

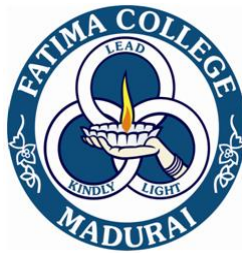


FATIMA COLLEGE

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Affiliated to Madurai Kamaraj University
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Mary Land, Madurai - 625018, Tamil Nadu

FATIMA COLLEGE (AUTONOMOUS)



Re-Accredited with “A” Grade by NAAC (3rd Cycle)
74th Rank in India Ranking 2020 (NIRF) by MHRD
Maryland, Madurai- 625 018, Tamil Nadu, India

NAME OF THE DEPARTMENT: INFORMATION TECHNOLOGY

NAME OF THE PROGRAMME : M.Sc.

PROGRAMME CODE : PSIT

ACADEMIC YEAR : 2021-2022

VISION OF THE DEPARTMENT



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To be the center of excellence in training the students in Information Technology to excel both as a professional and as a human in the society.

MISSION OF THE DEPARTMENT

- ✂ Empower women by teaching them technology and life lessons.
- ✂ Encourage students to be the change in the society.
- ✂ Educate students and prepare them in various aspects of IT industry.
- ✂ Provide leadership quality for effective strategic and tactical planning in use of technology.
- ✂ Instill the power of faith and hope, so they could be the blessing to their next generation.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

PEO 1	Our graduates will be academic, digital and information literates; creative, inquisitive, innovative and committed researchers who would be desirous for the “more” in all aspects
PEO 2	They will be efficient individual and team performers who would deliver excellent professional service exhibiting progress, flexibility, transparency, accountability and in taking up initiatives in their professional work
PEO 3	The graduates will be effective managers of all sorts of real – life and professional circumstances, making ethical decisions, pursuing excellence within the time framework and demonstrating apt



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	leadership skills
PEO 4	They will engage locally and globally evincing social and environmental stewardship demonstrating civic responsibilities and employing right skills at the right moment.

GRADUATE ATTRIBUTES (GA)

Fatima College empowers her women graduates holistically. A Fatimite achieves all-round empowerment by acquiring Social, Professional and Ethical competencies. A graduate would sustain and nurture the following attributes:

I. SOCIAL COMPETENCE	
GA 1	Deep disciplinary expertise with a wide range of academic and digital literacy
GA 2	Hone creativity, passion for innovation and aspire excellence
GA 3	Enthusiasm towards emancipation and empowerment of humanity
GA 4	Potentials of being independent
GA 5	Intellectual competence and inquisitiveness with problem solving abilities befitting the field of research
GA 6	Effectiveness in different forms of communications to be employed in personal and professional environments through varied platforms
GA 7	Communicative competence with civic, professional and cyber dignity and decorum



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GA 8	Integrity respecting the diversity and pluralism in societies, cultures and religions
GA 9	All – inclusive skill - sets to interpret, analyse and solve social and environmental issues in diverse environments
GA 10	Self-awareness that would enable them to recognise their uniqueness through continuous self-assessment in order to face and make changes building their strengths and improving on their weaknesses
GA 11	Finesse to co-operate exhibiting team-spirit while working in groups to achieve goals
GA 12	Dexterity in self-management to control their selves in attaining the kind of life that they dream for
GA 13	Resilience to rise up instantly from their intimidating setbacks
GA 14	Virtuosity to use their personal and intellectual autonomy in being life-long learners
GA 15	Digital learning and research attributes
GA 16	Cyber security competence reflecting compassion, care and concern towards the marginalised
GA 17	Rectitude to use digital technology reflecting civic and social responsibilities in local, national and global scenario
II. PROFESSIONAL COMPETENCE	
GA 18	Optimism, flexibility and diligence that would make them professionally competent
GA 19	Prowess to be successful entrepreneurs and employees of trans-national societies



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GA 20	Excellence in Local and Global Job Markets
GA 21	Effectiveness in Time Management
GA 22	Efficiency in taking up Initiatives
GA 23	Eagerness to deliver excellent service
GA 24	Managerial Skills to Identify, Commend and tap Potentials
III. ETHICAL COMPETENCE	
GA 25	Integrity and discipline in bringing stability leading a systematic life promoting good human behaviour to build better society
GA 26	Honesty in words and deeds
GA 27	Transparency revealing one's own character as well as self-esteem to lead a genuine and authentic life
GA 28	Social and Environmental Stewardship
GA 29	Readiness to make ethical decisions consistently from the galore of conflicting choices paying heed to their conscience
GA 30	Right life skills at the right moment

PROGRAMME OUTCOMES (PO)

The learners will be able to

PO 1	Apply acquired scientific knowledge to solve major and complex issues in the society/industry.
PO 2	Attain research skills to solve complex cultural, societal



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	and environmental issues.
PO 3	Employ latest and updated tools and technologies to solve complex issues.
PO 4	Demonstrate Professional Ethics that foster Community, Nation and Environment Building Initiatives

PROGRAMME SPECIFIC OUTCOMES (PSO)

On completion of M.Sc.IT programme, the graduates would be able to

PSO 1	Understand the concepts and applications in the field of Information Technology like Web designing and development, Mobile application development, and Network communication technologies.
PSO 2	Ability to understand the structure and development methodologies of software systems.
PSO 3	Apply the learning from the courses and develop applications for real world problems.
PSO 4	Understand the technological developments in the usage of modern design and development tools to analyze and design for a variety of applications.
PSO 5	Familiarity and practical competence with a broad range of programming language and open source platforms.
PSO 6	Demonstrate the understanding of the principles and working of the hardware and software aspects of computer systems
PSO 7	Possess professional skills and knowledge of software design process.



