

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE (AUTONOMOUS)-POLLACHI

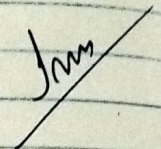
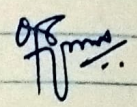
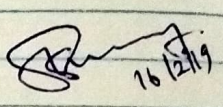
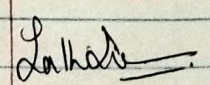
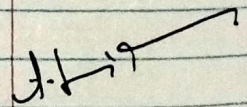
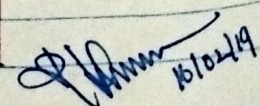
22	B.Sc. CT	Skill Based Major Elective I: Python Programming Lab	18UCT5S1	2018
23	B.Sc. CT	Elective III: Internet of Things	18UCT624	2018
24	B.Sc. CT	Elective I: Artificial Intelligence	18UCT519	2018
25	B.Sc. CT	Programming Lab VI: Software Testing	18UCT416	2018
26	M.Sc. Chemistry	Inorganic Chemistry -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 Minutes
Highlighted



16/02/2019 - 10: am

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S.No	Members	Signature
1.	Dr. R. Kannan (Chairman) Associate Professor and Head Department of Botany N.G.M College.	
2.	Dr. T. Parimelayagan (Univ. Nominee) Professor, Dept. of Botany Bharathiar University. Coimbatore. - 641 046.	
3.	Dr. E.S. Koorthy (Industrial Expert) Director AWE Care Analytical & Research Laboratories Thindal, Erode - 638 012.	 16/2/19
4.	Ms. R. Santhiya (Alumna) Senior Customer Executive & QA team Fivestars solutions Chennai - 603 103.	- ABSENT -
5.	Dr. M. Latha Isabel Asst. Prof. of Botany, NGMC.	
6.	Dr. A. Logamadevi Asst. Prof. of Botany, NGMC.	
7.	Dr. K. Rajalakshmi Asst. Prof. of Botany, NGMC.	- ABSENT -
8.	Dr. E. Neelamathi Asst. Prof. of Botany, NGMC.	
9.	Dr. R. Kannan (Subject Expert). Asst. Prof., Department of Botany, Chikkaiah Naicker College, Erode.	 16/2/19

Minutes.

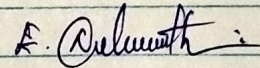
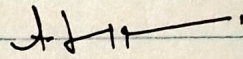
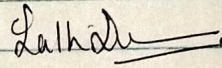
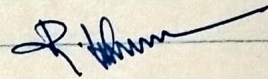
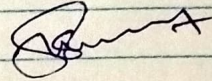
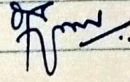
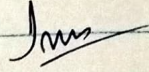
The resolution made in the Board of Studies meeting held on 16.02.2019 are as follows:

- The syllabi revised by the Board will be introduced for the B.sc., Botany and B.sc., (Zoology) - Ancillary Botany - degree programme for the academic year 2019-2020 (2019-2022 Batch).
- The suggestions to introduce newer topics and rearrangement of titles in some papers may be incorporated.
- In 'Taxonomy of Angiosperms' paper, modern types of classification may be included.
- In 'Microbiology and Plant pathology' paper a separate chapter may be introduced in the name of 'Soil microbiology'.
- 'Bioethics' topics may be introduced in the syllabus.
- The titles 'PCD' and 'AYUSH' may be introduced in the relevant papers.
- The existing 2 units on 'cyber security' in the core paper - 'Bioinformatics' have to be replaced and enriched with more topics in Bioinformatics.
- In order to provide cyber security in the syllabus, two papers titled, 'Networking and Information Security' and 'Cyber security & ethical hacking' are to be introduced in part IV as skill based elective papers (mja) in the V Semester.
- The above said changes may also be applied to the 2018-2021 batch.

Im



1. Dr. R. Kannan
2. Dr. T. Parimelazhagan
3. Dr. E. S. Karthy
4. Dr. R. Kannan
5. Dr. M. Latha Isabel.
6. Dr. A. Logamadevi
7. Dr. E. Neelamathi



NALLAMUTHU GOUNDER MAHALINGAM COLLEGE, POLLACHI.

