

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE (AUTONOMOUS)-POLLACHI

604	B.Sc Computer Science	C++ Programming	22UCS204	2022
605	B.Sc Computer Science	Java Programming	22UCS307	2022
606	B.Sc Computer Science	Android Programming	22UCS518	2022
607	B.Sc. CT	Operations Research	22UCT2A2	2022
608	B.Sc. CT	Python Programming	22UCT412	2022
609	B.Sc. CT	Core Lab V – Python Programming Lab	22UCT415	2022
610	B.Sc. CT	Core Elective I – Fundamentals of Block Chain Technology and Digital Currency	22UCT5E3	2022
611	B.Sc. CT	R Programming	22UCT5S1	2022
612	B.Sc. CT	Scripting Language	22UCT5S2	2022
613	B.Sc. CT	Core Elective III – Ethical Hacking	22UCT6E5	2022
614	B.Sc. CT	Machine Learning Techniques	22UCT6E6	2022
615	B.Sc. CT	Digital Marketing	22UCT6AL	2022
616	B.Sc. CT	Desktop Publishing Lab	22UCT6S1	2022
617	B.Sc. CT	Animation Lab	22UCT6S2	2022
618	BCA	Visual Basic Programming Lab	22UBC312	2022
619	BCA	ASP.Net	22UBC413	2022
620	BCA	Visual Programming Lab	22UBC416	2022
621	BCA	Software Testing Lab	22UBC522	2022
622	BCA	Internet of Things	22UBC5S2	2022
623	BCA	Information Security	22UBC6E3	2022
624	BCA	PhP Programming	22UBC624	2022
625	BCA	Mobile Application Development	22UBC625	2022
626	BCA	PhP Programming Lab	22UBC626	2022
627	BCA	Mobile Application Development Lab	22UBC627	2022
628	BCA	Cloud Computing Lab	22UBC6E5	2022

BOS
HIGHLIGHTED



DEPARTMENT OF BCA

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE
POLLACHI - 642001

22nd Board of Studies Meeting in the Department of
BCA

Date & Time: 04.06.2022 & 10.00 A.M

Agenda

BoS / BCA17.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in BCA
BoS / BCA17.2	:	Confirmation of the Minutes of the 22 nd / Previous meeting of Board of studies in BCA held on 22.05.2021 and Action taken report of 22 nd meeting of Board of studies
BoS / BCA17.3	:	16.3.1 Syllabus of I BCA under Regulation 2022- 2023
		16.3.2 Syllabus of II BCA under Regulation 2023 - 2024
		16.3.3 Syllabus of III BCA under Regulation 2024- 2025
		Any other Discussions if any
BoS / BCA17.4	:	Suggestion given by BOS Members
BoS / BCA17.5	:	Any other items

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE

POLLACHI

UG DEPARTMENT OF COMPUTER APPLICATIONS

MINUTES OF BOS MEETING

The 22nd Meeting of the Board of studies of the BCA Department was held on 04.06.2022 at 10.00 A.M.

1. The following members were present:

Dr.K.Haridas Head & Associate Professor, BCA Department	Chairman
Dr.S.Hemalatha Associate Professor, BCA	Internal Members
Ms.D.Umamaheswari Assistant Professor, BCA	
Dr.R.Malathi Ravindran Associate Professor, BCA	
Ms.N.Shyamala Assistant Professor, BCA	
Mr.S.DilipKumar Assistant Professor, BCA	
Ms.N.Divya Assistant Professor, BCA	
Mr.D.Poobathy Assistant Professor, BCA	
Mr.AMuruganandham Assistant Professor, BCA	
Ms.M.Kirthika Assistant Professor, BCA	
Dr.E.Chandra Professor and Head Department of Computer Science BharathiarUniversity,Coimbatore. Chandra.e@buc.edu.in	University Nominee
Dr.S.Selvi Associate professor, Department of Computer Science PSG College of Arts & Science, Coimbatore Selvisellapan75@gmail.com	Academic Expert

	Dr.P.B.Pankajavalli Associate Professor, Department of Computer Science(SF) Bharathiar University, Coimbatore pankajavalli@buc.edu.in	Subject Expert
	Mr.D.Hariprasath Lead UX Designer RDA Labs LLC Pvt Ltd, Bangalore hariabdul007@gmail.com	Industry Expert
	Mr.R.MadhanKumar Full-stack developer Techno Consulting Services, Coimbatore madhan4r@gmail.com	Alumnus nominated by Principal / HoD
	1. Ms.B.Harshini(19BC40) D3-BCA 'A' (2019-2022) harshinibarathan@gmail.com 2. Ms.J.Jeffrin(19BC102) D3-BCA 'B' (2019-2022) jeffrinjebaseelan@gmail.com	Student Member

BoS/BCA12.1 WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN,
BOARD OF STUDIES IN THE BCA DEPARTMENT

The Chairman, BoS of the BCA Department welcomed and introduced the members of 17th Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS/BCA 12.2 TO CONFIRM THE MINUTES OF 21st BOS MEETING HELD ON 22.5.2021. The minutes of the 21st Board of Studies meeting held on 22.5.2021 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by 21st Academic council.

~ Action Taken Report (Enclosed in Annexure 1)

1. Based on the feedback of Academic Auditor, Map Simplification topic is included in the Digital Computer Fundamentals in Semester I.
2. Real time applications have been included in the list of programs of RDBMS due to the recommendation of our University Nominee in Semester III.
3. Based on the feedback of Alumni, topics and list of programs related with Win runner tool is replaced with Selenium tool.
4. Based on the recommendation of Academic Auditor, Subject Expert and Alumni, the program list has been updated in the DTP Lab.
5. Based on the feedback of University Nominee and Subject Expert, Unit-IV in Current Trends and Technologies is changed from Data Science to Machine Learning.
6. Based on the recommendation of Academic Auditor, Case study in "Research Topics in the field of Cloud computing" is included in the course Cloud Computing.
7. Based on the recommendation of Subject Expert, latest edition of text books and reference books have been updated for C, C++ and Information Security.
8. Based on the recommendation of Academic Auditor, latest edition of text books and reference books have been updated for Organizational Behaviour and Software Engineering.

BoS/BCA 12.3

BoS/BCA 12.3.1

I BCA (I & II SEMESTER)

I SEMESTER

- ✓ 22UBC101 - Core - I : Programming In C
- ✓ 22UBC102 - Core – II : Data Structures
- ✓ 22UBC1A1 - Allied - I :Mathematics I - Computer Oriented Numerical Methods And Statistical Methods
- ✓ 22UBC103 - Core Lab -I : Programming In C

II SEMESTER

- ✓ 22UBC204 - Core - III : Object Oriented Programming With C++
- ✓ 22UBC205 - Core - IV : Digital Computer Fundamentals
- ✓ 22UBC2A2 - Allied - II : Mathematics II –Mathematical Foundations Of Computer Applications
- ✓ 22UBC206 - Core Lab - II : Programming In C++

The presented syllabus was accepted by the experts and a **few suggestions** were given as follows:

- As suggested by our Academic Auditor Dr.S.Selvi the edition of the text book and the reference books should be updated in Mathematical Foundations of Computer Applications
- As suggested by our Subject Expert Dr.B.Pankajavalli and the Alumni, the Templates topic should be updated in C++ Programming.
- As suggested by our Academic Auditor Dr.S. Selvi the chapter name of UNIT-IV should be renamed as “Algorithms” in Data Structures.
- As suggested by Industry Expert Mr. D.Hari Prasath and BCA Students Data Structures should be Preponed to Semester – I.

