Criterion 1 – Curricular Aspects

1.3 Curriculum Enrichment:

1.3.1: Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum

Course Code: BCA 302 **Course Title: Networking & Data Communication**

Total Contact Hours: 48 Hrs. **Total Marks: 100** **(60 Lectures)**

Teaching Scheme: Theory 5 Lect./Week **Total Credits: 04**

Course Objective: The objective of this course is to study Networking & data communication concepts.

Unit No.	Description	No. of Lectures
Unit- 1	**Introduction to Data Communication & Networking:** • Data Communication: ➢ Components ➢ Data Representation ➢ Data Flow ➢ CommunicationModel • Computer Network: ➢ Introduction of Network ➢ Uses of a computer network • Network Components: ➢ Hubs, Switches, Repeaters, Bridges, Routers, Gateways	10
Unit- 2	**Network Models:** • Protocols & Standards • Protocol Hierarchies • Design Issues of Layers, • Services Primitives • Connection oriented and connection less services • Reference Model: ISO-OSI reference model	7
Unit- 3	**Physical layer :** • Signals: ➢ Analog & Digital Signals ➢ Period ➢ Frequency ➢ Phase ➢ Amplitude ➢ Bandwidth ➢ Bit Rate ➢ Bit Length • Transmission Media: • Guided Media: ➢ Magnetic Media ➢ Twisted Pair ➢ Coaxial Cable ➢ Fiber Optic Cable • Unguided Media: ➢ Wireless- Radio Waves ➢ Microwaves ➢ Infrared	13

	➢ Satellite Communication • Analog Transmission: ➢ Modem ➢ Telephone System • Modulation: ➢ Amplitude Modulation ➢ Frequency Modulation ➢ Phase Modulation • Transmission Mode: ➢ Parallel, Serial ➢ Synchronous Transmission ➢ Asynchronous Transmission • Multiplexing & Switching: • Multiplexing: ➢ Frequency Division Multiplexing ➢ Time Division Multiplexing, ➢ Wavelength Division Multiplexing • Switching: Circuit Switching, Message Switching, Packet Switching	
Unit- 4	**Data link layer :** • Data link layer Design issues • Error Detection & Correction: ➢ Types of Errors ➢ Hamming Distance • ErrorDetection: ➢ Parity Check ➢ Cyclic Redundancy Check ➢ Checksum Check ➢ Error correction • Data Link Control: Framing, Flow & Error Control, • Protocols: Simplex, Stop and Wait • Multiple Access Protocol: Concept of- ➢ ALOHA, CSMA ➢ Channelization, FDMA, TDMA, CDMA	10
Unit-5	**Network layer:** • Network layer Design issues • Routing Algorithm: ➢ Optimality Principle ➢ Shortest Path Routing ➢ Distance Vector Routing ➢ Link State Routing ➢ Broadcast Routing ➢ Multicast Routing • Congestion Control Algorithm • Congestion prevention policies • Congestion Control in Virtual-Circuit Subnets • Congestion Control inDatagram Subnets	10
Unit- 6	**Transport, Session, Presentation & Application layers:** • Elements of Transport Protocols • Addressing • Connection establishment • Connection Release • Flow Control & Buffering • TCP/IP protocol suite	10

	• Concept of- ➢ Transmission Control Protocol ➢ User Datagram Protocol ➢ IP, FTP, DNS, Telnet, SMTP, POP ➢ HTTP, WWW, ARP, RARP	

Books Recommended:

1) Computer Networking by Tannenbaum.
2) Data communication and networking by William Stallings
3) Data communication and networking by B A Forouzan
4) Data communication and networking by AchyutGodbole
5) Data communication and networking by Jain

SOLAPUR UNIVERSITY, SOLAPUR.

Syllabus and Structure of the Bachelor of Computer Applications (BCA)

To be effective from June 2017 (Under Science Faculty)

1) Title:

The degree shall be titled as Bachelor of Computer Applications (BCA)

2) Objectives of the course:

This is a three years bachelor degree course in computer applications aimed at developing computer professional versatile in use of computers mostly in business world. The emphasis is to have generality of developing professionals as programmer, system analysts, database administrators, documentation officer etc.

3) Duration:

i) The course shall be a full time course.
ii) The duration of course shall be three years.
iii) The course shall be run on self-supporting basis.

4) Number of Students:

A batch shall consist of not more than 60 students.