DEPARTMENT OF BOTANY

B.Sc., BOTANY

SCHEME OF EXAMINATION (I -VI SEMESTER)

(FOR CANDIDATES ADMITTED FROM THE ACADEMIC YEAR 2019-2022 BATCH)

(CBCS for under graduate programmes with language for 4 semesters)

Part No	Course Code	Course title	Lecture+ Tutorial/ Practical Hours/ week	Duration of Exam Hrs	Max. Marks			Credit Point
					Internal	End-of-Semester	Total	
	Semester I							
I	19UTL101	Tamil/Hindi Paper – I	6	3	25	75	100	3
II	19UEN101	English Paper – I	5	3	25	75	100	3
III	19UBY101	Major Paper I - Plant Diversity I (Phycology, Mycology and Bryology)	9	3	25	75	100	4
	19UZY1A1	Allied - Paper I Zoology	7	3	25	75	100	3
IV	19UHR101	Human Rights	1	2	-	50	50	2
	19HEC101	Human Excellence - Personal values & SKY yoga practice- I	2	2	25	25	50	1
V		Extension Activities (Annexure –I)						
	500							16
	Semester II							
I	19UTL202	Tamil/ Hindi Paper – II	6	3	25	75	100	3
II	19UEN202	English Paper – II	5	3	25	75	100	3
III	19UBY202	Major Paper II Plant Diversity II (Pteridophytes Gymnosperms and Palaeobotany)	6	3	25	75	100	4
	19UBY203	Major Practical I – Paper III (Plant diversity I & II (Phycology, Mycology and Bryology &Pteridophytes Gymnosperms and Palaeobotany)	2	3	40	60	100	4
	19UZY2A2	Allied - Paper II Zoology	7	3	25	75	100	3
	19UZY2A3	Allied - Paper III Practical	2	3	40	60	100	4

IV	19EVS201	Environmental Studies	2	2	-	50	50	2
	19HEC202	Human Excellence - Family values & SKY yoga practice- II	2	2	25	25	50	1
V		Extension Activities (Annexure –I)						
	700							24
	Semester III							
I	19UTL303	Tamil/ Hindi Paper – III	5	3	25	75	100	3
II	19UEN303	English Paper – III	6	3	25	75	100	3
III	19UBY304	Major Paper IV- Anatomy and Embryology	9	3	25	75	100	4
	19UCY3A4	Allied Paper IV - Chemistry	8	3	25	75	100	3
IV	19UBY3N1/ 19UBY3N2	Skill based subjects (Non major electives)- Landscape designing/ Herbal cosmetics *Basic Tamil paper I	1	2	-	50	50	2
	19HEC303	Human Excellence - Professional values & SKY yoga practice- III	2	2	25	25	50	1
V		Extension Activities (Annexure –I)						
	500							16
	Semester IV							
I	19UTL404	Tamil/ Hindi Paper – IV	5	3	25	75	100	3
II	19UEN404	English Paper – IV	6	3	25	75	100	3
III	19UBY405	Major Paper V – Cell Biology, Biochemistry and Biophysics	6	3	25	75	100	4
	19UBY406	Major Practical II - Paper VI (Anatomy & Embryology, Cell Biology , Biochemistry and Biophysics)	2	3	40	60	100	4
	19UCY3A5	Allied - Paper V- Chemistry	6	3	25	75	100	3
	19UCY3A6	Allied paper VI – Chemistry Practical	2	3	40	60	100	4

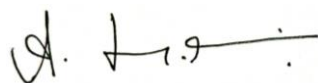
IV	19UBY4N3/ 19UBY4N4	Skill based subjects (Non major electives)- (Remote sensing and natural resource management/ Bioinformatics) *Basic Tamil paper II	1	2	-	50	50	2
	19HEC404	Human Excellence – Social values & SKY yoga practice- IV	2	2	25	25	50	1
V		Extension Activities (Annexure –I)			50		50	1
	750							25
	Semester V							
III	19UBY507	Major Paper – VII - Taxonomy of Angiosperms	6	3	25	75	100	4
	19UBY508	Major Paper VIII - Microbiology and plant pathology	5	3	25	75	100	4
	19UBY509	Major Paper IX – Genetics and Evolution	5	3	25	75	100	4
	19UBY510	Major Paper X – Genetic Engineering	5	3	25	75	100	4
	19UBY511	Elective -I Mathematics for Biologists	5	3	25	75	100	5
IV	19UBY5S1/ 19UBY5S2	Skill based subjects (Major electives)- Network and Information security/ Cyber Security- Ethical Hacking	1	2	-	50	50	2
	19GKL501	General Knowledge & General Awareness (SBE)	SS	2	-	50	50	2
	19HEC505	Human Excellence - National values & SKY yoga practice- V	2	2	25	25	50	1
	650							26
	Semester VI							
III	19UBY612	Major Paper XII – Plant Physiology	6	3	25	75	100	4
	19UBY613	Major Paper XIII – Economic &	5	3	25	75	100	4