The following papers from BCA were accepted by the experts fully without further suggestions:

- 22UBC101 - Core - I : Programming In C
- 22UBC1A1 - Allied - I :Mathematics I - Computer Oriented Numerical Methods And Statistical Methods
- 22UBC103 - Core Lab -I : Programming In C

- 22UBC205 - Core - IV : Digital Computer Fundamentals
- 22UBC206 - Core Lab - II : Programming In C++

The following courses were revised with major / minor modifications

- 22UBC102 - Core – II : Data Structures
- 22UBC204 - Core - III : Object Oriented Programming With C++
- 22UBC2A2 - Allied - II : Mathematics II –Mathematical Foundations Of Computer Applications

New Course Added: -NIL

BoS/BCA 12.3.2

<<II BCA (III & IV SEMESTER)>>

III SEMESTER

- ✓ 22UBC307 –Core - V :Relational Database Management System And Oracle
- ✓ 22UBC308 - Core - VI :Operating Systems
- ✓ 22UBC309 - Core - VII :Software Engineering
- ✓ 22UBC3A3 - Allied - III :Accountancy For Decision Making
- ✓ 22UBC310 - Core Lab - III : Relational Database Management System And Oracle
- ✓ 22UBC311 - Core Lab - IV : Operating Systems
- ✓ 22UBC312 - Core Lab - V : Visual Basic Programming
- ✓ 22UBC3N11 - Non Major Elective - I : Web Designing Lab /
- ✓ 22UBC3N12 - Non Major Elective - I : Desktop Publishing Lab

IV SEMESTER

- ✓ 22UBC413 - Core - VIII :Visual Programming
- ✓ 22UBC414 - Core - IX :Java Programming
- ✓ 22UBC415 - Core - X :Computer System Architecture
- ✓ 22UBC4A4 - Allied - IV :Mathematics III - Computer Based Optimization Techniques
- ✓ 22UBC416 - Core Lab - VI: Visual Programming
- ✓ 22UBC417 - Core Lab - VII : Java Programming
- ✓ 22UBC418 - Core Lab - VIII: Web Designing
- ✓ 22UBC4N21 - Non Major Elective - II : Photo Effects Lab/

✓ 22UBC4N22 - Non Major Elective – II: Animation Lab

The presented syllabus was accepted by the experts and a few suggestions were given as follows:

- As suggested by our Academic Auditor Dr. S. Selvi and Subject Expert Dr.B.Pankajavalli the BOS meeting, the latest edition of text books have been updated in RDBMS.
- As suggested by our Alumni Mr.R.Madhan Kumar and Students Graphics lab is replaced by Visual Basic lab.
- As suggested by our Industry Expert Mr.D.Hari Prasath Software Engineering is Preponed to III Semester.
- As suggested by our Subject Expert Dr.B.Pankajavalli and Academic Auditor Dr. S. Selvi in the BOS meeting the units in ASP.Net are arranged in the specified order:

Unit-I: Introduction

Unit-II: C#

Unit-III & IV: ASP.Net

Unit-V: VB.Net

- As suggested by our University Nominee Dr.E.Chandra the paper titled 'ASP.Net' has been changed as 'Visual Programming' with all updations in both theory and lab papers.
- As suggested by our Alumni Mr.R.Madhan Kumar and Students Java Programming theory and lab preponed to Semester IV.
- As suggested by our Subject Expert Dr.B.Pankajavalli the Computer System Architecture is updated and arranged according to the needs of the students.
- As suggested by our Academic Auditor Dr. S. Selvi Interfaces should be added in the Java Programming. JSP topic should be taken before servlets and swing should be removed from the Syllabus.

The following papers from BCA were accepted by the experts fully without further suggestions:

- 22UBC307 –Core - V :Relational Database Management System And Oracle
- 22UBC308 - Core - VI :Operating Systems
- 22UBC309 - Core - VII :Software Engineering
- 22UBC3A3 - Allied - III :Accountancy For Decision Making

- 22UBC310 - Core Lab - III : Relational Database Management System And Oracle
- 22UBC311 - Core Lab - IV : Operating Systems
- 22UBC3N11 - Non Major Elective - I : Web Designing Lab /
- 22UBC3N12 - Non Major Elective - I : Desktop Publishing Lab
- 22UBC4A4 - Allied - IV :Mathematics III - Computer Based Optimization Techniques
- 22UBC418 - Core Lab - VIII: Web Designing
- 22UBC4N21 - Non Major Elective - II : Photo Effects Lab/
- 22UBC4N22 - Non Major Elective – II: Animation Lab

The following courses were revised with major / minor modifications.

- 22UBC413 - Core - VIII :Visual Programming
- 22UBC415 - Core - X :Computer System Architecture
- 22UBC416 - Core Lab - VI: Visual Programming
- 22UBC414 - Core - IX :Java Programming
- 22UBC417 - Core Lab - VII : Java Programming

New Course Added:

- ✓ 22UBC312 - Core Lab - V : Visual Basic Programming

BoS/BCA12.3.3

<<III BCA (V&VI SEMESTER)>>

V SEMESTER

- ✓ 22UBC519 - Core - XI: Python Programming
- ✓ 22UBC520 - Core - XII: Skill Enhanced Course Software Testing
- ✓ 22UBC5E11 / - Networks
- ✓ 22UBC5E12 / - Organizational Behaviour
- ✓ 22UBC5E13 - Data Science
- ✓ 22UBC521 - Core Lab - IX: Python Programming
- ✓ 22UBC522 - Core Lab - X : Software Testing
- ✓ 22UBC523 - Mini Project

- ✓ 22UBC5AL - Advanced Learner Course –I : Adhoc and Sensor Networks
- ✓ 22UBC5S11 – Mobile Phone Services/
- ✓ 22UBC5S12 - Internet of Things/
- ✓ 22UBC5S13 - Desktop Publishing Lab

VI SEMESTER

- ✓ 22UBC624 - Core - XIII :PhP Programming
- ✓ 22UBC625 - Core - XIV : Mobile Application Development
- ✓ 22UBC6E21 - Storage Management
- ✓ 22UBC6E22 - Current Trends And Technologies
- ✓ 22UBC6E23 - Information Security
- ✓ 22UBC6E31- Data Mining And Warehousing
- ✓ 22UBC6E32 - Cloud Computing
- ✓ 22UBC6E33 - Nano Computing
- ✓ 22UBC626 - Core Lab - XI : PhP Programming
- ✓ 22UBC627 - Core Lab - XII : Mobile Application Development
- ✓ 22UBC6AL- Advanced Learner Course-II: Disaster Management
- ✓ 22UBC6S21 - Corporate Systems
- ✓ 21UBC6S22 - Multimedia And Animation
- ✓ 21UBC6S23- Personality Development Skills

The presented syllabus was accepted by the experts and a few suggestions were given as follows:

- As suggested by our Alumni Mr.R.Madhan Kumar and Industry Expert Mr.D.Hari Prasath Python Programming topics are rearranged and new topics are added.
- As suggested by our University Nominee Dr.E.Chandra the syllabus of Information Security should be simplified according to the UG level.
- As suggested by our Alumni Mr.R.Madhan Kumar and Industry Expert Mr.D.Hari Prasath and our BCA students, Mobile Application Development is altered and UI/UX should be added.

