

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE (AUTONOMOUS)-POLLACHI

22	B.Sc. CT	Skill Based Major Elective I: Python Programming Lab	18UCT5S1	2018
23	B.Sc. CT	Elective III: Internet of Things	18UCT624	2018
24	B.Sc. CT	Elective I: Artificial Intelligence	18UCT519	2018
25	B.Sc. CT	Programming Lab VI: Software Testing	18UCT416	2018
26	M.Sc. Chemistry	Inorganic Chemistry -I	18PCY101	2018
27	B.A. English	CORE III: Fiction	19UEL101	2019
28	B.A. English	CORE III : Children's Literature	19UEL408	2019
29	B.A. English	CORE III: Translation Studies and World Literature in Translation	19UEL511	2019
30	B.A. English	CORE III: Computing Skills for Research	19UEL513	2019
31	B.A. English	CORE III : Survey of Literature in English (For cracking UGC NTA NET/SET/JRF/TRB/TET)	19UEL619	2019
32	B.A.Economics	Core III : History of Economic Thought	19UEO407	2019
33	B.A.Economics	Skill Based: Network and Information Security	19UEO5S1	2019
34	B.A.Economics	Skill Based: Cyber Security Ethical Hacking	19UEO5S2	2019
35	B.Sc. Mathematics	Allied I: Mathematical Statistics-I	19UMS1A1	2019
36	B.Sc. Mathematics	Core III: Trigonometry, Vector Calculus and Fourier Series	19UMS203	2019
37	B.Sc. Mathematics	Core IV: Analytical Geometry 2D and 3D	19UMS204	2019
38	B.Sc. Mathematics	Elective I: Programming in C	19UMS5E1	2019
39	B.Sc. Mathematics	SBE: Network and Information Security	19UMS5S1	2019
40	B.Sc. Mathematics	SBE: Cyber security-Ethical Hacking	19UMS5S2	2019
41	B.Sc. Botany	Skill based subjects - Network and Information security.	19UBY5S1	2019
42	B.Sc. Botany	Skill based subjects (Major electives) -Cyber Security- Ethical Hacking.	19UBY5S2	2019
43	B. Sc. Zoology	Core Major Paper-VII - Developmental Biology	19UZY507	2019
44	B. Sc. Zoology	Core Major Paper-X Bioinformatics and Biochemistry	19UZY510	2019
45	B. Sc. Zoology	Skill Based elective (SBE)- Online- Network and Information Security	19UZY5S1	2019
46	B. Sc. Zoology	Skill Based elective (SBE)- Online- Cyber security - Ethical Hacking	19UZY5S2	2019

BoS
Highlighted



BOARD OF STUDIES

24.2.2018 -

36

S.No	Members	Signature
01.	Mrs / Dr. J. Thilagavathi ^o (Chair person)	J. Thilagavathi 24/2/18
02.	Dr. Vanitha Associate professor School of IT & Science, Dr. GIRD College of Science, Coimbatore (University Nominee)	J. Vanitha 24/2/18 [Dr. K. Vanitha]
03.	Dr. Rajesh Kanna ASST. Professor, Dr. N.G.P. Arts & Science College, Cbe. (Subject Expert)	Rajesh Kanna 24/2/18 (Dr. R. Rajeshkanna)
04.	Dr. Pavithra Associate professor, Dept of CA(Pur) CMS College, Coimbatore (Academic Auditor)	Pavithra 24/2/18 (Dr. P. PAVITHRA)
05.	Mr. N. Venkatesh (Industrial Expert) Technical Lead, Accenture Pvt. Ltd, Bangalore.	N. Venkatesh 24/02/2018 Venkatesh
06.	Mr. S. Samraj Programmer Analyst, CTS, Coimbatore (Alumni member)	S. Samraj 24/2/2018
07.	Mrs. J. Priya Asst. Prof, Dept of ET, NIGM College.	J. Priya 24/2/18
08.	Mrs. E. Keerthana Asst. Prof, Dept of ET, NIGM College.	E. Keerthana 24/2/18

The Board of Studies for the Department of Computer Technology is conducted on 24.2.18, Saturday at 11. Am in the UG Department of Computers Lab.