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PSO 8	Be acquainted with the contemporary issues, latest trends in technological development and thereby innovate new ideas and solutions to existing problems.
PSO 9	Communicate in both oral and written forms, demonstrating the practice of professional ethics and the concerns for social welfare.

FATIMA COLLEGE (AUTONOMOUS), MADURAI-18
DEPARTMENT OF INFORMATION TECHNOLOGY

MAJOR CORE – 70 CREDITS

PROGRAMME CODE: PSIT

S. No	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DITS	CIA Mks	ESE Mks	TOT. MKs
1.	I	21PG1IT1	Java & J2ME	4	4	40	60	100
2.		21PG1IT2	Soft Computing	4	4	40	60	100
3.		21PG1IT3	Data Management using R Programming	4	4	40	60	100
4.		21PG1IT4	Distributed Operating System	4	4	40	60	100
5.		21PG1IT5	LAB I: Java & J2ME	5	3	40	60	100
6.		21PG1IT6	LAB II : Data Management using R-Programming	5	3	40	60	100
7.	II	21PG2IT7	Data Science	4	4	40	60	100
8.		21PG2IT8	Digital Image Processing	4	4	40	60	100
9.		21PG2IT9	Android Programming	4	4	40	60	100
10.		21PG2IT10	LAB III : Digital Image Processing	5	3	40	60	100



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11.		21PG2IT11	LAB IV: Android Programming	5	3	40	60	100
12.		19PG3IT13	Data Mining and Data Warehousing	5	5	40	60	100
13.	III	19PG3IT14	Python Programming	5	5	40	60	100
14.		19PG3IT17	LAB V: Data Mining and Data Warehousing	5	3	40	60	100
15.		19PG3IT18	LAB VI: Python Programming	5	3	40	60	100
16.	IV	19PG4IT19	R- Programming	-	4	40	60	100
Total				68	60			

MAJOR ELECTIVE / EXTRA DEPARTMENTAL COURSE / INTERNSHIP/ PROJECT

S. No	SEM	COURSECODE	COURSE TITLE	HRS	CREDITS	CIA Mks	ESE Mks	TOT. Mks
1.	I	21IT1EDC	EDC 1- Animation Software	3	3	40	60	100
2.	II	21IT2EDC	EDC 2 - Animation Software	3	3	40	60	100
3.		21PG2ITE1/ 21PG2ITE2/ 21PG2ITE3	Elective - I Adhoc Network/ Machine Learning/ Cyber Security/	4	5	40	60	100
4.	III	19PG3IT15A/ 19PG3IT15B/ 19PG3IT15C	Elective - II Software Testing/ Digital Image Processing/ Linux Shell Programming	4	4	40	60	100



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5.		19PG3IT16A/ 19PG3IT16B/ 19PG3IT16C	Elective - III Big Data Analytics/ Internet of Things/ Mobile Communication/	5	5	40	60	100
6.		19PG3ITSI1	Internship	-	3	50	50	100
7.	IV	19PG4ITPR	Project & Viva Voce	-	6	50	50	100
TOTAL				19	29			

OFF-CLASS PROGRAMMES

ADD-ON COURSES

COURSE CODE	COURSES	HRS.	CRE DIT S	SEMEST ER IN WHICH THE COURSE IS OFFERE D	CIA MK S	ES E MK S	TOTA L MAR KS
	SOFT SKILLS	40	4	I	40	60	100
	COMPUTER APPLICATIONS (Dept. Specific Course)	40	4	II	40	60	100
	COMPREHENSIVE VIVA (Question bank to be prepared for all the papers by the respective course teachers)	-	2	IV	-	-	100
	READING CULTURE	15/ Seme ster	1	I-IV	-	-	-



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COURSE CODE	COURSES	HRS.	CRE DITS	SEMEST ER IN WHICH THE COURSE IS OFFERE D	CIA MK S	ES E MK S	TOTA L MAR KS
TOTAL			11				

EXTRA CREDIT COURSES

COURSE CODE	COURSES	HR S.	CRE DITS	SEMEST ER IN WHICH THE COURSE IS OFFERE D	CIA MK S	ESE MK S	TOTA L MAR KS
21PGCAS LIT1	SELF LEARNING COURSE for ADVANCED LEARNERS SUPPLY CHAIN MANAGEMENT	-	2	I	40	60	100
	MOOC COURSES / International Certified online Courses (Department Specific Courses/any other courses) * Students can opt other than the listed course from UGC-SWAYAM	-	Mini mum 2 Credi ts	I – IV	-	-	



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	/UGC /CEC						
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- **Lab Courses :**
 - A range of 10-15 experiments per semester
- **Summer Internship:**
 - Duration-1 month (2nd Week of May to 2nd week of June-before college reopens)
- **Project:**
 - Off class
 - Evaluation components-Report writing + Viva Voce (Internal marks-40) + External marks 60
- **EDC:**

Syllabus should be offered for two different batches of students from other than the parent department in Sem-I & Sem-II



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OLD SYLLABUS

Deletion

20%

II M.Sc., SEMESTER -III

For those who joined in 2019 onwards

PROGRAM ME CODE	COURSE CODE	COURSE TITLE	CATEGO RY	HRS/WEE K	CREDIT S
PSIT	19PGIT314	PYTHON PROGRAMMING	PG Core	5 Hrs.	5

COURSE DESCRIPTION

The course helps to create interest in image processing techniques and infuse research thirst in this area

COURSE OBJECTIVES

- To inculcate ideas and create interest in processing images techniques.
- To provide a research orientation inducing them to pursue research.

UNITS

UNIT I: OVERVIEW

(12 Hrs)

The Context Of Software Development: Software-Development Tools-Learning Programming With Python-Writing A Python Program-A Longer Python Program.

Values And Variables:Integer Values-Variables And Assignment-Identifiers-Floating Point Types-Control Code With In Strings-User Input-The Eval Function-Controlling The Print Function.