- As suggested by our Subject Expert Dr.B.Pankajvalli the Python topics should not be repeated in Data Science Syllabus and Python Programming preponed to Semester -V.
- As suggested by our Subject Expert Dr.B.Pankajvalli Raspberry Pi should be replaced by Adino in Internet of Things.
- As suggested by our Academic Auditor Dr. S. Selvi the Current Trends and Technologies topics should not be repeated in the Internet of Things.
- As suggested by our University Nominee Dr.E.Chandra the cloud computing is altered according to the current Scenario.
- As suggested by our and Industry Expert Mr.D.Hari Prasath Automation Testing should be improved since it affects the placement.

The following papers from BCA were accepted by the experts fully without further suggestions:

- | | |
|-----------------|--|
| • 22UBC5E11 / - | Networks |
| • 22UBC5E12 / - | Organizational Behaviour |
| • 22UBC523 - | Mini Project |
| • 22UBC5AL - | Advanced Learner Course –I : Adhoc and Sensor Networks |
| • 22UBC5S11 – | Mobile Phone Services/ |
| • 22UBC5S13 - | Desktop Publishing Lab |
| • 22UBC6E21 - | Storage Management |
| • 22UBC6E22 - | Current Trends And Technologies |
| • 22UBC6E31- | Data Mining And Warehousing |
| • 22UBC6E33 - | Nano Computing |
| • 22UBC6AL- | Advanced Learner Course-II: Disaster Management |
| • 22UBC6S21 - | Corporate Systems |
| • 21UBC6S22 - | Multimedia And Animation |
| • 21UBC6S23- | Personality Development Skills |

The following courses were revised with major / minor modifications.

- 22UBC519 - Core - XI: Python Programming
- 22UBC521 - Core Lab - IX: Python Programming
- 22UBC520 - Core - XII: Skill Enhanced Course Software Testing
- 22UBC522 - Core Lab - X : Software Testing
- 22UBC625 - Core - XIV : Mobile Application Development
- 22UBC6E23 - Information Security
- 22UBC6E32 - Cloud Computing
- 22UBC627 - Core Lab - XII : Mobile Application Development
- 22UBC5E13 - Data Science
- 22UBC5S12 - Internet of Things

New Course Added:

- ✓ 22UBC624 - Core - XIII :PhP Programming
- ✓ 22UBC626 - Core Lab - XI : PhP Programming

These changes have been made effect for the students admitted in 2022 with I to VI Semesters accordingly.

BoS/BCA12.4 SUGGESTIONS GIVEN BY THE BoS MEMBERS

12.4.1: University Nominee

- ASP.Net syllabus is altered and renamed as 'Visual Programming'
- Information Security Syllabus should be simplified.
- Cloud computing should be altered according to the current scenario.

12.4.2 Academic Auditor

- Change of edition of text books & reference books in Mathematical foundations of Computer Applications.
- The Chapter name of UNIT-IV should be renamed as "Algorithms" in Data Structures.
- Change of edition of text books in RDBMS.
- ASP.Net Syllabus is altered.
- Interfaces topic added and Swing topic removed from Java Programming.
- Current Trends & Technologies topics should not be repeated in Internet of Things.

12.4.3 Subject Expert

- The Templates topic should be updated in the C++ Programming.
- Change of edition of text books in RDBMS.
- ASP.Net Syllabus is altered.
- Computer System Architecture is updated and arranged.
- Repetition in Python and Data Science should be avoided.
- Raspberry PI should be replaced by Adino in Internet of Things.
- Python Programming preponed to Semester -V.

12.4.4 Industry Expert

- Data Structures should be preponed to Semester – I
- Software Engineering is preponed to Semester – III
- Python Programming theory and lab altered.
- Mobile Application Development should be altered and UI/UX added.
- Automation Testing should be improved in Software Testing.

12.4.5 Alumni

- The Templates topic should be updated in the C++ Programming.
- Graphics lab is replaced by Visual Basic lab.
- Java Programming theory and lab preponed to Semester –IV
- Python Programming theory and lab altered.
- Mobile Application Development should be altered and UI/UX added.

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum and Syllabi.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

- a) The syllabus of First Year BCA under Regulation <<Regulation Number>>.
- b) The syllabus of Second Year BCA under Regulation <<Regulation Number>>.
- c) The syllabus of Third Year BCA under Regulation <<Regulation Number>>.
- d) Any other discussion

Members Present:

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE

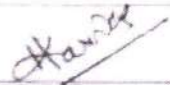
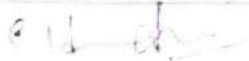
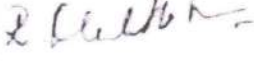
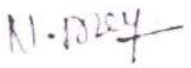
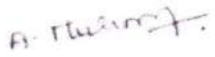
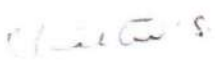
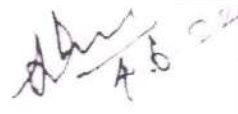
POLLACHI

UG DEPARTMENT OF COMPUTER APPLICATIONS

MINUTES OF BOS MEETING

The 17th Meeting of the Board of studies of the BCA Department was held on 04.06.2022 at 10.00 A M

1. The following members were present.

Chairman	
Dr.K.Haridas Head & Associate Professor, BCA Department	
Internal Members	
Dr.S Hemalatha Associate Professor, BCA	
Ms.J.Umamaheswari Assistant Professor, BCA	
Dr.R.MalathiRavindran Associate Professor, BCA	
Mr.S.DilipKumar Assistant Professor, BCA	
Ms.N.Divya Assistant Professor, BCA	
Mr.AMuruganandham Assistant Professor, BCA	
Dr.B.Azhagusundari Associate Professor, BCA,	- Absent -
Dr.S.Niraimathi Associate Professor, BCA	
Mr.D.Poobathy Assistant Professor, BCA	
University Nominee	
Dr.E.Chandra Professor and Head Department of Computer Science Bharathiar University, Coimbatore. Chandra.e@buc.edu.in	
Academic Expert	
Dr.S.Selvi Associate professor, Department of Computer Science PSG College of Arts & Science, Coimbatore Selvisellapan75@gmail.com	

Subject Expert	
Dr.P.B.Pankajavalli Associate Professor, Department of Computer Science(SF) Bharathiar University, Coimbatore pankajavalli@buc.edu.in	<i>P.B. Pankajavalli</i> 04/06/2022
Industry Expert	
Mr.D.Hariprasath Lead UX Designer RDA Labs LLC Pvt Ltd, Bangalore Haribdul007@gmail.com	<i>Hariprasath</i>
Alumnus nominated by Principal / HoD	
Mr.R.Madhankumar Full-stack developer Techno Consulting Services, Coimbatore madhan4r@gmail.com	<i>R. Madhan kumar</i>
Student Members	
1. Ms.B.Harshini(19BC40) D3-BCA 'A' (2019-2022) harshinibarathan@gmail.com	<i>B. Harshini</i>
2. Ms.J.Jeffrin(19BC102) D3-BCA 'B' (2019-2022) jeffrinjebaseelan@gmail.com	<i>Jeffrin</i>