The Followings points were discussed :-

- * The Board framed the Course of Study, Scheme of Examinations and Syllabus for B.Sc [CT] Course (2018-21) Batch I to VI Semesters, Under new CBCS, Outcome Based Education (OBE).
- * Subject Code 17UCTxxx is changed as 18UCTxxx for all part-III papers.
- * The following ammendments are recommended by the board as on 24.2.18 and the minutes recorded :-
- * University Nominee suggested for the Revision in Scheme of Examinations.
- * New Course python programming Can be Introduced.
- * As per Industrial Expert Suggestion, it Possible programming in C and C++ Concepts can be handled in a Single Course.
- * The Subject Expert suggested to have ISRD Books as Reference books for few courses.

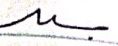
Sno

Members

Signature

09.

Ms. K. S. Leelarathi^o
Asst prof, Dept of CT,
NGMC.

KST 

10.

Mr. R. Jayaprakash,
Asst. prof, Dept of CT,
NGMC.


24/2/14

- * "Microprocessor and ALP" course can be renamed as "processors" in Semester IV!
- * Internet of Things (IoT), Artificial Intelligence, (AI), Big Data and Analytics can be added as Elective Courses.
- * Alumni Member suggested on a Regional Based Need Course Software Testing Lab can be introduced.
- * BOS resolved to recommend elective papers can be shared by departments in IT Cluster and can give option to students to choose paper on their own.
- * To offer Mooc / NPTEL / Swayam / Open tutorial courses and other approved online courses to the interested students from I to VI semesters with the approval of the authorities outside the programme framework may be considered for additional extra credits.

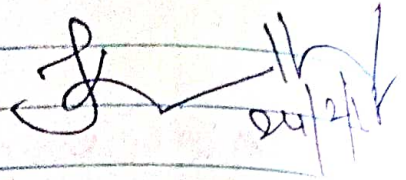
Dr. J. THILAKAVATHI

(Chair person)

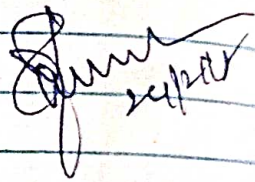
Assoc. Professor and Head
Dept. of Computer Technology
NGM College
Pollachi

J. P. M
24/2/18

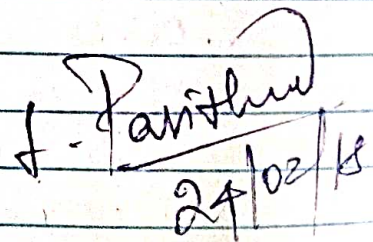
2. Dr. K. Vanitha
Asso. Professor
Dept. of Comp. Science
Dr. G. R. Dahmodaran College of Science
Coimbatore - 14
(University Nominee)


24/2/18

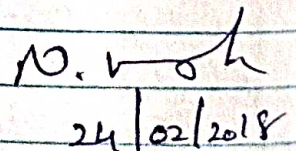
3. Dr. Rajesh Kanna
Asst. Professor
Dr. N. G. P. College of Arts & Science
Coimbatore (Subject Expert)


24/2/18

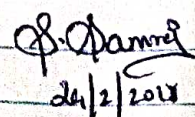
4. Dr. J. Pavithra
Associate Professor
Dept of CA
CMS College of Science & Commerce
Coimbatore - 9
(Subject Auditor)


24/02/18

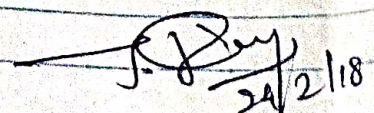
5. N. Venkatesh (IE)
Technical Lead
Accenture Pvt Ltd


24/02/2018

6. S. Samraj,
Programmer Analyst,
Cognizant, Coimbatore.


24/2/2018

7. Ms. J. Priya
Assistant Professor,
Dept. of C.T
N. G. M. College Pollachi


24/2/18

8. Ms. C. Keerthana
Assistant Professor
Dept of CT
NGM College, Pollachi

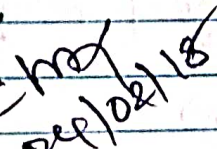
C. K. 
24/2/18

9. Ms. K. S. Leelavathi
Assistant Professor
Dept. of CT
NGM College, Pollachi

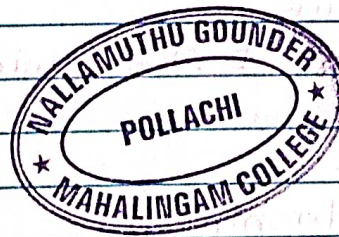
K.S. 
24/2/18

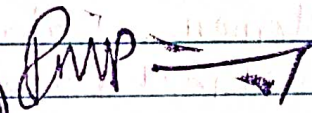
10. Mr. R. Jayaprakash
Asst. Prof, Dept of CT
NGMC.


