num_fields, mysql_result, mysql_tablename , mysql_list_tables, mysql_list_fields, mysql_field_type, mysql_db_name ,mysql_db_query, mysql_data_seek	
6	Content Management System: Introduction to CMS, overview of CMS, Advantages of CMS, Word, press [Introduction & Installation], working with word press, themes, plugins, widgets, user roles, creating Posts & Pages.	This unit has been removed as it constitutes a distinct subject in the curriculum for undergraduate 4th semester students

4. Revision in the syllabus of “Cyber Security & Forensics - I” in MCA programmes and ‘Fundamental of Cyber Security & Forensics’ in M.Sc.IT are as follows:

Sr.	Current syllabus Topics	Revised syllabus Topics
1	Security Principles and Practices: Information security, Network security Model, Cryptography, Attacks on Cryptosystem, Traditional Cryptography, Modern cryptography methods (block cipher & stream cipher), Symmetric & Asymmetric Key Encryption, Feistel Cipher, DES- Data Encryption Standards, 3DES, AES- Advanced Encryption Standards, Block Cipher modes , Introduction to Public key encryption, Public key infrastructure, RSA algorithm, Model and Introduction to Hash, MAC and Digital Signature	Security Principles and Practices: Basic Cyber Security Concepts, layers of security, CIA Triad, Information security, Network security Model, Cryptography, Attacks on Cryptosystem, Traditional Cryptography, Modern cryptography methods (block cipher & stream cipher), Symmetric & Asymmetric Key Encryption, Feistel Cipher, DES- Data Encryption Standards, 3DES, AES- Advanced Encryption Standards, Block Cipher modes , Introduction to Public key encryption, Public key infrastructure, RSA algorithm, Model and Introduction to Hash, MAC and Digital Signature
6	Challenges in Cyber Forensics: Technical challenges - understanding the raw data and its structure, Legal challenges in computer forensics and data privacy	Introduction to Network Security: Networking Introduction ,Working Ip address and its classes, Hidden Concept of ip using integer format, DNS and working ,

	issues, Special tools and techniques - digital forensics tools, Special technique - data mining used in cyber forensics, Forensics auditing, Anti forensics.	Ports and Services, Network topology, HTTP Method , NAT ,Bridge , Host to Host in virtual box , Network manager, 3 way handshake, tcp header , http header
7	Forensics of Hand-Held Devices: Introduction, Hand-held devices and digital forensics -mobile phone, Personal Digital Assistant (PDA), printer, scanner, smart phone, iPhone, Challenges in forensics of the Digital images/still camera, Forensics of the BlackBerry wireless device, Toolkits for hand-held device forensics - EnCase, device seizure and PDA seizure, Palm DD, Cell seizure, MOBILEdit, Forensic SIM, Organizational guidelines on cell phone forensics – hand-held forensics as the specialty domain in crime context.	Cybercrime on Mobile and Wireless Devices: Introduction, Proliferation of Trends in Mobility, Credit card Frauds in Mobile Computing Era, Security Challenges Posed by Mobile Devices, Registry Settings for Mobile Devices, Authentication service Security, Attacks on Mobile/Cell Phones, Organizational security Policies and Measures in Mobile Computing Era.
9	Introduction to kali linux: Digital Forensics Tools : Autopsy, Mobile forensics: (ADB) DIVA.apk	Introduction to kali linux: Linux Distributions, Introduction to command line, Command Line Arguments and Options, Commands for Linux Linux Filesystem Hierarchy Standard, Devices, Partitions, and Mounting , Absolute and Relative Paths, Working with Files and Directories, Users and Group, Package managers, Shell and Access, Linux Default misconfiguration

By Order


Registrar

To,

Dean, Faculty of IT & CS and Principal, PICA

Copy to,

- 1) The Controller of Examinations
- 2) Director (IQAC)
- 3) PUMIS Coordinator

Submitted to,

- 1) The President
- 2) The Provost