5) Eligibility:

i) A candidate for being eligible for admission to the Degree Course in Computer Science. Candidate shall have passed XII std. Examination of the Maharashtra Board of Higher Secondary Education or its equivalent or any Diploma of not less than two years.

ii) A candidate has to appear for a common entrance test to be conducted by respective college for getting admission to this course.

1. Percentage at HSC	100
2.Percentage at Entrance	100
Total	200

The merit list will be prepared on the basis of percentage of HSC and percentage at entrance examination. Students will be admitted on the basis of Merit list.

6) Medium:

The medium of instruction and examination will be only in English.

a) Details of Internal examination:

1. Attendance	05 marks
2. Assignment	20 marks (3 Home & 2 class assignments)
3. Mid-Test	05 marks
Total	30 marks

b) Marks of Lab course and mini project will be given by the concerned college on the basis of evaluation by the internal teacher.

c) Original Report and Viva-Voce:

Project Report will be assessed by the internal teacher at the end of sixth semester out of 70 marks and there will be viva-voce examination of 80 marks. The panel of examiners will consist of one internal and one external appointed by university.

Standard of Passing:

A candidate must obtain minimum 40% marks for passing in each university examination paper, internal examination, Lab course, Major Project.

i) Class will be awarded on the basis of marks obtained by the candidate in all the six semester examination.

Syllabus Structure for BCA-II Course

Faculty Name	
BOS Name	
Subject Name	
Course Pattern	CBCS
Syllabus Implement from Academic Year	June-2017

Year of Course FY/SY/TY	Sem	Paper Code (Computer Code will be given by Computer Section)	Paper Code (BOS Code)	Paper Name (This name is displayed on mark sheet)	Paper Number (I/II/III)	Paper Type (1. Core/Compulsory 2. Fundamental/Optional/Elective)	Credits	Number of Lectures in Hr/WK	Total Lecture in Semester	Teaching Learning Method (Lecture/ Laboratory)	Assessment Method (Theory/ Practical/ Teamwork/Oral/Viva/Field Work/Project/Seminar)	Total Marks		Theory				Practical/TeamWork/Oral/Viva/FieldWork/Project/Seminar			
														ESE(UA)		ICA(CA)		ESE(UA)		ICA(CA)	
												Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks
SY	III	BCA 301		Data structures using 'C'		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	III	BCA 302		Networking & Data communication		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	III	BCA 303		DBMS with Oracle		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	III	BCA 304		OOP with C++		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	III	BCA 305		Operations Research		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-

SY	IV	BCA 306		Lab 3 Based on 301, 303, 304		1	12	-		Laboratory	Practical	100	40	-	-	-	-	70	28	30	12
SY	IV	BCA 401		Software Testing		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	IV	BCA 402		Python		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	IV	BCA 403		Operating System		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	IV	BCA 404		Advanced Web technology		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	IV	BCA 405		E- Governance		1	4	5		Lecture	Theory	100	40	70	28	30	12	-	-	-	-
SY	IV	BCA 406		Lab 4 Based on 402, 404		1	12	-		Laboratory	Practical	100	40	-	-	-	-	70	28	30	12

Practical batch - contents No. of students – 20
Practical batch - 12 lab. hours per week

Course Code: BCA 405 **Course Title: E- Governance**

Total Contact Hours: 48 Hrs. **Total Marks: 100** **(60 Lectures)**

Teaching Scheme: Theory 5 Lect./Week **Total Credits: 04**

Course Objective: The objective of this course is to study the basic of E-Governance.

Unit No.	Description	No. of Lectures
Unit- 1	**Introduction to e-Government:** • Definitions • Domains, • Taxonomy • Current Status in India and Global • Conceptual Foundations • Citizen Centric E-Governance • E-Governance Services • E-Governance Models	10
Unit- 2	**Managing E-Governance-Strategy and Implementation:** • Management Models- ➢ Centralized ➢ Decentralized ➢ Hybrid • Implementation Models- ➢ Back End Automation ➢ Front End Services ➢ Holistic • Business Models- ➢ Self-Finance ➢ PPP ➢ JV • Different Payment • Facilities Management outsourcing, • Management of Intellectual Properties	10
Unit- 3	**Theories of Evolution in e-Government:** • Four stages of e-Government evolution • Various models • E-Government maturity model	7
Unit- 4	**Managing e-Government:** • Transformational Government for value creation • Theory and practice of BPRs • Change Management • Capacity Building • Role of Political Leadership • Role of Social Media and Citizens • Technology- ➢ Components and Overview, ➢ Procurement Strategyand Challenges	10
Unit- 5	**E-Government Life Cycle:** • Different between general and e-Government Project Life Cycle • Concept behind and importance of each PLC stage.	9