24/2/18

J. P. 
24/2/18

HOD SIGNATURE
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Associate Professor & Head
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N G M COLLEGE, POLLACHI

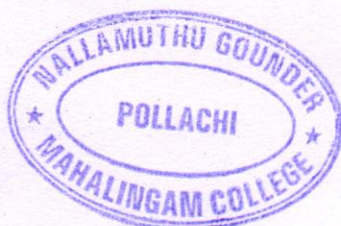
Department of Computer Technology
Scheme of Examination

Part	Subject Code	Subject	Ins.Hours Per Week	Exam				Credit
				Hours	CIA	ESE	Total	
SEMESTER I								
I	18 UTL 101	TAMIL - I	6	3	25	75	100	3
	18 UHN 101	HINDI - I						
II	18 UEN 101	ENGLISH - I	5	3	25	75	100	3
III	18 UCT 101	CORE I: C PROGRAMMING	4	3	25	75	100	4
	18 UCT 102	CORE II: DIGITAL COMPUTER FUNDAMENTALS	4	3	25	75	100	4
	18 UCT 1A1	ALLIED I: MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE	5	3	25	75	100	4
	18 UCT 103	PROGRAMMING LAB - I ('C')	4	3	20	30	50	2
IV	18 UHR 101	HUMAN RIGHTS	1	2	-	50	50	2
	18 HEC 101	HUMAN EXCELLENCE-PERSONAL VALUES & SKY YOGA PRACTICE-I	1	2	25	25	50	1
V	18 UNS 401/ 18 UNC 402/ 18 USG 403	EXTENSION ACTIVITIES (NSS/NCC/SPORTS AND GAMES)	-					
TOTAL			30	-	170	480	650	22
SEMESTER II								
I	18 UTL 202	TAMIL - II	6	3	25	75	100	3
	18 UHN 202	HINDI - II						
II	18 UEN 202	ENGLISH - II	5	3	25	75	100	3
III	18 UCT 204	CORE III: OBJECT ORIENTED PROGRAMMING WITH 'C++'	4	3	25	75	100	4
	18 UCT 205	CORE IV: DATA STRUCTURES AND ALGORITHMS	4	3	25	75	100	4
	18 UCT 2A2	ALLIED II: DISCRETE MATHEMATICS	4	3	25	75	100	4
	18 UCT 206	PROGRAMMING LAB - II (C++)	4	3	20	30	50	2
IV	18 EVS 201	ENVIRONMENTAL STUDIES	2	2	-	50	50	2
	18 HEC 202	HUMAN EXCELLENCE - FAMILY VALUES & SKY YOGA PRACTICE - II	1	2	25	25	50	1
V	18 UNS 401/ 18 UNC 402/ 18 USG 403	EXTENSION ACTIVITIES (NSS/NCC/SPORTS AND GAMES)	-					
TOTAL			30	-	170	480	650	23