ANNEXURE I

Minutes of the 21st/ Previous Meeting – Action Taken Report

S.No	Suggestion given by expert members	Action taken
1	Map Simplification topic is included in the Digital Computer Fundamentals	Reviewed and Implemented
2	Real time applications have been included in the list of programs of RDBMS	Reviewed and Implemented
3	Win runner tool is replaced with Selenium tool in Software Testing	Reviewed and Implemented
4	The program list has been updated in the DTP Lab	Reviewed and Implemented
5	Unit-IV in Current Trends and Technologies is changed from Data Science to Machine Learning.	Reviewed and Implemented
6	Case study in “Research Topics in the field of Cloud computing” is included in Cloud Computing	Reviewed and Implemented
7	Latest edition of text books and reference books have been updated for C, C++ and Information Security	Reviewed and Implemented
8	Latest edition of text books and reference books have been updated for Organizational Behaviour and Software Engineering	Reviewed and Implemented



Dr. R. MUTHUKUMARAN,
M.A., M.Phil., B.Ed., Ph.D.,
PRINCIPAL
N.G.M. College, Pollachi - 642 001
Coimbatore District



HoD

Dr. K. HARIDAS, M.C.A., M.Phil., Ph.D.,
Associate Prof. & Head,
Department of Computer Applications,
N.C.M. College (Autonomous), Pollachi - 642 001.

N.G.M College – UG Department of Computer Applications
Scheme of Examination for 2022 - 2025
Choice Based Credit System & OBES

SEMESTER - I

Part	Subject Code	Title of the Paper	Hrs / Week		Hrs / Sem.	Exam Hrs.	Maximum Marks		Total Marks	Credits
			L	P			Internal	External		
I	22UTL101 /	Tamil Paper - I /	6	-		3	50	50	100	3
	22UHN101 /	Hindi Paper - I /	6	-	-					
	22UFR101	French Paper - I	6	-	-					
II	22UEN101	Communication Skills-I(Level I)	5	-	-	3	50	50	100	3
	22UEN102	Communication Skills-I(Level II)	5	-	-					
III	22UBC101	Core - I : Programming In C	5		5	3	50	50	100	4
	22UBC102	Core – II : Data Structures	4		5	3	50	50	100	4
	22UBC1A1	Allied - I : Mathematics I -Computer Oriented Numerical And Statistical Methods	4		5	3	50	50	100	4
	22UBC103	Core Lab -I : Programming In C		4		3	25	25	50	2
IV	22UHR101	Human Rights	1	-	-	2	-	50	50	2
	22HEC101	Human Excellence - Personal Values & SKYYoga Practice - I	1	-	-	2	25	25	50	1
V		Extension Activities –Annexure I	-	-	-	-	-	-	-	-
CC	22CFE101	Fluency in English-I	-	-	-	-	-	-	-	-
		Online Course (Optional) (MOOC / NPTEL / SWAYAM)								Grade
Total									650	23




Dr. R. MANICKA CHEZIAN M.Sc., M.S., Ph.D.,
 PRINCIPAL i/c
 Nallamuthu Gounder Mahalingam College
 Pollachi - 642 001, Coimbatore District.

SEMESTER - II

Part	Subject Code	Title of the Paper	Hrs / Week		Hrs / Sem.	Exam Hrs.	Maximum Marks		Total Marks	Credits
			L	P	T		Internal	External		
I	22UTL202 /	Tamil Paper - II /	5	-	-	3	50	50	100	3
	22UHN202/	Hindi Paper - II /	5	-	-					
	22UFR202	French Paper - II	5	-	-					
II	22UEN202	Communication Skills-II (Level I)	6	-	-	3	50	50	100	3
	22UEN203	Communication Skills-II (Level II)	6	-	-					
III	22UBC204	Core - III : Object Oriented Programming With C++	4		5	3	50	50	100	4
	22UBC205	Core - IV : Digital Computer Fundamentals	4		-	3	50	50	100	4
	22UBC2A2	Allied - II : Mathematics II –Mathematical Foundations Of Computer Applications	4		5	3	50	50	100	4
	22UBC206	Core Lab - II : Programming In C++		4		3	25	25	50	2
IV	22EVS201	Environmental Studies	2	-	-	2	-	50	50	2
	22HEC202	Human Excellence - Family Values & SKY Yoga Practice - II	1	-	-	2	25	25	50	1
V		Extension Activities - Annexure I	-	-	-	-	-	-	-	-
CC	22CFE202	Fluency in English - II	-	-	-	-	-	-	-	-
	22CMM201	Manaiyiyal Mahathuvam - I	1*	-	-	2	-	50	50	Grade
	22CUB201	Uzhavu Bharatham - I	1*	-	-	2	-	50	50	Grade
		Online Course (Optional) (MOOC/ NPTEL /SWAYAM)								Grade
Total									650	23




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SEMESTER - III										
Part	Subject Code	Title of the Paper	Hrs / Week		Hrs / Sem.	Exam Hrs.	Maximum Marks		Total Marks	Credits
			L	P	T		Internal	External		
III	22UBC307	Core - V : Relational Database Management System	5		5	3	50	50	100	4
	22UBC308	Core - VI : Operating Systems	5			3	50	50	100	3
	22UBC309	Core - VII : Software Engineering	4		5	3	50	50	100	3
	22UBC3A3	Allied - III : Accountancy For Decision Making	5			3	50	50	100	4
	22UBC310	Core Lab - III : Relational Database Management System		4		3	25	25	50	2
	22UBC311	Core Lab - IV : Operating Systems		4		3	25	25	50	2
	22UBC312	Core Lab - V : Visual Basic Programming		1		2	20	30	50	1
IV	22UBC3N1/ 22UBC3N2	Non Major Elective - I : WebDesigning Lab Non Major Elective - I : Desktop Publishing Lab		1		2	-	50	50	2
	22HEC303	Human Excellence - Professional Values & Ethics- III	1	-	-	2	25	25	50	1
		Extension Activities -Annexure I	-	-	-	-	-	-	-	-
CC	22CFE303	Fluency in English - III	-	-	-	-	-	-	-	-
	22CMM302	Manaiyiyal Mahathuvam - II	1*	-	-	2	-	50	50	Grade
	22CUB302	Uzhavu Bharatham - II	1*	-	-	2	-	50	50	Grade
Total									650	22




