

Scheme of Examination

I SEMESTER									
Part	Subject Code	Title of the Paper	Duration in Hours per week	Examination					Page No.
				Hours	CIA	ESE	Total	Credits	
III	19PCS101	Android Programming	5	3	25	75	100	4	1
	19PCS102	Analysis & Design of Algorithms	5	3	25	75	100	4	3
	19PCS103	Advanced Networks	5	3	25	75	100	4	5
	19PCS104	Data Mining and Warehousing	5	3	25	75	100	4	7
	19PCS105	Programming Lab - I: Android Programming	5	3	40	60	100	4	9
	19PCS106	Programming Lab -II: Analysis & Design of Algorithms	5	3	40	60	100	4	11
II SEMESTER									
III	19PCS207	Data Analytics using Python Programming	5	3	25	75	100	4	13
	19PCS208	Information Security and Cryptography	4	3	25	75	100	4	15
	19PCS209	Big Data Analytics	4	3	25	75	100	4	17
	19PCS210	Programming Lab -III : Data Analytics	4	3	40	60	100	4	19
	19PCS211	Programming Lab-IV : Scala Programming	4	3	40	60	100	4	21
	19PCS212	Programming Lab-V : Unified Modeling Language and R Tool	3	3	40	60	100	4	23
	19PCS2EX	Elective – I	5	3	25	75	100	5	26
IV	19PCS2N1/ 19PCS2N2	Non Major Elective: Multimedia Packages Lab /Web Designing Lab	1	3	-	100	100	2	32



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III SEMESTER

Part	Subject Code	Title of the paper	Duration in Hrs per week	Examination					Page No.
				Hours	CIA	ESE	Total	Credits	
III	19PCS313	Angular JS	4	3	25	75	100	4	35
	19PCS314	Digital Image Processing	5	3	25	75	100	4	37
	19PCS315	Internet of Things	5	3	25	75	100	4	39
	19PCS316	Programming Lab-VI : Angular JS	5	3	40	60	100	4	41
	19PCS317	Programming Lab-VII: Digital Image Processing using MATLAB	5	3	40	60	100	4	42
	19PCS3EX	Elective-II	5	3	25	75	100	5	45
IV SEMESTER									
III	19PCS418	Project Work and Viva voce (Individual)	-	-	-	200	200	10	52
TOTAL MARKS							2200	90	



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ELECTIVE I

S.No	SUBJECT CODE	TITLE	Page No.
1	19PCS2E1	COMPUTING TECHNOLOGIES	26
2	19PCS2E2	SOFT COMPUTING	28
3	19PCS2E3	MOBILE COMPUTING	30

ELECTIVE II

S.No	SUBJECT CODE	TITLE	Page No.
1	19PCS3E1	ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS	45
2	19PCS3E2	MACHINE LEARNING	47
3	19PCS3E3	EMBEDDED SYSTEMS	49



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Programme code:	M.Sc	Programme Title :	Master of Computer Science	
Course Code:	19PCS418	Title	Batch :	2019-2021
		Industrial Project Work and Viva voce (Individual)	Semester	IV
Hrs/Week:	-		Credits:	10

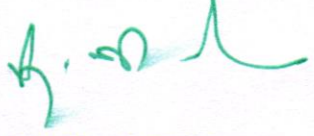
Instructional Notes: Students are required to develop entire new software system or to enhance/modify functionalities of existing software or to provide customization based on existing technology/framework to fulfill specific requirements.

MAXIMUM MARKS : 200

Project Evaluation & Viva Voce : 150 (Both Internal & External Examiner)

Paper Publications in UGC Journals : 50 (Only Internal Examiner)




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SCHEME OF EXAMINATION

Course Code	Course Title	Hours		Examination				
		Theory	Practical	Hours	CIA	ESE	Total	Credits
I SEMESTER								
21PCS101	Design & Analysis of Algorithms	4	-	3	50	50	100	4
21PCS102	Data Mining and Warehousing	5	-	3	50	50	100	5
21PCS103	Advanced Operating System	4	-	3	50	50	100	4
21PCS104	Advanced Database Management System	2	4	3	50	50	100	4
21PCS105	Programming Lab I: Design & Analysis of Algorithms	-	4	3	50	50	100	3
21PCS1E1	Elective I: Advanced Networks	5	-	3	50	50	100	5
21PCS1E2	Elective I: Wireless Networks							
21PCS1E3	Elective I: Mobile Computing							
Total		20	08		300	300	600	25
II SEMESTER								
21PCS206	Android Programming	4	-	3	50	50	100	4
21PCS207	Cloud Computing	4	-	3	50	50	100	4
21PCS208	Big Data Analytics	3	2	3	50	50	100	4
21PCS209	Advanced Java Programming	2	4	3	50	50	100	4
21PCS210	Programming Lab II: Android Programming	-	3	3	50	50	100	3
21PCS2E1	Elective II: Software Project Management	4	-	3	50	50	100	4
21PCS2E2	Elective II: Software Engineering and Testing							
21PCS2E3	Elective II: Object Oriented Analysis and Design with UML							
21PCS2P1	Pilot Project – I	-	2	-	50	50	100	2
21PCS2N1/ 21PCS2N2	Non Major Elective I: Web Designing Lab/ Advanced Internet Technologies Lab	-	2	2	25	25	50	2
Total		17	13		375	375	750	27