Expressions And Arithmetic: Expression-Operator Precedence And Associativity-Comments-Errors-Arithmetic Examples-More Arithmetic Operators-Algorithms (Self study)



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UNIT II CONDITIONAL STATEMENT AND ITERATION (15 Hrs)

Conditional Execution : Boolean Expressions- Boolean Expressions – The Simple If Statement – The If/Else Statement – Compound Boolean Expressions – Nested Conditionals – Multi-Way Decision Statements – Conditional Expressions – Errors In Conditional Statements

Iteration : The While Statement – Definite Loops Vs. Indefinite Loops – The For Statement – Nested Loops – Abnormal Loop Termination – Infinite Loops – Iteration Examples

UNIT III : LISTS & FUNCTIONS (15 Hrs)

List: Using Lists – List Assignment and Equivalence – List Bounds – Slicing – Cloning- Nested Lists- List and functions – Prime Generation with a List – List Processing : Sorting – Flexible Sorting – Search – List Permutations – Randomly Permuting a List – Reversing a List-

Functions : Introduction to Functions – Defining – Calling function – Passing Arguments- Keyword Arguments- Default Arguments – Required Arguments – Variable length Arguments – Return Statement – Nesting of Passing Arguments – Anonymous Function- Recursive function – Scope of Local and Global Variables .

UNIT IV: OBJECT ORIENTED PROGRAMMING PRINCIPLES (15 Hrs)

Class Statement – Class Body- Objects- Class Methods – Self Variable – Class Properties and Instance Properties – Static Method – Data Hiding – Deleting an object – Constructor – Method Overriding – Inheritance – Composition Object – Abstract classes and interfaces – Metaclass- Operator overloading.–Garbage Collections.

20%

UNIT V : TKINTER , EVENTS & EXCEPTIONS (15 Hrs)

Tkinter : Introduction – Widget – Label – Button – Check button – Entry – List box – Radio button – Scroll bar – Text- Container – Frame – Menu – Label frame – Message – Combo box – Scale – Canvas.

Events: Event Object – Binding Call backs to Events – Events Names – Keyboard Events – Mouse events.

Handling Exceptions : Motivation – Exception Examples – Handling

Exception in Invoked Function - Using Exceptions- Custom Exceptions (Self Study)

UNIT –VI DYNAMISM (Evaluation Pattern-CIA only) (3 HRS.)



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Application development based on case study

REFERENCES:

1. Richard L.Halterman ,”LEARNING TO PROGRAM WITH PYTHON”,ELITE PUBLISHING, 2011
2. Ch. Satyanarayana, M. Radhikamani, B.N. Jagadesh, “ Python Programming”, Universities press,2018.

WEB REFERENCES:

1. www.universitiespress.com/chsatyanarayana/pythonprogramming

COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT -1 OVERVIEW				
1.1	The Context Of Software Development: Software-Development Tools-Learning Programming With Python-Writing A Python Program-A Longer Python Program.	4	Chalk & Talk	Black Board
1.2	Values And Variables:Integer Values-Variables And Assignment-Identifiers-Floating Point Types-Control Code With In Strings-User Input-The Eval Function-Controlling The Print Function.	4	Chalk & Talk	Black Board
1.3	Expressions And Arithmetic: Expression-Operator Precedence And Associativity-Comments-Errors-Arithmetic Examples-More Arithmetic	4	Group discussion	White board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	Operators-Algorithms (Self Study)			
UNIT -2 CONDITIONAL STATEMENT AND ITERATION				
2.1	Conditional Execution :Boolean Expressions- Boolean Expressions – The Simple If Statement – The If/Else Statement	3	Lecture	Smart Board
2.2	Compound Boolean Expressions –Nested Conditionals – Multi-Way Decision Statements	3	Lecture	Black Board
2.3	Conditional Expressions – Errors In Conditional Statements	3	Lecture	Green Board
2.4	Iteration :The While Statement – Definite Loops Vs. Indefinite Loops – The For Statement	3	Chalk & Talk	Black Board
2.5	Nested Loops – Abnormal Loop Termination – Infinite Loops – Iteration Examples	3	Chalk & Talk	Black Board
UNIT -3LISTS& FUNCTIONS				
3.1	List: Using Lists – List Assignment and Equivalence – List Bounds – Slicing – Cloning- Nested Lists-List and functions – Prime Generation with a List.	3	Chalk & Talk	Black Board
3.2	List Processing :Sorting – Flexible Sorting – Search – List Permutations – Randomly Permuting a List – Reversing a	4	Lecture	Green Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	List.			
3.3	Functions : Introduction to Functions – Defining – Calling function –Passing Arguments- Keyword Arguments- Default Arguments – Required Arguments – Variable length Arguments .	5	Chalk & Talk	Green Board
3.4	Return Statement – Nesting of Passing Arguments – Anonymous Function- Recursive function – Scope of Local and Global Variables	3	Lecture	Green Board
UNIT -4OBJECT ORIENTED PROGRAMMING PRINCIPLES				
4.1	Class Statement – Class Body- Objects- Class Methods – Self Variable .	3	Chalk & Talk	Black Board
4.2	Class Properties and Instance Properties – Static Method – Data Hiding – Deleting an object – Constructor	5	Lecture	Green Board
4.3	Method Overriding – Inheritance – Composition Object – Abstract classes and interfaces .	5	Chalk & Talk	Black Board
4.4	Metaclass- Operator overloading.–Garbage Collections.	2	Lecture	Green Board
UNIT -5TKINTER , EVENTS & EXCEPTIONS				
5.1	Tkinter: Introduction – Widget – Label – Button – Check button – Entry – List box –	3	Lecture	Green Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	Radio button.			
5.2	Scroll bar – Text- Container – Frame – Menu – Label frame – Message – Combo box – Scale – Canvas.	4	Chalk & Talk	Black Board
5.3	Events: Event Object – Binding Call backs to Events – Events Names – Keyboard Events – Mouse events.	4	Chalk & Talk	Black Board
5.4	Handling Exceptions : Motivation – Exception Examples – Handling Exception in Invoked Function - Using Exceptions- Custom Exceptions (Self Study)	4	Discussion	Google Classroom
UNIT -6 DYNAMISM				
6.1	Application development based on case study	3	Assignments	Google class room