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SEMESTER - IV

Part	Subject Code	Title of the Paper	Hrs / Week		Hrs / Sem.	Exam Hrs.	Maximum Marks		Total Marks	Credits
			L	P			Internal	External		
III	22UBC413	Core - VIII : .Net Framework	5			3	50	50	100	4
	22UBC414	Core - IX : Java Programming	5			3	50	50	100	3
	22UBC415	Core - X : Computer System Architecture	4			3	50	50	100	3
	22UBC4A4	Allied - IV : Mathematics III -Computer Based Optimization Techniques	5		5	3	50	50	100	4
	22UBC416	Core Lab - VI:.NET Lab		4		3	20	30	50	2
	22UBC417	Core Lab - VII : Java Programming		4		3	25	25	50	2
	22UBC418	Core Lab - VIII: Web Designing		1		2	25	25	50	1
IV	22UBC4N1 / 22UBC4N2	Non Major Elective - II :Photo Effects Lab/ Non Major Elective – II:Animation Lab		1		2		50	50	2
	22HEC404	Human Excellence - Social Values & SKY Yoga Practice - IV	1	-	-	2	25	25	50	1
	V	Extension Activities -Annexure I	-	-	-	-	-	-	50	1
CC	22CFE404	Fluency in English - IV	-	-	-	-	-	-	-	-
	22CMM403	Manaiyiyal Mahathuvam - III	1*	-	-	2	-	50	50	Grade
	22CUB403	Uzhavu Bharatham - III	1*	-	-	2	-	50	50	Grade
Total									700	23



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SEMESTER - V

Part	Subject Code	Title of the Paper	Hrs / Week		Hrs / Sem.	Exam Hrs.	Maximum Marks		Total Marks	Credits
			L	P	T		Internal	External		
III	22UBC519	Core - XI : Python Programming	5		5	3	50	50	100	4
	22UBC520	Core - XII : Skill Enhanced Course Software Testing	4			3	50	50	100	4
	22UBC5E1 / 22UBC5E2 / 22UBC5E3	Core Elective - I	5			3	50	50	100	4
	22UBC521	Core Lab - IX: Python Programming		4		3	25	25	50	2
	22UBC522	Core Lab - X : Software Testing		4		3	20	30	50	2
	22UBC523	Project	2	2			25	75	100	3
	22UBC5AL	Advanced Learner Course – I: Adhoc and Sensor Networks - Self Study					50	50	100	4*
	22UBC5VA	PC Assembly and Maintenance			30 Hours					2*
IV	22UBC5S1 / 22UBC5S2 22UBC5S3	Skill Based Elective - I	3 Hours			2	25	25	50	3
	22HEC505	Human Excellence - National Values & SKY Yoga Practice - V	1	-	-	2	25	25	50	1
	CC	22CFE505	Fluency in English - V	-	-	-	-	-	-	-
		22CSD501	Soft Skills Development - I	-	-	-	-	-	-	Grade
		22GKL501	General Awareness - Self Study	SS		2	-	50	50	Grade
Total									600	23
List of Core Electives –I			List of Skill Based Electives – I							
22UBC5E1 – Networks/			22UBC5S1 – Mobile Phone Services/							
22UBC5E2 – Organizational Behaviour/			22UBC5S2 - Internet Of Things/							
22UBC5E3 - Data Science			22UBC5S3 - Desktop Publishing Lab							




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SEMESTER - VI

Part	SubjectCode	Title of the Paper	Hrs / Week		Hrs / Sem.	Exam Hrs.	MaximumMarks		Total Marks	Credits
			L	P	T		Internal	External		
III	22UBC624	Core - XIII : PhP Programming	4		5	3	50	50	100	4
	22UBC625	Core - XIV : Mobile Application Development	4			3	50	50	100	4
	22UBC6E1 / 22UBC6E2 / 22UBC6E3	Core Elective - II :	5			3	50	50	100	5
	22UBC6E4 / 22UBC6E5 / 22UBC6E6	Core Elective - III :	5			3	50	50	100	5
	22UBC626	Core Lab - XI : PhP Programming		4		3	20	30	50	2
	22UBC627	Core Lab - XII : Mobile Application Development		4		3	20	30	50	2
	22UBC6AL	Advanced Learner Course – II: DisasterManagement					50	50	100	4*
	22UBC6VA	Hardware Troubleshooting and Network Essentials			30 Hrs					2*
IV	22UBC6S1 / 22UBC6S2 / 22UBC6S3	Skill Based Elective - II :	3			2	25	25	50	3
	22HEC606	Human Excellence - Global Values & SKY Yoga Practice - VI	1	-	-	2	25	25	50	1
CC	22CFE606	Fluency in English - VI	-	-	-	-	-	-	-	-
	22CSD602	Soft Skills Development - II	-	-	-	-	-	-	-	Grade
Total									650	26
List of Core Electives –II 22UBC6E1 - Storage Management 22UBC6E2 - Current Trends and Technologies 22UBC6E3 - Information Security			List of Core Electives –III 22UBC6E4-Data Mining and Warehousing 22UBC6E5 - Cloud Computing 22UBC6E6 - Nano Computing			List of Skill Based Electives – II 22UBC6S1 - Corporate Systems 22UBC6S2 – Multimedia & Animation 22UBC6S3- Personality Development Skills				




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Programme Code:	BCA			Programme Title:	Bachelor of Applications
Course Code:	22UBC312			Title	Batch:
Practical Hrs./Week	1	Tutorial Hrs./Sem.		Core Lab - V : Visual Basic Programming	Semester: 2022
					Credits:

Course Objective

To understand the visual basic programming skills required for modern software development.

Course Outcomes

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

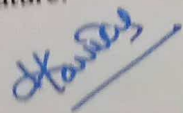
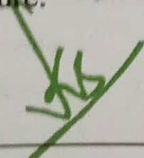
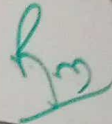
CO Number	CO Statement	Know Level
CO1	Demonstrate fundamental skills in utilizing the tools of a visual environment such as command, menus and toolbars.	K1
CO2	Understand the connectivity between VB with MS-ACCESS, and SQL database.	K2
CO3	Develop several of Controls available with visual basic.	K3
CO4	Attain a good practical skill of managing ODBC and Data Access Objects.	K4
CO5	Implement the methods and techniques to develop projects.	K5

Mapping

PO/PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1
CO1	H	M	H	M	H	H	L	H	M	H	H
CO2	H	L	M	L	M	M	M	H	L	M	M
CO3	H	M	M	L	M	H	L	H	M	H	H
CO4	H	L	M	M	M	L	M	H	L	M	M
CO5	H	M	M	L	M	H	L	H	M	H	H

1. Construction of an Arithmetic Calculator (Simple).
2. Writing simple programs using loops and decision-making statements. a. Generate Fibonacci series.
b. Find the sum of N numbers.
3. Write a program to create a menu and MDI Forms.
4. Write a program to display files in a directory using DriveListBox, DirListBox and FileListBox control and open, edit and save text file using Rich text box control.
5. Write a program to illustrate Common Dialog Control and to open, edit and save text file.
6. Write a program to implement animation using timers.
7. Implementation of various standard activeX controls- Text box, list box, Check box, Combo box, option button, picture box, image box, timer, OLE control and message box.
8. Programs to demonstrate various methods, events and properties of activeX controls.
9. Program to implement the Menu Editor.
10. Implementation of Single and Multiple Document Interface.
11. Implementation of Input validation (form and field level).
12. Implementation of Error handling in VB.
13. Program to implement Data bound controls.
14. Implementing ADO and RDO to access database.
15. Creating and generating data reports using report designer.