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Course Code	Course Title	Hours		Examination				
		Theory	Practical	Hours	CIA	ESE	Total	Credits
III SEMESTER								
21PCS311	Internet of Things	4	-	3	50	50	100	4
21PCS312	Network Security & Cryptography	4	-	3	50	50	100	4
21PCS313	Python Programming	2	4	3	50	50	100	4
21PCS314	Digital Image Processing	4	-	3	50	50	100	4
21PCS315	Programming Lab III: Internet of Things	-	3	3	50	50	100	3
21PCS316	Programming Lab IV: Digital Image Processing using MATLAB	-	4	3	25	25	50	2
21PCS3E1	Elective III: Artificial Intelligence & Machine Learning	5	-	3	50	50	100	5
21PCS3E2	Elective III: Data Science							
21PCS3E3	Elective III: Robotic Process Automation for Business							
Total		19	11		325	325	650	26
IV SEMESTER								
21PCS4P2	Project Work and Viva-Voce	-	3	-	100	100	200	12
GRAND TOTAL							2200	90



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# CO-SCHOLASTIC COURSES					Grade/ Credit
	Teaching Hours	CIA	ESE	TOTAL	
ONLINE COURSES					
Swayam, MOOC Course etc.,	-	-	-	-	Grade
VALUE ADDED COURSES					
Value Added Courses	30	25	25	50	2
CERTIFICATE COURSE					
Certificate Course	30	-	-	-	2
ADVANCED LEARNER COURSE					
Advanced Learner Course	30	-	-	-	Grade
The scholastic courses are only counted for the final grading and ranking. However for the award of the degree, the completion of co-scholastic one online course is mandatory. All other co-scholastic courses are optional only.					

1	Semester I	#SWAYAM/ MOOC	Any Online Course (Compulsory)
2	Semester III	#Value Added Course	Block Chain and Cryptocurrency/ Digital Entrepreneurship (Compulsory)
3	Any Semester	#Certificate Course	Software Testing Lab– Selenium (Optional)
4	Any Semester	#Advanced Learner Course	User Interface Design Lab – Figma (Optional)




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Programme Code:	M.Sc CS	Programme Title:	Master of Science (Computer Science)		
Course Code:	21PCS4P2	Course Title:	Project Work and Viva -Voce	Batch :	2021-2023
Lecture Hrs./Week Or Practical Hrs./Week	3	Tutorial Hrs/Sem	-	Semester:	IV
				Credits:	12

Course Objective

To enable the students to understand and select the task based on their core skills, also knowledge about analytical skill for solving the selected task. Students get confidence for implementing the task and solving the real time problems.

Course Outcomes (CO)

On successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Understand and formulate a real world problem and develop its requirements	K2
CO2	Analyze the problem requirements	K3
CO3	Design solution for a set of requirements	K3,K4
CO4	Apply test cases and validate the conformance of the developed prototype against the original requirements of the problem	K4,K5
CO5	Responsible member and possibly a leader of a team in developing software solutions	K5

MAPPING

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	H	H	M	H	H	H	H	H	M	H	H	H	H	H	H
CO2	M	M	H	M	H	H	M	H	H	H	M	H	H	M	H
CO3	H	H	H	H	M	H	H	H	M	H	H	M	H	H	H
CO4	H	H	H	H	H	M	H	M	H	M	H	H	M	H	M
CO5	H	H	M	H	M	M	H	H	H	M	H	M	M	H	H

H: High; M: Medium; L: Low.



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PROJECT and VIVA VOCE

Guidelines

Introduction

The title of the project work and the organization will be finalized at the end of fifth Semester. Each student will be assigned with a Faculty for guidance. The Project work and coding will be carried by using the facility of computer science lab as well as in the organization. Periodical review will be conducted to monitor the progress of the project work. Project report will be prepared and submitted at the end of the semester. External examiner appointed by the Controller of Examination will conduct the viva voce examination along with respective guide.

Area of Work

- Web Based Development
- Mobile app development
- Website development
- IoT Projects
- Big Data and Data Mining Projects
- Cloud Computing Projects
- Networking Projects
- Artificial Intelligence and Machine learning Projects
- Data Analytics Projects using Python, R, Tableau etc..
- System Software
- Web Security Projects
- Image Processing




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