(Signature)
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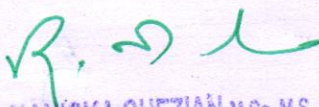
Part	Subject Code	Subject	Ins.Hours Per Week	Exam				Credit
				Hours	CIA	ESE	Total	
SEMESTER III								
III	18 UCT 307	CORE V: JAVA PROGRAMMING	5	3	25	75	100	4
	18 UCT 308	CORE VI: RELATIONAL DATABASE MANAGEMENT SYSTEM & ORACLE	5	3	25	75	100	4
	18 UCT 309	CORE VII: OPERATING SYSTEMS	5	3	25	75	100	4
	18 UCT 3A3	ALLIED III: COMPUTER SYSTEM ARCHITECTURE	5	3	25	75	100	4
	18 UCT 310	PROGRAMMING LAB - III (JAVA PROGRAMMING)	4	3	20	30	50	2
	18 UC T311	PROGRAMMING LAB - IV (RELATIONAL DATABASE MANAGEMENT SYSTEM)	4	3	20	30	50	2
IV	18 HEC 303	HUMAN EXCELLENCE - PROFESSIONAL VALUES & SKY YOGA PRACTICE - III	1	2	25	25	50	1
	18 UCT 3N1/ 18 UCT3N2	SKILL BASED NON- MAJOR ELECTIVE I - HTML LAB / MULTIMEDIA LAB	1	2	-	50	50	2
V	18 UNS 401/ 18 UNC 402/ 18 USG 403	EXTENSION ACTIVITIES (NSS/NCC/SPORTS AND GAMES)	-					
TOTAL			30	-	165	435	600	23
SEMESTER IV								
III	18 UCT 412	CORE VIII: J2EE TECHNOLOGIES	5	3	25	75	100	4
	18 UCT 413	CORE IX: FUNDAMENTALS OF SOFTWARE ENGINEERING	5	3	25	75	100	4
	18 UCT 414	CORE X: DATA COMMUNICATION AND NETWORKS	5	3	25	75	100	4
	18 UCT 4A4	ALLIED IV: PROCESSORS	5	3	25	75	100	4
	18 UCT 415	PROGRAMMING LAB - V (J2EE TECHNOLOGIES)	4	3	20	30	50	2
	18 UCT 416	PROGRAMMING LAB - VI (SOFTWARE TESTING)	4	3	20	30	50	2
IV	18 HEC 404	HUMAN EXCELLENCE - SOCIAL VALUES & SKY YOGA PRACTICE - IV	1	2	25	25	50	1
	18 UCT 4N3/ 18 UCT4N4	SKILL BASED NON-MAJOR ELECTIVE II - OFFICE AUTOMATION LAB / CORELDRAW LAB	1	2	-	50	50	2
V	18 UNS 401/ 18 UNC 402/ 18 USG 403	NSS/NCC/SPORTS AND GAMES	-	-	-	50	50	1
TOTAL			30	-	165	485	650	24



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Part	Subject Code	Subject	Ins.Hours Per Week	Exam				Credit
				Hours	CIA	ESE	Total	
SEMESTER V								
III	18 UCT 517	CORE XI: OPEN SOURCE TECHNOLOGIES	6	3	25	75	100	4
	18 UCT 518	CORE XII: INFORMATION SECURITY	6	3	25	75	100	4
	18 UCT 519	ELECTIVE I	6	3	25	75	100	5
	18 UCT 520	PROGRAMMING LAB -VII (OPENSOURCE TECHNOLOGIES)	5	3	40	60	100	3
	18 UCT 521	PROGRAMMING LAB - VIII (WEB DESIGNING LAB)	5	3	40	60	100	3
IV	18 HEC 505	HUMAN EXCELLENCE - NATIONAL VALUES & SKY YOGA PRACTICE - V	1	2	25	25	50	1
	18 GKL 501	GENERAL KNOWLEDGE AND GENERAL AWARENESS	SS	2	-	50	50	2
	18 UCT 5S1/ 18 UCT 5S2	SKILL BASED MAJOR ELECTIVE I - PYTHON LAB /HTML 5 with CSS	1	2	-	50	50	2
TOTAL			30	-	205	545	650	24
SEMESTER VI								
III	18 UCT 622	CORE XIII: FRAMEWORK TECHNOLOGY	6	3	25	75	100	4
	18 UCT 623	ELECTIVE-II	6	3	25	75	100	4
	18 UCT 624	ELECTIVE-III	6	3	25	75	100	5
	18 UCT 625	PROGRAMMING LAB - IX: (FRAMEWORK TECHNOLOGY)	5	3	40	60	100	3
	18 UCT 626	INDUSTRY ORIENTED PRACTICALS	5	3	40	60	100	4
IV	18 HEC 606	HUMAN EXCELLENCE - GLOBAL VALUES & SKY YOGA PRACTICE - VI	1	2	25	25	50	1
	18 UCT 6S3/ 18 UCT 6S4	SKILL BASED MAJOR ELECTIVE II - DATA ANALYTICS(BIG DATA) / DREAMWEAVER	1	2	-	50	50	2
TOTAL			30	-	180	420	600	24
TOTAL			180	-	1055	2845	3800	140