Total contact hours : 60 hrs

Course Designed by	HOD	CDC	COE
Name and Signature	Name and Signature	Name and Signature	Name and Signature
Name: Dr.B.AZHAGUSUNDARI Signature: 	Name: Dr.K.HARIDAS Signature: 	Name: Mr.K.SRINIVASAN Signature: 	Name: Dr.R. MANICKAVELU Signature: 

K. SRINIVASAN, M.C.A.,
Co-ordinator
Curriculum Development Cell (CDC)
NGM College (Autonomous)
Pollachi - 642 001.

Dr. R. MANICKAVELU
Controller
NGM College
POLLACHI

Programme Code:	BCA			Programme Title:	Bachelor of Computer Applications		
Course Code:	22UBC413			Title	Batch:	2022-2025	
Practical Hrs./Week	5	Tutorial Hrs./Sem.		Core – VIII: Visual Programming	Semester:	IV	
					Credits:	04	

Course Objective

The course gives introduction to the .Net framework, library and various applications involved in it. It enables the students to learn and develop Windows and Web applications for the .NET platform.

Course Outcomes (CO)

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

CO Number	CO Statement	Knowledge Level
CO1	To understand the concepts of the .NET framework as a whole and the technologies that constitutes the framework.	K1
CO2	Knowledge on ADO.NET with ASP.NET for creating web based data centric applications. Also understand web services.	K2
CO3	Understand the ASP.NET architecture, web server controls, rich web controls and validation controls, Analyze security management in ASP.NET.	K3
CO4	Use ADO.NET in a web application to read, insert, and update data in a database.	K4

Mapping

PO / PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	PSO1	PSO2
CO												
CO1	M	H			M	H		M	H		H	M
CO2	H	M	M	M	H	M	M		L	M	H	H

Programme Code:	BCA		Programme Title:	Bachelor of Computer Applications	
Course Code:	22UHC416		Title	Batch:	2022-2025
Practical Hrs./Week	4	Tutorial Hrs./Sem	Core Lab - VI: Visual Programming	Semester:	IV
				Credits:	02

Course Objective

To develop the practical aspects of application using fundamentals of ASP.Net and C#. To gain the knowledge of Web server controls, Form validation, Session handling, Error handling, Inheritance, File operations and ADO.Net connectivity.

Course Outcomes

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

CO Number	CO Statement	Knowledge Level
CO1	Recollect the ASP.Net applications using standard .net controls	K1
CO2	Understand the decision making statements and user interfacing controls	K2
CO3	Implement and deploy database connection management using ADO.NET	K3
CO4	Analyze simple data binding applications using ADO.Net Connectivity	K4
CO5	Evaluate web-based applications by using various web controls in ASP.NET.	K5

Mapping

PO/ PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CO												
CO1		H		M	M	M	M	M	M	H	H	M
CO2	M	M			H	H	M	H	M	H	H	M
CO3		H		M	H	M	H	M		H	H	H

				H	M	M	M	H	M	M	
CO4	M	M		H	H	H	M	H	H	H	
CO5	M	H									

1. Create a windows form with the following controls Textbox, Radio button, Check box, Command Button
2. Write a program for Menu option.
3. Create a program to connect with database and manipulate the records in the database ADO .NET
4. Create a program to implement the concepts of OOPS for creating class with inheritance
5. Create a program to perform input validation using procedure.
6. Write a program to open a file and using I/O operations write contents into a file and contents from the file.
7. Create a window form using HTML controls.
8. Create a program to perform validation using validation controls.
9. Create a program in ASP .NET to connect with the database using ADODB connection and manipulate the records.
10. Write a program to store the employee details using class and methods in C# .NET
11. Write a program to Handle Exceptions
12. Write a program to create a form with Basic controls in c#. NET.
13. Write a program in ASP to display the session properties.
14. Write a program in ASP that makes use of Ad rotator component.
15. Write a program in ASP that makes use of Browser capabilities component.

Total Cont

Course Designed by	HOD	CDC	COE
Name and Signature	Name and Signature	Name and Signature	Name and Signature
Name: M.N.DIVYA Signature: <i>N. Divya</i>	Name: Dr.K.HARIDAS Signature: <i>Dr. K. Haridas</i>	Name: Mr.K.SRINIVASAN Signature: <i>K.S.</i>	Name: Dr.R. MANICKACHEZIAN Signature: <i>Dr. R. Manickachezian</i>

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Dr. R. MANICKACHEZIAN, M.Sc., M.S., Ph.D.,
Controller of Examinations
NGM College (Autonomous)
POLLACHI - 642 001.

Programme Code:	BCA		Programme Title:	Bachelor of Computer Applications	
Course Code:	22UBC522		Title	Batch:	2022-2025
Practical Hrs./Week	4	Tutorial Hrs./Sem	Core Lab - X : Software Testing	Semester:	V
				Credits:	02

Course Objective

The course has been designed to provide knowledge on how to planning a test project, design test cases and data, conduct testing operations, manage software problems and defects, and generate a testing report.

Course Outcomes

Upon completion of this course students shall be able to

CO Number	Co Statement	Knowledge Level
CO1	Recollect the essential characteristics of tools used for test automation.	K1
CO2	Understands the Automation testing approach and to write test suites for software	K2
CO3	Develop analyzing techniques through automation testing tool	K3
CO4	Generate test cases from software requirements using various test processes for continuous quality improvement	K4
CO5	Evaluate the automation process in software testing.	K5

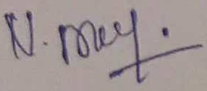
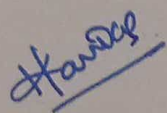
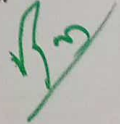
Mapping

PO/ PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	PSO1	PSO2
CO												
CO1		H	M	M	H	H	H	H	M	H	H	H
CO2	H	M			H	M		H	H	H	M	H
CO3		H	M	M	H	H		H	H	H	H	H

CO4	H	H	M	M	M	M	M	H	M	M	H
CO5	M	M	M	M	H	H	H	M	H	M	M

22UBC

1. Write a test case based on controls.
2. Using Selenium IDE, Write a test suite containing minimum 4 test cases.
3. Using Selenium write a simple test script to validate each field of the registration page
4. Conduct a test suite for any two web sites.
5. Write and test a program to login a specific web page.
6. Write and test a program to count number of items present on a desktop.
7. Write and test a program to get the number of list items in a list / combo box.
8. Write and test a program to provide total number of objects present / available on the page.
9. Test a program in MS Excel for Data Driven Wizard.
10. Test the addition of two values in C++ Program
11. Test a HTML file

Course Designed by	HOD	CDC	COE
Name and Signature	Name and Signature	Name and Signature	Name and Signature
Name: Ms.N.DIVYA Signature: 	Name: Dr.K.HARIDAS Signature: 	Name: Mr.K.SRINIVASAN Signature: 	Name: Dr.R. MANICKACHEZIAN Signature: 

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Programme Code:	BCA		Programme Title:	Bachelor of Computer Applications	
Course Code:	22UBC5S2		Title	Batch:	2022 – 2025
Lecture Hrs./Week	3	Tutorial Hrs./Sem.	Skill Based Elective - I : Internet Of Things	Semester:	V1
				Credits:	02

Course Objective

To understand the fundamentals of Internet of Things and its protocols. They also understand how to acquire sensor data, make available on the Internet and visualize sensor data and will be able to build simple low-cost embedded systems using Raspberry Pi to apply the concept of IOT in the real-world applications.

