

Percentage of Revision of M.Sc. (Computer Science)

Syllabus Revised for - 2020-2022

M.Sc. Computer Science						
S.No	Course Code	Course Title	Change Details			
			% of Changes	Content Deleted	Content Updated	Reason for Change
1	20PCS101	Design & Analysis of Computer Algorithms	Nil	Nil	Nil	-
2	20PCS102	Internet of Things	20%	Unit I: IoT System Management with NETCONF – YANG – IoT Platforms Design Methodology.(moved to Unit II. Reason: Heavy topics in Unit-I)	Unit I: Difference between IoT and M2M – SDN and – NFV for IoT. Unit II : IoT System Management with NETCONF – YANG, IoT Platforms Design Methodology (added from 1st Unit) Unit III: IoT Reference model – Domain model - Information model - Functional model – Communication model - IoT Reference Architecture. (From Unit II)	To evaluate Real World IoT Design Constraints, Industrial Automation in IoT.
3	20PCS103	Advanced Database Management System	100%	Nil	New Syllabus	To inculcate Advanced database concepts
4	20PCS104	Data mining and Warehousing	Nil	Nil	Nil	-

5	20PCS105	Programming Lab – I: Design & Analysis of Computer Algorithms and Advanced DBMS	50%	Nil	Advanced DBMS Lab Exercises	To inculcate Advance database concepts
6	20PCS106	Programming Lab – II: Internet of Things	100%	Nil	New Lab Exercises	To deploy use of IoT application and connect to the cloud
7	20PCS207	Advanced Java Programming	100%	All the 5 units contents were removed. (Java Script and Angular JS contents were removed)	All the 5 units contents are newly added. (Java Swings, Beans, Servlets, JDBC, JSP and RMI contents are added)	To instill concepts of Java Swings, Servlets, JDBC, JSP and RMI
8	20PCS208	Advanced Networks	60%	Unit I: Classful Internet Addresses (Moved to Unit-II.) Unit-IV: Mobile IP, Client-Server Model of Interaction, Bootstrap and Auto-configuration (Moved to Unit-V) Unit-V: Remote Login And Desktop	Unit-I: Protocol Layering(added from Unit-III) Unit II : Classful Internet Addresses (added from Unit-I) Unit-IV: Label Switching , Flows , and MPLS. Packet Classification. Unit-V: Network Visualization ,Voice and Video Over IP, Bootstrap and Auto-configuration (added from Unit-IV)	To interpret concepts of Network Visualization ,Voice and Video Over IP, Bootstrap and Auto-configuration
10	20PCS209	Cloud and Big Data Analytics	100%	Nil	New Syllabus	To present the broad perceptive of cloud architecture and Big Data Analytics
11	20PCS210	Programming Lab III: Advanced Java Programming	10%	Nil	Two new exercises added	To deploy RMI programs for real world applications

12	20PCS211	Programming Lab IV: Networking Lab	100%	Nil	New Lab Exercises	To analyze the problems and solutions associated with delivery and forwarding of packets
13	20PCS2P1	Pilot Project - I	-	-	-	-
14	20PCS2E1	Elective – I: Software Agents	100%	Nil	New Syllabus	To understand the agent framework
15	20PCS2E2	Elective –II: Computing Technologies	100%	Nil	New Syllabus	To understand the architecture and concept of different Cloud models- SaaS, PaaS, Web Services and On-Demand Computing
16	20PCS2E3	Elective –III: Mobile Computing	Nil	Nil	Nil	-
17	20PCS312	Advanced Python Programming	40%	Unit-IV GUI Programming: Graphical user Interface, Using the tkinter Module, Display text with Label Widgets- Organizing Widget with Frames-Button Widgets and Info Dialog Boxes, Getting Input with Entry Widget using Label as Output Fields, Radio button, Check buttons. Numpy: Arrays Array indexing data types Array math Broad casting	Data Analysis with Python: Reading and Writing Data in Text format – Reading Text Files in Pieces- writing data to text formats – Binary data formats- Reading Microsoft Excel Files- Interacting with Web API's-Interacting with Databases. Data Cleaning and Preparation: Handling Missing Data-Filtering Out Missing Data- Filling In Missing Data. Data Transformation: Removing Duplicates. Plotting and Visualization: A Brief matplotlib API Primer-Figures and Subplots-Colors, Markers, and Line Styles-Annotations and Drawing on a Subplot-Saving Plots to File-matplotlib	To evaluate and apply the functions and python libraries to analyze and solve various data analytic problems

				Unit-V Pandas: Environmental setup- Introduction to Data structures – Series- DataFrame – Panes- Basic Functionality- Function Application. Ipython: Running and editing Python Script – History Commands- System Commands- Command Line Options- Importing Python Shell code –agic commands.	Configuration. (Unit –IV) Unit-V Numpy Basics: Arrays and Vectorized Computation –The NumPy ndarrays: A multidimensional Array Object – Creating ndarrays- Data Types for ndarrays- Arithmetic with NumPy Arrays- Basic Indexing and Slicing-Boolean Indexing –Fancy Indexing-Methods for Boolean Arrays- Mathematical and Statistical Methods- File Input and Output with Arrays- Sorting.	
18	20PCS313	Android Programming	Nil	Nil	Nil	-
19	20PCS314	Network Security and Cryptography	100%	Nil	New Syllabus	To analyze various security practice and system security
20	20PCS315	Programming Lab- V: Advanced Python Programming	100%	Nil	New Lab Exercises	To validate how databases are integrated with components ,modular programming and the design of user interfaces
21	20PCS316	Programming Lab – VI: Android Programming	Nil	Nil	Nil	-
22	20PCS3E1	Elective – I: Artificial Intelligence and Expert Systems	Nil	Nil	Nil	-
23	20PCS3E2	Elective – II: Machine Learning	100%	Nil	New Syllabus	To understand different regression models, generalization and validation details.

24	20PCS3E3	Elective – III: Embedded Systems	Nil	Nil	Nil	-
25	20PCS4P2	Project Work and Viva - Voce(individual)	Nil	Nil	Nil	-

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