Levels	C1	C2	C3	C4	Total Scholastic Marks	Non Scholastic Marks C5	CIA Total	% of Assessment
	Session - wise Average	Better of W1, W2	M1+M2	MID-SEM TEST				



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	5 Mks.	5+5=10 Mks.	15 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.	
K1	5	-	-	2 ½	-		-	-
K2	-	5	4	2 ½	5		5	12.5 %
K3	-	-	3	5	12		12	30 %
K4	-	-	3	5	9		9	22.5%
Non Scholastic	-	-	-	-	9		9	22.5 %
Total	5	5	10	15	35	5	40	100 %

CIA	
Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC				NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	CIA	ESE	Total
5	10	15	5	5	40	60	100

C1 – Average of Two Session Wise Tests



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C2 – Average of Two Monthly Tests

C3 - Mid Sem Test

C4 – Best of Two Weekly Tests

C5 – Non - Scholastic

COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Understand the basic programming style in python .	K2	PSO1& PSO2
CO 2	Apply various types of control flow statements in python programs	K2, K3	PSO3,PSO4
CO 3	Identify the structure and components of a python program.	K3 ,K4	PSO5, PSO6
CO 4	Analyze Object oriented programming concepts and techniques in python	K2, K3 & K5	PSO2, PSO3, PSO7
CO 5	Implementing the GUI concepts in Python	K4, K5	PSO8, PSO9

COURSE DESIGNER:

Forwarded By

**HOD'S Signature
& Name**



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NEW SYLLABUS

20%

II M.Sc.IT

SEMESTER -III

For those who joined in 2019 onwards

PROGRAM ME CODE	COURSE CODE	COURSE TITLE	CATEGO RY	HRS/WEE K	CREDIT S
PSIT	19PG3IT14	PYTHON PROGRAMMING	Lecture	5	5

COURSE DESCRIPTION

The course helps to create interest in image processing techniques and infuse research thirst in this area

COURSE OBJECTIVES

- To inculcate ideas and create interest in processing images techniques.
- To provide a research orientation inducing them to pursue research.

UNITS

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(12 Hrs)

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Expressions And Arithmetic: Expression-Operator Precedence And Associativity-Comments-Errors-Arithmetic Examples-More Arithmetic Operators-Algorithms (Self study)

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UNIT IV: OBJECT ORIENTED PROGRAMMING PRINCIPLES (15 Hrs)

Class Statement – Class Body- Objects- Class Methods – Self Variable – Class Properties and Instance Properties – Static Method – Data Hiding – Deleting an object – Constructor – Method Overriding – Inheritance – Composition Object – Abstract classes and interfaces – Metaclass- Operator overloading.–Garbage Collections.

20%

UNIT V : Database Connectivity (15 Hrs)

GUI in python-The Root Window-Fonts and Colors-Working with Containers-Canvas-Frame-Widgets-Button Widget-Arranging Widgets in the Frame-Label Widget-MessageWidget-Text Widget-Scrollbar Widget-Check button Widget-Radio button Widget-EntryWidget-Spin box Widget-List box Widget-Spin box widget-List box Widget-Menu Widget-creating TablesPythonMySQL - MY SQL Operations



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Handling Exceptions : Motivation – Exception Examples – Handling Exception in Invoked Function - Using Exceptions- Custom Exceptions (Self Study)

UNIT –VI DYNAMISM (Evaluation Pattern-CIA only) (3 HRS.)

Application development based on case study

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3. Richard L.Halterman ,”LEARNING TO PROGRAM WITH PYTHON”,ELITE PUBLISHING, 2011
4. Ch. Satyanarayana, M. Radhikamani, B.N. Jagadesh, “ Python Programming”, Universities press,2018.

Digital Open Educational Resources (DOER):

1. www.universitiespress.com/chsatyanarayana/pythonprogramming
2. <https://www.udemy.com/course/learn-advanced-python-programming-in-2020/>
3. <https://www.pluralsight.com/courses/advanced-python>

COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT -1 OVERVIEW				
1.1	The Context Of Software Development: Software-Development Tools-Learning Programming With Python-Writing A Python Program-A Longer Python Program.	4	Chalk & Talk	Black Board
1.2	Values And Variables:Integer Values-Variables And Assignment-Identifiers-Floating Point Types-Control Code With In Strings-User Input-The Eval Function-	4	Chalk & Talk	Black Board



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Re-Accredited with 'A++' (CGPA 3.61) by NAAC (Cycle - IV)
Mary Land, Madurai - 625018, Tamil Nadu