Course Outcomes

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

CO Number	Co Statement	Knowledge Level
CO1	Learn the concept and significance of IOT and its services.	K1
CO2	Understand the different IOT Technologies like Micro-controller, Wireless communication like Blue Tooth, GPRS, Wi-Fi and Storage and embedded systems.	K2
CO3	Deploy and test different protocols and prototypes in IOT.	K3
CO4	To create programs using Arduino IDE and extract data	K4
CO5	Experiment IOT systems and test its connection to the cloud computing, big data and machine learning disciplines.	K5

Mapping

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CO												
CO1	H	H	M		H	M		L		M	M	
CO2	M	H	H	M	H	H	H		H	M	H	

CO3	M	M	H		H	H		H	M	H	H
CO4		M	H		H	H		M	H	H	H
CO5	M	M	H	H	H	H	M	H	H	H	H

	Content	Hrs
Unit I	Introduction to IOT: Internet of Things – Physical Design – Logical Design – IOT Enabling Technologies – IOT Levels & Deployment Templates – Domain Specific IOTs.	9
Unit II	IOT Architecture: M2M high-level ETSI Architecture – IETF Architecture for IOT. IOT Platform Design Methodology: Introduction-Design Methodology-IOT System Management.	9
Unit III	IOT Reference model – Domain model - Information model - functional model – Communication model - IOT Reference Architecture - IOT Protocols.	9
Unit IV	Working with Arduino: LED and Switch - Data acquisition with IOT Devices - Understanding Sensors and Devices - Understanding the Inputs from Sensors - Working with Temperature Sensors - Working with Ultrasound Sensor - Working with humidity sensor - Working with Motion Sensor.	9
Unit V	Case studies: IOT Design-Home Automation, Cities, Environment, Agriculture, Productivity Applications.	9
	Total Contact Hrs	45

The topics given in **Italics** are noted as Self-Study topics.

Pedagogy and Assessment Methods:

Seminar, Assignment, Case Study

Programme Code:	BCA			Programme Title:	Bachelor of Computer Applications	
Course Code:	22UBC6E6			Title	Batch:	2022-2025
Lecture Hrs./Week	5	Tutorial Hrs./Sem.		Core Elective II : Information Security	Semester:	VI
					Credits:	05

Course Objective

To prepare students with the technical knowledge and skills needed to protect and defend computer systems and networks. To develop graduates that can plan, implement, and monitor cyber security mechanisms to help ensure the protection of information technology assets. To develop graduates that can identify, analyze, and remediate computer security breaches.

Course Outcomes

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

CO Number	CO Statement	Knowledge Level
CO1	Remember the fundamental concepts of Information Security.	K1
CO2	Understand the concepts of public key encryption, Authentication and hashfunctions.	K2
CO3	Examine the issues in Network Security and Intrusion Detection and Defensive Programming.	K3
CO4	Analyze the basic understanding of cryptography, how it has evolved, and some key encryption techniques used today.	K4
CO5	Evaluate the security features and Cyber security law in real life situations.	K5

Mapping

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CO1	L	M	H	H	M		L		M	L	H	H
CO2	M	M	M	H	H	H	M		M	M	H	H
CO3			H		H	M	H		H	H	M	M
CO4		H	M	M	M	H	M	H	M	M	M	H
CO5	H	H	H	H	M	M	H	H		H	H	H

Units	Content	Hrs
Unit I	Attacks on Computers and Computer Security: Introduction – Need For Security – Types Of Attacks. Cryptography - Concepts and Techniques: Introduction – Plain Text and Cipher Text – Substitution Techniques - Transposition Techniques – Encryption and Decryption.	15
Unit II	Symmetric Key Algorithms: Introduction – Algorithm Types – An Overview Of Symmetric Key Cryptography – Data Encryption Standard (DES): How DES Works? Asymmetric Key Algorithms, Digital Signature and RSA: Introduction – An Overview Of Asymmetric Cryptography - The RSA Algorithm.	15
Unit III	Network Security: Intruders – Intrusion Detection – Password Management – Malicious Software – Viruses and Related Threats – Countermeasures – Distributed Denial of Service Attacks – Firewalls – Design Principles – Trusted Systems.	15
Unit IV	Software Security: Secure software engineering – Hackers, Crackers, and Attackers – Security Failures – Technical Trends affecting Software Security - <i>Defensive programming and its Techniques- Buffer overruns and other implementation flaws.</i>	15
Unit V	Cyber security: Classification of Cybercrimes - Case Studies: Privacy - Mobile code- Security and the Law - The legal perspective – Indian perspective, Global perspective - <i>Cyber Stalking and Obscenity in Internet – Electronic Voting.</i>	15
	Total Contact Hrs	75

- The topics given in **Italics** are noted as Self-Study topics.

Pedagogy and Assessment Methods:

Seminar, Power Point Presentation, Chalk and talk, Quiz, Assignments, Group Task.

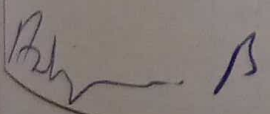
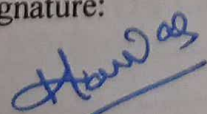
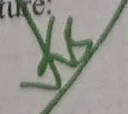
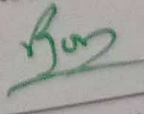
Text Books

22UBC6E3

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHERS \ EDITION	YEAR OF PUBLICATION
1	Atul Kahate	"Cryptography and Network Security", 2nd Edition (Unit-1 and 2)	Tata Mcgraw Hill Publications	2013
2	Debby Russell and Sr.G.T.Gangemi	Computer Security Basics (Unit – 1)	O'Reilly Media	2006
3	William Stallings	Cryptography and Network Security (Unit – 2, 3 and 4)	Prentice Hall	2008
4	Nina Godbole, Sunit Belapure	Cyber Security – Understanding Cyber Crimes, Computer Forensics and Legal Perspectives (Unit-5)	Wiely India Pvt Ltd	2011

Reference Books

S.NO	AUTHOR	TITLE OF THE BOOK	PUBLISHERS \ EDITION	YEAR OF PUBLICATION
1	Charles P pfleegeer and Shai Lawrence pfleegeer	Security in Computing	Prentice Hall	2007
2	Behrouz A. Forouzan	Cryptography and Network Security	Tata Mc-GrawHill Publications	2007

Course Designed by	HOD	CDC	COE
Name and Signature	Name and Signature	Name and Signature	Name and Signature
Name: Dr.B.AZHAGUSUNDARI Signature: 	Name: Dr.K.HARIDAS Signature: 	Name: Mr.K.SRINIVASAN Signature: 	Name: Dr.R. MANICKACHEZIAN Signature: 

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Programme Code:	BCA		Programme Title:	Bachelor of Computer Applications	
Course Code:	22UBC626		Title	Batch:	2022 - 2025
Practical Hrs./Week	4	Tutorial Hrs./Sem.	Core Lab - XI : PHP Programming	Semester:	VI
				Credits:	02

Course Objective

To measure the student's knowledge about the PHP script languages and to demonstrate how to store and retrieve data from the database and also helps the students to setup a better career.