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LIST OF MAJOR ELECTIVE PAPERS

ELECTIVE -I	A. Cloud Computing
	B. Data Mining and Analytics
	C. Artificial Intelligence
ELECTIVE -II	A. Embedded Systems
	B. E-Commerce
	C. Underwater Communication
ELECTIVE -III	A. Introduction to Computer Graphics and Multimedia
	B. Mobile Computing
	C. Internet of Things

Bloom's Taxonomy Based Assessment Pattern (K-Knowledge; U-Understanding; A-Application)

1. Theory: 75 Marks (Part I, Part II and Part III)

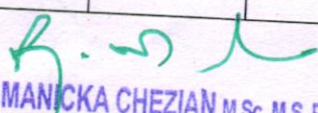
(i) TEST- I & II and ESE:

Knowledge Level	Section	Marks	Description	Total
K1	A (Answer all)	10x1=10	Q. No. 1 – 5 MCQ Q. No. 6 – 10 Define	75
K2	B (Either or pattern)	5x5=25	Q. No. 11 – 15 Short Answers	
K3& K4	C (Answer any 4 out of 6) Q. No. 16 is Compulsory	4x10=40	Q. No. 16 – 21 Descriptive/ Detailed	

2. Theory: 50 Marks (Part IV)

Knowledge Level	Section	Marks	Description	Total
K1	A(Answer all)	10x1=10	Q. No. 1 – 5 MCQ Q. No. 6 – 10 Define	50
K2	B (Answer 5 out of 8)	5 x 8=40	Q. No. 11 – 18 Descriptive/ Detailed	




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Programme Code:	B. Sc	Programme Title:	Bachelor of Science (Computer Technology)	
Course Code:	18UCT416	Title	Batch:	2018 - 21
		PROGRAMMING LAB - VI (SOFTWARE TESTING)	Semester	IV
Hrs/Week:	04		Credits:	02

Course Objective

To gain the knowledge to apply the various programming concepts of software testing like Integration, unit, functional, non-functional testing and about product metrics.

Course Outcomes (CO)

K3	CO1	To apply the testing in programming concepts.
K4	CO2	To analyze the different concepts and tools.
K5	CO3	To verify the expected result with the obtained result.

[Total Hrs: 52]

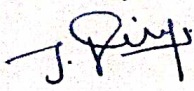
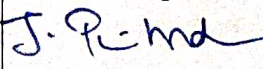
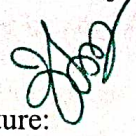
1. Create a payroll system and test using the tool.
2. Create a ration shop management system and test using the tool.
3. Create airline reservation system and test using the tool.
4. Create Library management system and test using the tool.
5. Create Banking system and test using the tool.
6. Create Book shop management system and test using the tool.
7. Create Electricity billing system and test using the tool.
8. Create online cinema ticket reservation system and test using the tool.
9. Create Music gallery and test using the tool.
10. Create trading system and test the tool.

Power point Presentations

Mapping

PSO CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	H	H	M
CO2	H	M	H	H	H
CO3	M	M	H	H	H

S-Strong H-High M-Medium L-Low

Course Designed by	Verified by HOD	Checked by	Approved by
Name and Signature	Name and Signature	CDC	COE
Name: Ms. J. Priya  Signature:	Name: Dr. J. Thilagavathi  Signature:	Name: Dr. M. Durairaju  Signature:	Name: Dr. R. Muthukumaran  Signature:

Dr. J. THILAGAVATHI M.C.A., M.Phil., Ph.D.
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Department of Computer Technology
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Dr. M. DURAIRAJU, M.Sc., M.Phil., B.Ed., PGDGC, Ph.D.,
Associate Professor / Co-ordinator,
Curriculum Development Cell
NGM College (Autonomous)
Pollachi - 642 001,

Dr. R. MUTHUKUMARAN
Controller of Examinations
NGM College (Autonomous)
POLLACHI - 642 001.

Programme Code:	B. Sc	Programme Title:	Bachelor of Science (Computer Technology)	
Course Code:	18UCT519	Elective I- Artificial Intelligence	Batch:	2018 - 21
			Semester	V
Hrs/Week:	06		Credits:	5

Course Objective

To embed a deep knowledge about search techniques, reasoning, game playing, expert systems and prolog.