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	Controlling The Print Function.			
1.3	Expressions And Arithmetic: Expression-Operator Precedence And Associativity- Comments-Errors-Arithmetic Examples-More Arithmetic Operators-Algorithms (Self Study)	4	Group discussion	White board
UNIT -2 CONDITIONAL STATEMENT AND ITERATION				
2.1	Conditional Execution :Boolean Expressions- Boolean Expressions – The Simple If Statement – The If/Else Statement	3	Lecture	Smart Board
2.2	Compound Boolean Expressions –Nested Conditionals – Multi-Way Decision Statements	3	Lecture	Black Board
2.3	Conditional Expressions – Errors In Conditional Statements	3	Lecture	Green Board
2.4	Iteration :The While Statement – Definite Loops Vs. Indefinite Loops – The For Statement	3	Chalk & Talk	Black Board
2.5	Nested Loops – Abnormal Loop Termination – Infinite Loops – Iteration Examples	3	Chalk & Talk	Black Board
UNIT -3 LISTS& FUNCTIONS				
3.1	List: Using Lists – List Assignment and Equivalence – List Bounds – Slicing – Cloning- Nested Lists-List and functions – Prime Generation	3	Chalk & Talk	Black Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	with a List.			
3.2	List Processing :Sorting – Flexible Sorting – Search – List Permutations – Randomly Permuting a List – Reversing a List.	4	Lecture	Green Board
3.3	Functions : Introduction to Functions – Defining – Calling function –Passing Arguments-Keyword Arguments- Default Arguments – Required Arguments – Variable length Arguments .	5	Chalk & Talk	Green Board
3.4	Return Statement – Nesting of Passing Arguments – Anonymous Function- Recursive function – Scope of Local and Global Variables	3	Lecture	Green Board
UNIT -4 OBJECT ORIENTED PROGRAMMING PRINCIPLES				
4.1	Class Statement – Class Body- Objects- Class Methods – Self Variable .	3	Chalk & Talk	Black Board
4.2	Class Properties and Instance Properties – Static Method – Data Hiding – Deleting an object – Constructor	5	Lecture	Green Board
4.3	Method Overriding – Inheritance – Composition Object – Abstract classes and interfaces .	5	Chalk & Talk	Black Board
4.4	Metaclass- Operator overloading.–Garbage Collections.	2	Lecture	Green Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT -5 TKINTER , EVENTS & EXCEPTIONS				
5.1	Tkinter: Introduction – Widget – Label – Button – Check button – Entry – List box – Radio button.	3	Lecture	Green Board
5.2	Scroll bar – Text- Container – Frame – Menu – Label frame – Message – Combo box – Scale – Canvas.	4	Chalk & Talk	Black Board
5.3	Events: Event Object – Binding Call backs to Events – Events Names – Keyboard Events – Mouse events.	4	Chalk & Talk	Black Board
5.4	Handling Exceptions : Motivation – Exception Examples – Handling Exception in Invoked Function - Using Exceptions- Custom Exceptions (Self Study)	4	Discussion	Google Classroom
UNIT -6 DYNAMISM				
6.1	Application development based on case study	3	Assignments	Google class room

INTERNAL - PG

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assessment
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	T1 10 Mks.	T2 10 Mks.	Seminar 5 Mks.	Assignment 5 Mks	OBT/PT 5 Mks	35 Mks.	5 Mks.	40Mks.	
K2	4	4	-	-	-	8	-	8	20 %
K3	2	2	-	5	-	9	-	9	22.5 %
K4	2	2	-	-	5	9	-	9	22.5 %
K5	2	2	5	-	-	9	-	9	22.5 %
Non Scholastic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

End Semester - PG

Levels	Section A 10 Mks	Section B 20 Mks.	Section C 10 Mks	Section D 10 Mks.	Section E 10 Mks.	Total 60Mks.	
K2	10	5	-	-	-	15	25 %
K3	-	5	10	-	-	15	25 %
K4	-	5	-	-	10	15	25 %
K5	-	5	-	10	-	15	25 %
Total	10	20	10	10	10	60	100 %

CIA



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Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

- **PG CIA Components**

Nos

C1	-	Test (CIA 1)	1	-	10 Mks
C2	-	Test (CIA 2)	1	-	10 Mks
C3	-	Assignment	2 *	-	5 Mks
C4	-	Open Book Test/PPT	2 *	-	5 Mks
C5	-	Seminar	1	-	5 Mks
C6	-	Attendance		-	5 Mks

****The best out of two will be taken into account***

COURSE OUTCOMES

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



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NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Understand the basic programming style in python .	K2	PSO1& PSO2
CO 2	Apply various types of control flow statements in python programs	K2, K3	PSO3,PSO4
CO 3	Identify the structure and components of a python program.	K3 ,K4	PSO5, PSO6
CO 4	Analyze Object oriented programming concepts and techniques in python	K2, K3 & K5	PSO2, PSO3, PSO7
CO 5	Implementing the GUI concepts in Python	K4, K5	PSO8, PSO9

Mapping of COs with PSOs

CO/ PSO	PS O1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9
CO1	3	3	1	2	2	1	2	1	1
CO2	1	1	3	3	1	2	1	1	2
CO3	2	2	2	2	3	3	1	2	1
CO4	1	3	3	2	2	1	3	1	2
CO5	2	2	1	2	2	2	2	3	3



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Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
CO1	3	2	2	1
CO2	2	1	3	2
CO3	3	1	2	1
CO4	2	2	3	2
CO5	2	2	2	2

Note: ♦ Strongly Correlated – 3 ♦ Moderately Correlated – 2
♦ Weakly Correlated -1

COURSE DESIGNER: Mrs. T. Charanya nagammal

Forwarded By

V. Mageshwari

HOD'S Signature& Name



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OLD SYLLABUS

Deletion

20%

II M.Sc., SEMESTER -III

For those who joined in 2019 onwards

PROGRAM ME CODE	COURSE CODE	COURSE TITLE	CATEGO RY	HRS/WEE K	CREDIT S
PSIT	19PGIT314	PYTHON PROGRAMMING	PG Core	5 Hrs.	5

COURSE DESCRIPTION

The course helps to create interest in image processing techniques and infuse research thirst in this area

COURSE OBJECTIVES

- To inculcate ideas and create interest in processing images techniques.
- To provide a research orientation inducing them to pursue research.

UNITS

UNIT I: OVERVIEW

(12 Hrs)

The Context Of Software Development: Software-Development Tools-Learning Programming With Python-Writing A Python Program-A Longer Python Program.