	Challenges in Implementation of e-Government Project: • Universally identified challenges • Challenges facing e-Government practitioners in India.	
Unit- 6	**Performance Management:** • India and Global Assessment framework and variety of readiness • indexes and their usefulness Outcomes and Benefitsmanagement.	9

Books Recommended:

1) E-Government: From vision to implementation- SubhashBhatnagar
2) E-Government- Concepts and case studies- C S R Prabhu
3) Unlocking E-Governance Potential Concepts Cases and Practical Insights- SubhashBhatnagar
4) Compendium of E-Governance Initiatives in India-Piyush Gupta, R. K.Bagga
5) E-Governance Case Studies-Ashok Agarwal
6) Information Technology and E-Governance- N. Gopalsamy

Punyashlok Ahilyadevi Holkar Solapur University
Faculty of Science and Technology
Choice Based Credit System (CBCS), (w.e.f.2020-21)
Structure for B. C. A. – Part II (Science)

Subject/ Core Course	Name and Type of the Section		No. of Papers/ Practical	Hrs/week			Total Marks Per Section	UA	CA	Credits
	Type	Name		L	T	P				
Class :	**B.C. A.- II Semester – III**									
Core	DSC1C	OOPS with C++-I	Section -I	03	--	--	50	40	10	4.0
		Data structures using 'C'- I	Section-II	03	--	--	50	40	10	
	DSC2C	Database Management System	Section-I	03	--	--	50	40	10	4.0
		Software Testing & Quality Assurance	Section-II	03	--	--	50	40	10	
	DSC3C	Web Development using PHP	Section-I	03	--	--	50	40	10	4.0
		Computer Networks-I	Section-II	03	--	--	50	40	10	
	SEC-I	Financial Accounting with Tally		06	--	--	100	80	20	4.0
Total				**24**	--	--	**400**	**320**	**80**	**16**
Class :	**B. C. A. - II Semester - IV**									
Core	DSC1D	OOPS with C++-II	Section -I	03	--	--	50	40	10	4.0
		Data structures using 'C'- II	Section-II	03	--	--	50	40	10	
	DSC2D	MySQL	Section-I	03	--	--	50	40	10	4.0
		Ethics and Cyber law	Section-II	03	--	--	50	40	10	
	DSC3D	Angular JS	Section-I	03	--	--	50	40	10	4.0
		Advanced Computer Networks	Section-II	03	--	--	50	40	10	
	AECC	Environmental Studies		03	--	--	50	40	10	NC
	SEC-II	Python Programming		06	--	--	100	80	20	4.0
Total (Theory)				**27**	--	--	**450**	**360**	**90**	**16**
Core		DSC 1 C & 1 D	Practical I & II	--	--	8	100	80	20	4.0
		DSC 2 C & 2 D	Practical I & II	--	--	8	100	80	20	4.0
		DSC 3 C & 3 D	Practical I & II	--	--	8	100	80	20	4.0
Total (Practical)						**24**	**300**	**240**	**60**	**12**
Grand Total				**51**	--	**24**	**1150**	**920**	**230**	**44**

***Core Subjects: Chemistry/Physics/Electronics/Computer Science/Mathematics/Statistics/Botany/Zoology/ Microbiology/Geology/ Geography/Psychology**

Abbreviations: L: Lectures, T: Tutorials, P: Practical's, UA:University Assessment, CA: College Assessment, DSC / CC: Core Course, AEC : Ability Enhancement Course, DSE : Discipline Specific Elective Section, SEC : Skill Enhancement Course, GE : Generic Elective, CA: Continuous Assessment,
ESE: End Semester Examination

BCA (Science)-II Semester- IV

Course Code: DSC2D (Section-II) **Course Title: Ethics and Cyber law**
Total Contact Hours: Hrs. **Total Marks: 50(40 Lectures)**
Teaching Scheme: Theory 3 Lect./Week **Total Credits: 02**