Course Outcomes

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

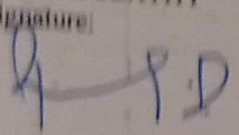
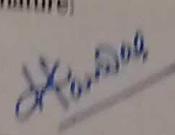
CO Number	Co Statement	Knowledge Level
CO1	Recall the fundamentals of PHP Script.	K1
CO2	Understand the concept of loops in PHP.	K2
CO3	Apply the concept of Functions and Arrays in PHP.	K3
CO4	Analyze the usage of Database in PHP.	K4
CO5	Evaluate the PHP and WAMP Server Connectivity.	K5

Mapping

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CO												
CO1	M	H	L		M	M	L			M	H	M
CO2	H	M	M	H	H	H			M	M	H	M
CO3	H	H	M		H	M	L	M		M	H	M
CO4	L	H	H	M	M	M	M		M	M	H	H
CO5	M	L	M	M	M	H	H		H	H	H	H

1. Write a PHP script for Arithmetic operation.
2. Write a PHP script which will display the colors.
3. Write a PHP script using nested for loop that creates a chess board.
4. Write a function to sort an array.
5. Write a PHP function that checks if a string is all lowercase.
6. Create a simple 'birthday countdown' script, the script will count the number of days between current day and birthday.
7. Write a PHP script to generate simple random password.
8. Program to Store and Read an image in Database.
9. Program to Insert records to the table in Database and fetch records from the table in Database.
10. Create a Contact Form using PHP and WAMP server connectivity.

Total Contact Hours : 60

Course Designed by	HOD	CDC	COE
Name and Signature	Name and Signature	Name and Signature	Name and Signature
Name: Mr. D. POOBATHY Signature: 	Name: Dr. K. HARIDAS Signature: 	Name: Mr. K. SRINIVASAN Signature: 	Name: Dr. R. MANICKACHEZIAN Signature: 

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Programme Code:	BCA			Programme Title:	Bachelor of Computer Applications	
Course Code:	22UBC627			Title	Batch:	2022 - 2025
Practical Hrs./Week	4	Tutorial Hrs./Sem.		Core Lab - XII : Mobile Application Development	Semester:	VI
					Credits:	02

Course Objective

To design and implement various mobile applications and learn how to deploy applications to hand-held devices.

Course Outcomes

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

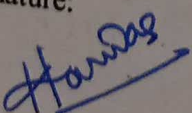
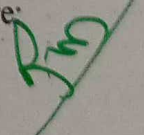
CO Number	CO Statement	Knowledge Level
CO1	Remember essential Android Programming concepts.	K1
CO2	Understand various Android Applications related to layouts and rich uses interactive interfaces.	K2
CO3	Apply native application using GUI components and Mobile application development framework.	K3
CO4	Analyze Android applications to the app market.	K4
CO5	Evaluate mobile applications for the current scenario.	K5

Mapping

PO / PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CO1	H	M		M	H	H	M	H	M	H	H	H
CO2	M	H	M	H	H	M		H	M		H	M
CO3	M	M		M	H	M		H	M		M	M
CO4	H	H	M	M	H	M		M	H	H	H	H
CO5	H	M		H	M	H	M	H	M	M	M	H

1. Create "Hello World" Application.
2. Create Application by Using Widgets, Creating the Application by using the Activity class
3. Creating the Application by using Text Edit control.
4. Creating the Application Choosing Options CheckBox.
5. Creating the Application Choosing Options RadioButton.
6. Creating the Application Choosing Options RadioGroup.
7. Creating the Application Choosing Options Spinner.
8. Create Application by Using Building Blocks for Android Application design by using Linear Layout
9. Create Application by Using Building Blocks for Android Application design by using Relative Layout.
10. Create Application by Using Building Blocks for Android Application design by using Absolute Layout.
11. Design the Application for Menus and Action Bar.
12. Design the application to display the Drop-Down List Action Bar.

Total Contact Hours : 60

Course Designed by	HOD	CDC	COE
Name and Signature	Name and Signature	Name and Signature	Name and Signature
Name: Mr.S.DILIP KUMAR Signature: 	Name: Dr.K.HARIDAS Signature: 	Name: Mr.K.SRINIVASAN Signature: 	Name: Dr.R. MANICKACHEZIAN Signature: 

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Programme Code:	BCA		Programme Title:	Bachelor of Computer Applications	
Course Code:	22UBC6E5		Title	Batch:	2022 - 2025
Lecture Hrs./Week	5	Tutorial Hrs./Sem.	-	Semester:	VI
			Core Elective-III: Cloud Computing	Credits:	05

Course Objective

This course provides with the basics of Cloud Computing, the key concepts of Virtualization and different Cloud Computing services. It also offers students a sound foundation of the Cloud environment so that they are able to start using and adopting Cloud services in their real life scenarios.

Course Outcomes

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

CO Number	CO Statement	Knowledge Level
CO1	Recall the core concepts of the cloud computing paradigm: how and why this paradigm shift came about, the characteristics, advantages and challenges brought about by the various models and services in cloud computing.	K1
CO2	Demonstrate the fundamental concepts of cloud storage and their use in storage systems such as Amazon S3 (Simple Storage Service) and Microsoft Azure.	K2
CO3	Apply fundamental concepts in cloud infrastructures to understand the tradeoffs in power, efficiency and cost.	K3
CO4	Analyze the performance of Cloud Computing.	K4
CO5	Explain the core issues of Cloud Computing such as security, privacy, and interoperability.	K5

Mapping

Q/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CO1		H		H	M	H	H		H		H	H
CO2		H		H	M	H	H		H		H	H
CO3		M		H	M	H	H		H		H	H
CO4		H		H	H	H	H		H		H	H
CO5		M		H	M	M	M		H		H	H

Units	Content	Hrs
Unit I	Cloud Computing Basics: Cloud Computing Overview-Cloud Components-Infrastructure-Services-Applications-Storage-Database Services-Intranets and the cloud-Components – Hypervisor Applications. First Movers in the Cloud: Amazon- Google-Microsoft.	15
Unit II	Organization and Cloud Computing-Benefits-Limitations of Cloud Computing-Security Concerns-Privacy concerns with a third party-Security Benefits.	15
Unit III	Cloud Computing Technology: Hardware and Infrastructure-Clients-Security-Network-Services-Accessing the cloud-Platforms-Web APIs-Web Browsers-Cloud Storage-Overview- <i>Cloud Storage Providers</i> -Standards	15
Unit IV	Cloud Computing with the Titans: Google-Google App Engine-Google Web tool kit-EMC Technologies-VMware Acquisition-Microsoft-Azure Services Platform-Windows live-Exchange online-Sharepoint Services-Microsoft Dynamics CRM-Amazon-Amazon Elastic Compute Cloud-Amazon Simple Storage Service-Amazon Simple Queue Service -Salesforce.com-IBM.	15
Unit V	Security Concerns in Cloud Computing-Key Areas of Cloud Security- <i>Threats and Vulnerabilities in Cloud Computing</i> -How to overcome Cloud Security Challenges and Solutions. <i>Case Studies: Research Topics in the field of Cloud Computing</i>	15
	Total Contact Hrs	75

- The topics given in **Italics** are noted as Self-Study topics.

Pedagogy and Assessment Methods:

Seminar, Power Point Presentation, Chalk and talk, Quiz, Assignments, Group Task.