Values And Variables:Integer Values-Variables And Assignment-Identifiers-Floating Point Types-Control Code With In Strings-User Input-The Eval Function-Controlling The Print Function.

Expressions And Arithmetic: Expression-Operator Precedence And Associativity-Comments-Errors-Arithmetic Examples-More Arithmetic Operators-Algorithms (Self study)



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UNIT II CONDITIONAL STATEMENT AND ITERATION (15 Hrs)

Conditional Execution : Boolean Expressions- Boolean Expressions – The Simple If Statement – The If/Else Statement – Compound Boolean Expressions – Nested Conditionals – Multi-Way Decision Statements – Conditional Expressions – Errors In Conditional Statements

Iteration : The While Statement – Definite Loops Vs. Indefinite Loops – The For Statement – Nested Loops – Abnormal Loop Termination – Infinite Loops – Iteration Examples

UNIT III : LISTS & FUNCTIONS (15 Hrs)

List: Using Lists – List Assignment and Equivalence – List Bounds – Slicing – Cloning- Nested Lists-List and functions – Prime Generation with a List – List Processing : Sorting – Flexible Sorting – Search – List Permutations – Randomly Permuting a List – Reversing a List-

Functions : Introduction to Functions – Defining – Calling function – Passing Arguments- Keyword Arguments- Default Arguments – Required Arguments – Variable length Arguments – Return Statement – Nesting of Passing Arguments – Anonymous Function- Recursive function – Scope of Local and Global Variables .

UNIT IV: OBJECT ORIENTED PROGRAMMING PRINCIPLES (15 Hrs)

Class Statement – Class Body- Objects- Class Methods – Self Variable – Class Properties and Instance Properties – Static Method – Data Hiding – Deleting an object – Constructor – Method Overriding – Inheritance – Composition Object – Abstract classes and interfaces – Metaclass- Operator overloading.–Garbage Collections.

20%

UNIT V : TKINTER , EVENTS & EXCEPTIONS (15 Hrs)

Tkinter : Introduction – Widget – Label – Button – Check button – Entry – List box – Radio button – Scroll bar – Text- Container – Frame – Menu – Label frame – Message – Combo box – Scale – Canvas.

Events: Event Object – Binding Call backs to Events – Events Names – Keyboard Events – Mouse events.

Handling Exceptions : Motivation – Exception Examples – Handling

Exception in Invoked Function - Using Exceptions- Custom Exceptions (Self Study)

UNIT –VI DYNAMISM (Evaluation Pattern-CIA only) (3 HRS.)



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Application development based on case study

REFERENCES:

1. Richard L.Halterman ,”LEARNING TO PROGRAM WITH PYTHON”,ELITE PUBLISHING, 2011
2. Ch. Satyanarayana, M. Radhikamani, B.N. Jagadesh, “ Python Programming”, Universities press,2018.

WEB REFERENCES:

1. www.universitiespress.com/chsatyanarayana/pythonprogramming

COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT -1 OVERVIEW				
1.1	The Context Of Software Development: Software-Development Tools-Learning Programming With Python-Writing A Python Program-A Longer Python Program.	4	Chalk & Talk	Black Board
1.2	Values And Variables:Integer Values-Variables And Assignment-Identifiers-Floating Point Types-Control Code With In Strings-User Input-The Eval Function-Controlling The Print Function.	4	Chalk & Talk	Black Board
1.3	Expressions And Arithmetic: Expression-Operator Precedence And Associativity-Comments-Errors-Arithmetic Examples-More Arithmetic	4	Group discussion	White board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	Operators-Algorithms (Self Study)			
UNIT -2 CONDITIONAL STATEMENT AND ITERATION				
2.1	Conditional Execution :Boolean Expressions- Boolean Expressions – The Simple If Statement – The If/Else Statement	3	Lecture	Smart Board
2.2	Compound Boolean Expressions –Nested Conditionals – Multi-Way Decision Statements	3	Lecture	Black Board
2.3	Conditional Expressions – Errors In Conditional Statements	3	Lecture	Green Board
2.4	Iteration :The While Statement – Definite Loops Vs. Indefinite Loops – The For Statement	3	Chalk & Talk	Black Board
2.5	Nested Loops – Abnormal Loop Termination – Infinite Loops – Iteration Examples	3	Chalk & Talk	Black Board
UNIT -3LISTS& FUNCTIONS				
3.1	List: Using Lists – List Assignment and Equivalence – List Bounds – Slicing – Cloning- Nested Lists-List and functions – Prime Generation with a List.	3	Chalk & Talk	Black Board
3.2	List Processing :Sorting – Flexible Sorting – Search – List Permutations – Randomly Permuting a List – Reversing a	4	Lecture	Green Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	List.			
3.3	Functions : Introduction to Functions – Defining – Calling function –Passing Arguments- Keyword Arguments- Default Arguments – Required Arguments – Variable length Arguments .	5	Chalk & Talk	Green Board
3.4	Return Statement – Nesting of Passing Arguments – Anonymous Function- Recursive function – Scope of Local and Global Variables	3	Lecture	Green Board
UNIT -4OBJECT ORIENTED PROGRAMMING PRINCIPLES				
4.1	Class Statement – Class Body- Objects- Class Methods – Self Variable .	3	Chalk & Talk	Black Board
4.2	Class Properties and Instance Properties – Static Method – Data Hiding – Deleting an object – Constructor	5	Lecture	Green Board
4.3	Method Overriding – Inheritance – Composition Object – Abstract classes and interfaces .	5	Chalk & Talk	Black Board
4.4	Metaclass- Operator overloading.–Garbage Collections.	2	Lecture	Green Board
UNIT -5TKINTER , EVENTS & EXCEPTIONS				
5.1	Tkinter: Introduction – Widget – Label – Button – Check button – Entry – List box –	3	Lecture	Green Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	Radio button.			
5.2	Scroll bar – Text- Container – Frame – Menu – Label frame – Message – Combo box – Scale – Canvas.	4	Chalk & Talk	Black Board
5.3	Events: Event Object – Binding Call backs to Events – Events Names – Keyboard Events – Mouse events.	4	Chalk & Talk	Black Board
5.4	Handling Exceptions : Motivation – Exception Examples – Handling Exception in Invoked Function - Using Exceptions- Custom Exceptions (Self Study)	4	Discussion	Google Classroom
UNIT -6 DYNAMISM				
6.1	Application development based on case study	3	Assignments	Google class room