Course Outcomes (CO)

K1	CO1	To keep in mind different search strategies for a problem
K2	CO2	To understand concepts of semantic net
K3	CO3	To implement a AI problem to be solved using prolog
K4	CO4	To evaluate different knowledge representation schemes for AI problems

Syllabus

Unit – I

[15 Hours]

Problems and search: AI Techniques-Defining the problem as a State Space Search – Production Systems – Problem Characteristics – Production system Characteristics – Heuristic Search Techniques – Generate and test – Hill Climbing – Best-first Search – Problem Reduction – Constraint Satisfaction – *Mean-Ends Analysis.

Unit - II

[16 Hours]

Knowledge Representation: Representations and Mappings- Approaches to Knowledge Representation – Issues in knowledge representation – Representing simple Facts in Logic – Representing Instance and Isa Relationships- Procedural versus Declarative Knowledge – Logic Programming – *Forward versus Backward reasoning.

Unit - III

[15 Hours]

Semantic Nets: Frames - Conceptual Dependency - Game Playing – Overview– The minimax search procedure – Adding Alpha - Beta cutoffs.

Unit - IV

[16 Hours]

Expert System : Definition – Characteristics of Expert System – Architecture & Description of Modules – Backward Chaining – Knowledge Acquisition facility. Knowledge Engineering – Expert System Life Cycles – * Expert System Tools.

Unit - V

[16 Hours]

Prolog: The Introduction-Converting English to prolog facts and rules – goals – Terminology – Variables - Control structures - Arithmetic operators - Matching in Prolog – Backtracking – cuts – Recursion – Lists - Dynamic Databases - I/O Streams - Some aspects specific to LPA Prolog.

Note: **Italicized* texts are for self study

Power point Presentations, Group Discussions, Seminar, Quiz, Assignment

Books for Study

1. Elaine Rich, Kevin Knight, (2009), Artificial Intelligence, 3rd edition, Tata McGraw Hill Publications.

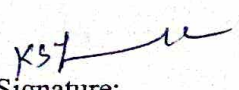
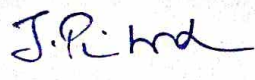
Books for Reference

1. Stuart Russell, Peter Norvig, (2009), Artificial Intelligence: A Modern Approach, 3rd Edition, Pearson New International Edition.
2. Er. Rajiv Chopra, (2005), Artificial Intelligence: A Practical Approach, 1st Edition, S. Chand Publications.

Mapping

CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	S	S	M	S
CO2	M	S	H	S	L
CO3	H	M	S	H	M
CO4	S	S	M	H	L

S-Strong H-High M-Medium L-Low

Course Designed by	Verified by HOD	Checked by	Approved by
Name and Signature	Name and Signature	CDC	COE
Name: Ms. K. S. Leelavathi Signature: 	Name: Dr. J. Thilagavathi Signature: 	Name: Dr. M. Durairaju Signature: 	Name: Dr. R. Muthukumar Signature: 

Dr. J. THILAGAVATHI M.C.A., M.Phil., Ph.D.,
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Dr. R. MUTHUKUMARAN
Controller of Examinations
NGM College (Autonomous)
POLLACHI - 642 001.

Programme Code:	B. Sc	Programme Title:	Bachelor of Science (Computer Technology)	
Course Code:	18UCT5S1	Title	Batch:	2018 - 21
		Skill Based MAJOR ELECTIVE I – Python Lab	Semester	V
Hrs/Week:	01		Credits:	02

Course Objectives

To learn how to design and develop Python applications.

Course Outcomes (CO)

K3	CO1	To keep in mind about python object types.
K4	CO2	To realize about writing loops and decision statements in Python.
K5	CO3	To validate programs with structure, functions and passing arguments in Python.