		EthnoBotany						
	19UBY614	Major Paper XIV - Plant Biotechnology	5	3	25	75	100	4
	19UBY615	Elective II – Bioinformatics	5	3	25	75	100	5
	19UBY616	Elective – III – Habitat Ecology	5	3	25	75	100	5
	19UBY617	Major Practical III – Paper XV (for V Sem theory papers)	2	3	40	60	100	4
	19UBY618	Major Practical IV (for VI Sem theory papers)	2	3	40	60	100	4
IV	19UBY6S3 19UBY6S4	Skill based subjects (Major electives)- Horticulture & Plant Breeding/ Mushroom cultivation	1	2	-	50	50	2
	19HEC606	Human Excellence - Global values & SKY yoga practice- VI	2		25	25	50	1
							800	33
	**Grand total						3900	140

* The credits given are applicable only to the students who opt for Basic Tamil paper and the credits for Human Excellence papers cannot be given to them.

**Grand total should be equal/below 3900 (For UG Programmes); 2550 (For PG Programmes)

SS – Self study, SBE – Skill Based Elective, NME–Non Major Elective



Head of the Department

Dr. LOGAMADEV, M.Sc., M.Phil., Ph.D
Associate Professor and
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Principal

Dr. R. MUTHUKUMARAN,
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PRINCIPAL
N.G.M. College, Pollachi - 642 001
Coimbatore District

Programme Code	B.Sc.,	Programme Title	Bachelor of Science (BOTANY)
Course code	19UBY5S1	Course Title	2019-2022
		SKILL BASED ELECTIVE (MAJOR) – NETWORK AND INFORMATION SECURITY	Semester 5
Hr/Week	1		Credits 2

Course Objective

- To impart knowledge of network security, Wi-Fi security, hackers, secure networking and password managers.

Course Outcome

K1	CO1	To remember the basic concepts of network
K2	CO2	To understand the network hacking techniques
K3	CO3	To deploy information and network security
K4	CO4	To interpret the common threats today in computer network.

Unit	Content	Hrs
Unit I	Basics of network – network media – various operating systems – basics of firewalls on all platforms including Windows, Mac OS and Linux	3
Unit II	Security vulnerabilities across an entire network – network hacking techniques and vulnerability scanning.	3
Unit III	Configure and architect a small network for physical and wireless security- firewall configuration on windows and linux platform. Network privacy issues.	2
Unit IV	Network monitoring to discover and identify potential hackers and malware using tools like WIRESHARK and SYSLOG. Online tracking by hackers.	2
Unit V	Best methods of authentication including passwords, multifactor authentication including soft tokens and hard tokens. Best password managers to use – how passwords are cracked – how to mitigate the password attacks	3

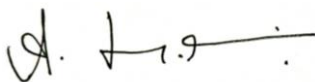
Google classroom

Text Books:

Reference course materials will be available online through NGM open source learning platform.

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

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



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Coimbatore District

Programme Code	B.Sc.,	Programme Title	Bachelor of Science (BOTANY)
Course code	19UBY5S2	Course Title	2019-2022
		SKILL BASED ELECTIVE (MAJOR) – CYBER SECURITY – ETHICAL HACKING	Semester 5
Hr/Week	1		Credits 2

Course Objective

- To understand the basics of cyber security, ethical hacking and protection.

Course Outcome

K1	CO1	To remember the basic concepts of cyber security
K2	CO2	To understand the knowledge about ethical hacking
K3	CO3	To deploy the use of hacking tools
K4	CO4	To analyze the details about internet connection.

Unit	Content	Hrs
Unit I	To understand how websites work, how to discover and exploit web application vulnerabilities and to gain full control over websites. Secure systems from all the unknown attacks. Secret tracking and hacking infrastructure.	3
Unit II	Ethical hacking in cyberspace – its fields and different types of hackers. Hack and secure both Wi-fi and wired networks.	3
Unit III	Discover vulnerabilities and exploitation of hacking in cyber network servers. How secure systems are hacked using client-side and social engineering attacks. Use of hacking tools such as Metasploit, Aircrack-ng, SQLmap.. etc.	2
Unit IV	Network basics and how devices interact inside a network-network penetration. Control connections of clients in network by password cracking. Fake Wi-Fi network creation with internet connection and spy on clients. To gather detailed information about clients and networks like their OS, opened ports, etc.	2
Unit V	Explore the threatlandscape – darknets, dark markets, zero day vulnerabilities, exploit kits, malware, phishing and much more. Master defences against phishing, SMSHING, vishing, identity theft, scam, cons and other social engineering threats.	3

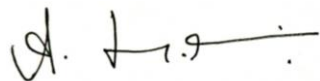
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CO	PSO	PSO1	PSO2	PSO3	PSO4	PSO5
	CO1	M	S	M	H	S
	CO2	H	M	H	M	H
	CO3	M	H	M	M	M
	CO4	M	M	H	H	H

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



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