Levels	C1	C2	C3	C4	Total Scholastic Marks	Non Scholastic Marks C5	CIA Total	% of Assessment
	Session - wise Average	Better of W1, W2	M1+M2	MID-SEM TEST				



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	5 Mks.	5+5=10 Mks.	15 Mks	5 Mks	35 Mks.	5 Mks.	40Mks.	
K1	5	-	-	2 ½	-		-	-
K2	-	5	4	2 ½	5		5	12.5 %
K3	-	-	3	5	12		12	30 %
K4	-	-	3	5	9		9	22.5%
Non Scholastic	-	-	-	-	9		9	22.5 %
Total	5	5	10	15	35	5	40	100 %

CIA	
Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC				NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	CIA	ESE	Total
5	10	15	5	5	40	60	100

C1 – Average of Two Session Wise Tests



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C2 – Average of Two Monthly Tests

C3 - Mid Sem Test

C4 – Best of Two Weekly Tests

C5 – Non - Scholastic

COURSE OUTCOMES

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

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Understand the basic programming style in python .	K2	PSO1& PSO2
CO 2	Apply various types of control flow statements in python programs	K2, K3	PSO3,PSO4
CO 3	Identify the structure and components of a python program.	K3 ,K4	PSO5, PSO6
CO 4	Analyze Object oriented programming concepts and techniques in python	K2, K3 & K5	PSO2, PSO3, PSO7
CO 5	Implementing the GUI concepts in Python	K4, K5	PSO8, PSO9

COURSE DESIGNER:

Forwarded By

**HOD'S Signature
& Name**



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NEW SYLLABUS

20%

II M.Sc.IT

SEMESTER –III

For those who joined in 2019 onwards

PROGRAM ME CODE	COURSE CODE	COURSE TITLE	CATEGO RY	HRS/WEE K	CREDIT S
PSIT	19PG3IT14	PYTHON PROGRAMMING	Lecture	5	5

COURSE DESCRIPTION

The course helps to create interest in image processing techniques and infuse research thirst in this area

COURSE OBJECTIVES

- To inculcate ideas and create interest in processing images techniques.
- To provide a research orientation inducing them to pursue research.

UNITS

UNIT I: OVERVIEW

(12 Hrs)

The Context Of Software Development: Software-Development Tools-Learning Programming With Python-Writing A Python Program-A Longer Python Program.

Values And Variables:Integer Values-Variables And Assignment-Identifiers-Floating Point Types-Control Code With In Strings-User Input-The Eval Function-Controlling The Print Function.



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Expressions And Arithmetic: Expression-Operator Precedence And Associativity-Comments-Errors-Arithmetic Examples-More Arithmetic Operators-Algorithms (Self study)

UNIT II CONDITIONAL STATEMENT AND ITERATION (15 Hrs)

Conditional Execution :Boolean Expressions- Boolean Expressions – The Simple If Statement – The If/Else Statement – Compound Boolean Expressions –Nested Conditionals – Multi-Way Decision Statements – Conditional Expressions – Errors In Conditional Statements

Iteration :The While Statement – Definite Loops Vs. Indefinite Loops – The For Statement – Nested Loops – Abnormal Loop Termination – Infinite Loops – Iteration Examples

UNIT III :LISTS& FUNCTIONS (15 Hrs)

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UNIT IV: OBJECT ORIENTED PROGRAMMING PRINCIPLES (15 Hrs)

Class Statement – Class Body- Objects- Class Methods – Self Variable – Class Properties and Instance Properties – Static Method – Data Hiding – Deleting an object – Constructor – Method Overriding – Inheritance – Composition Object – Abstract classes and interfaces – Metaclass- Operator overloading.–Garbage Collections.

20%

UNIT V : Database Connectivity (15 Hrs)

GUI in python-The Root Window-Fonts and Colors-Working with Containers-Canvas-Frame-Widgets-Button Widget-Arranging Widgets in the Frame-Label Widget-MessageWidget-Text Widget-Scrollbar Widget-Check button Widget-Radio button Widget-EntryWidget-Spin box Widget-List box Widget-Spin box widget-List box Widget-Menu Widget-creating TablesPythonMySQL - MY SQL Operations



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Handling Exceptions : Motivation – Exception Examples – Handling Exception in Invoked Function - Using Exceptions- Custom Exceptions (Self Study)

UNIT –VI DYNAMISM (Evaluation Pattern-CIA only) (3 HRS.)

Application development based on case study

REFERENCES:

3. Richard L.Halterman ,”LEARNING TO PROGRAM WITH PYTHON”,ELITE PUBLISHING, 2011
4. Ch. Satyanarayana, M. Radhikamani, B.N. Jagadesh, “ Python Programming”, Universities press,2018.