Sample Programs

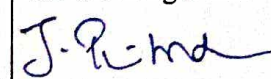
[Total Hrs: 13]

1. To Write a Python program to compute the GCD of two numbers
2. To Write a Python program to find the first n prime numbers
3. To write a Python program to multiply two matrices
4. To write a Python program to find the maximum of a list of numbers
5. To Write a Python program to find the exponentiation (Power of a number)
6. To Write a Python program to find the square root of a number
7. To write a Python program to find given number is odd or even
8. To write a Python program to develop a simple calculator.
9. To write a Python program to find given year is leap or not.
10. To write a Python program to find the factorial of the given number

Mapping

CO \ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	H	S	H	M	M
CO2	H	H	S	H	M
CO3	S	S	H	M	M

S-Strong; H-High; M-Medium; L-Low

Course Designed by	Verified by HOD	Checked by	Approved by
Name and Signature	Name and Signature	CDC	COE
Name: Ms. C. Keerthana  Signature:	Name: Dr. J. Thilagavathi  Signature:	Name: Dr. M. Durairaju Signature:	Name: Dr. R. Muthukumarani  Signature:

Dr. J. THILAGAVATHI M.C.A., M.Phil., Ph.D.,
Associate Professor & Head

Dr. M. DURAIRAJU, M.Sc., M.Phil., B.Ed., PGDCC, Ph.D.,
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Programme Code:	B. Sc	Programme Title:	Bachelor of Science (Computer Technology)	
Course Code:	18UCT624	Title	Batch:	2018 - 21
		ELECTIVE III: Internet of Things (IoT)	Semester	VI
Hrs/Week:	06		Credits:	5

Course Objective

Understand the IoT Architecture and Real World IoT Design Constraints, Industrial Automation in IoT.

Course Outcomes (CO)

K1	CO1	To keep in mind that the vision of IoT from a global context.
K2	CO2	To Understand the Use of Devices, Gateways and Data Management in IoT.
K3	CO3	To deploy the Building state of the art architecture in IoT.
K4	CO4	To analyze the Application of IoT in Industrial and and Real World Design Constraints.

Syllabus

Unit – I

[15 Hours]

M2M to IoT-The Vision-Introduction, From M2M to IoT, M2M towards IoT-the global context, an use case example, Differing Characteristics.

Unit - II

[16 Hours]

M2M to IoT – A Market Perspective– Introduction, Some Definitions, M2M Value Chains, IoT Value Chains, An emerging industrial structure for IoT, The international driven global value chain and global information monopolies. **M2M to IoT-An Architectural Overview**– Building an architecture, Main design principles and needed capabilities, An IoT architecture outline, standards considerations.

[16 Hours]

Unit - III

M2M and IoT Technology Fundamentals- Devices and gateways, Local and wide area networking, Data management, Business processes in IoT, Everything as a Service(XaaS), M2M and IoT Analytics, Knowledge Management

[15 Hours]

Unit - IV

IoT Architecture-State of the Art – Introduction, State of the art, **Architecture Reference Model-** Introduction, Reference Model and architecture, IoT reference Model

[16 Hours]

Unit - V

IoT Reference Architecture- Introduction, Functional View, Information View, Deployment and Operational View, Other Relevant architectural views. **Real-World Design Constraints-** Introduction, Technical Design constraints-hardware is popular again, Data representation and visualization, Interaction and remote control. **Industrial Automation-** Service-oriented architecture-based device integration, SOCRADES: realizing the enterprise integrated Web of Things, IMC-AESOP: from the Web of Things to the Cloud of Things.

Note: **Italicized texts are for self study*

Presentation, Seminar, Assignment and Discussion
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Books for Study

1. Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatias Karnouskos, David Boyle, "From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence", 1st Edition, Academic Press, 2014.

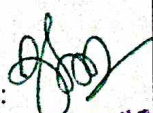
Books for Reference

1. Vijay Madisetti and Arshdeep Bahga, "Internet of Things (A Hands-on-Approach)", 1st Edition, VPT, 2014.
2. Francis daCosta, "Rethinking the Internet of Things: A Scalable Approach to Connecting Everything", 1st Edition, Apress Publications, 2013

Mapping

PSO CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	H	M	H	H
CO2	M	H	M	H	H
CO3	H	M	H	H	H
CO4	H	M	H	H	H

S-Strong H-High M-Medium L-Low

Course Designed by	Verified by HOD	Checked by	Approved by
Name and Signature	Name and Signature	CDC	COE
Name: Ms. J. Priya  Signature:	Name: Dr. J. Thilagavathi  Signature:	Name: Dr. M. Durairaju  Signature:	Name: Dr. R. Muthukumar  Signature:

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