Digital Open Educational Resources (DOER):

1. www.universitiespress.com/chsatyanarayana/pythonprogramming
2. <https://www.udemy.com/course/learn-advanced-python-programming-in-2020/>
3. <https://www.pluralsight.com/courses/advanced-python>

COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT -1		OVERVIEW		
1.1	The Context Of Software Development: Software-Development Tools-Learning Programming With Python-Writing A Python Program-A Longer Python Program.	4	Chalk & Talk	Black Board
1.2	Values And Variables:Integer Values-Variables And Assignment-Identifiers-Floating Point Types-Control Code With In Strings-User Input-The Eval Function-	4	Chalk & Talk	Black Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
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1.3	Expressions And Arithmetic: Expression-Operator Precedence And Associativity- Comments-Errors-Arithmetic Examples-More Arithmetic Operators-Algorithms (Self Study)	4	Group discussion	White board
UNIT -2 CONDITIONAL STATEMENT AND ITERATION				
2.1	Conditional Execution :Boolean Expressions- Boolean Expressions – The Simple If Statement – The If/Else Statement	3	Lecture	Smart Board
2.2	Compound Boolean Expressions –Nested Conditionals – Multi-Way Decision Statements	3	Lecture	Black Board
2.3	Conditional Expressions – Errors In Conditional Statements	3	Lecture	Green Board
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2.5	Nested Loops – Abnormal Loop Termination – Infinite Loops – Iteration Examples	3	Chalk & Talk	Black Board
UNIT -3 LISTS& FUNCTIONS				
3.1	List: Using Lists – List Assignment and Equivalence – List Bounds – Slicing – Cloning- Nested Lists-List and functions – Prime Generation	3	Chalk & Talk	Black Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
	with a List.			
3.2	List Processing :Sorting – Flexible Sorting – Search – List Permutations – Randomly Permuting a List – Reversing a List.	4	Lecture	Green Board
3.3	Functions : Introduction to Functions – Defining – Calling function –Passing Arguments-Keyword Arguments- Default Arguments – Required Arguments – Variable length Arguments .	5	Chalk & Talk	Green Board
3.4	Return Statement – Nesting of Passing Arguments – Anonymous Function- Recursive function – Scope of Local and Global Variables	3	Lecture	Green Board
UNIT -4 OBJECT ORIENTED PROGRAMMING PRINCIPLES				
4.1	Class Statement – Class Body- Objects- Class Methods – Self Variable .	3	Chalk & Talk	Black Board
4.2	Class Properties and Instance Properties – Static Method – Data Hiding – Deleting an object – Constructor	5	Lecture	Green Board
4.3	Method Overriding – Inheritance – Composition Object – Abstract classes and interfaces .	5	Chalk & Talk	Black Board
4.4	Metaclass- Operator overloading.–Garbage Collections.	2	Lecture	Green Board



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Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
UNIT -5 TKINTER , EVENTS & EXCEPTIONS				
5.1	Tkinter: Introduction – Widget – Label – Button – Check button – Entry – List box – Radio button.	3	Lecture	Green Board
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5.3	Events: Event Object – Binding Call backs to Events – Events Names – Keyboard Events – Mouse events.	4	Chalk & Talk	Black Board
5.4	Handling Exceptions : Motivation – Exception Examples – Handling Exception in Invoked Function - Using Exceptions- Custom Exceptions (Self Study)	4	Discussion	Google Classroom
UNIT -6 DYNAMISM				
6.1	Application development based on case study	3	Assignments	Google class room

INTERNAL - PG

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assessment
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	T1 10 Mks.	T2 10 Mks.	Semin ar 5 Mks.	Assignm ent 5 Mks	OBT/P PT 5 Mks	35 Mks.	5 Mks.	40Mk s.	
K2	4	4	-	-	-	8	-	8	20 %
K3	2	2	-	5	-	9	-	9	22.5 %
K4	2	2	-	-	5	9	-	9	22.5 %
K5	2	2	5	-	-	9	-	9	22.5 %
Non Scholas tic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

End Semester - PG

Levels	Section A 10 Mks	Section B 20 Mks.	Section C 10 Mks	Section D 10 Mks.	Section E 10 Mks.	Total 60Mks.	
K2	10	5	-	-	-	15	25 %
K3	-	5	10	-	-	15	25 %
K4	-	5	-	-	10	15	25 %
K5	-	5	-	10	-	15	25 %
Total	10	20	10	10	10	60	100 %

CIA



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Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

- **PG CIA Components**

Nos

C1	-	Test (CIA 1)	1	-	10 Mks
C2	-	Test (CIA 2)	1	-	10 Mks
C3	-	Assignment	2 *	-	5 Mks
C4	-	Open Book Test/PPT	2 *	-	5 Mks
C5	-	Seminar	1	-	5 Mks
C6	-	Attendance		-	5 Mks

****The best out of two will be taken into account***

COURSE OUTCOMES

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



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NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Understand the basic programming style in python .	K2	PSO1& PSO2
CO 2	Apply various types of control flow statements in python programs	K2, K3	PSO3,PSO4
CO 3	Identify the structure and components of a python program.	K3 ,K4	PSO5, PSO6
CO 4	Analyze Object oriented programming concepts and techniques in python	K2, K3 & K5	PSO2, PSO3, PSO7
CO 5	Implementing the GUI concepts in Python	K4, K5	PSO8, PSO9

Mapping of COs with PSOs

CO/ PSO	PS O1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9
CO1	3	3	1	2	2	1	2	1	1
CO2	1	1	3	3	1	2	1	1	2
CO3	2	2	2	2	3	3	1	2	1
CO4	1	3	3	2	2	1	3	1	2
CO5	2	2	1	2	2	2	2	3	3



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Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4
CO1	3	2	2	1
CO2	2	1	3	2
CO3	3	1	2	1
CO4	2	2	3	2
CO5	2	2	2	2

Note: ♦ Strongly Correlated – 3 ♦ Moderately Correlated – 2
♦ Weakly Correlated -1

COURSE DESIGNER: Mrs. T. Charanya nagammal

Forwarded By

V. Mageshwari

HOD'S Signature& Name