Unit No	Content	No. of Lectures
Unit-1	**Introduction to Cybercrime:** what is Cybercrime, Categories of Cybercrime Classifications of Security attacks (Passive Attacks and Active Attacks), Essential Terminology (Threat, Vulnerability, Target of Evaluation, Attack, Exploit). Classifications of Cybercrimes: E-Mail Spoofing, Spamming, Cyber defamation, Internet Time Theft, Newsgroup Spam/Crimes from Usenet Newsgroup, Industrial Spying/Industrial Espionage, Hacking, Online Frauds, Pornographic Offenses, Software Piracy, Password Sniffing, Credit Card Frauds and Identity Theft. Cyber offenses: How Criminals Plan that attack, Scanning/Scrutinizing gathered Information, Attack(Gaining and Maintaining the System Access), Social Engineering, Cyberstalking, Cyber cafe and Cybercrimes, Botnets: The Fuel for Cybercrime, Attack Vector and Cloud Computing.	
Unit-2	**Cyber Law:** Introduction, Information Technology Act-2000, Weakness in Information Technology Act, Amendments to the Indian IT Act, Cybercrime and Punishment, key elements certification and monitoring prevention of crimes, contract aspect, security aspects, intellectual property aspects, Intellectual Property aspect, criminal aspect.	
Unit-3	**Introduction to Ethical Hacking:** What is Hacking, Types of Hackers, Reasons for Hacking, Effects of Computer Hacking on an organization ,Network Security Challenges ,Elements of Information Security, The Security, Functionality & Usability Triangle, What is Ethical Hacking, Scope & Limitations of Ethical Hacking, skills required, phases of ethical hacking, tools and techniques, Black Box, Gray Box and White Box techniques, What is Penetration Testing, What is Vulnerability Auditing, differences between vulnerability assessment, Reverse engineering.	
Unit-4	**Foot Printing**: What is Foot Printing, Objectives of Foot Printing, Finding a company's details, Finding a company's domain name, Finding a company's Internal URLs, Finding a company's Public and Restricted URLs, Finding a company's Server details, Finding the details of domain registration, Finding the range of IP Address, Finding the DNS information, Finding the services running on the server, Finding the location of servers, Traceroute analysis, Tracking e-mail communications **Types of Attacks-** phishing, key loggers, backdoor access, password cracking, data stolen, data deleted virus attack.	

Reference Books:

1) Cyber Security: Understanding Cyber Crimes, Computer Forensics & Legal Perspectives by Nina Godbole And Sunit Belapure
2) Ethical Hacking and Countermeasures: Attack Phases By EC-Council
3) The Web Application Hacker's Handbook: Finding and Exploiting Security Flaws Paperback –Wiley, 2nd Edition, Dafydd Stuttard,
4) Gray Hat Hacking The Ethical Hackers Handbook, 3rd Edition Paperback – 1 Jul 2017 by Allen Harper, Shon Harris, Jonathan Ness, Chris Eagle, McGraw Hill Education
5) CEH Certified Ethical Hacker Study Guide By Kimberly Graves

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

पुण्यश्लोक अहिल्यादेवी होळकर
सोलापूर विद्यापीठ
।। विद्यया संपन्नता ।।

NAAC Accredited-2015
'B' Grade (CGPA 2.62)

Name of the Faculty: Humanities

CHOICE BASED CREDIT SYSTEM

Syllabus: English (Compulsory)

Name of the Course: B.Sc. I (Sem–I & II)

(Syllabus to be implemented from w.e.f. June 2019)

B. A./B.Sc/B.Com–I

(Semester I and II)

ENGLISH (Compulsory) Revised Syllabus (CBCS)

(Introduced from June 2017)

Golden Petals (2019-2020)

Prose:

1. Charlie Chaplin – McDonald Conway and Ricci
2. The First Woman Jawan – Shanti Tigga
3. Nachiketa – Adapted from the Original Story

Poetry:

1. I Find No Peace – Thomas Wyatt
2. Success is Counted Sweetest – Emily Dickenson

Grammar and Vocabulory:

Unit 1

Parts of Speech

1. Nouns
2. Pronouns
3. Articles
4. Verbs

Communication

1. What is Communication?
2. Words and Thoughts
3. Process of Communication: The Communication Cycle, the Sender of the Message, Channel, Feedback
4. Communication Environment, Essentials of Effective Communication

Semester II

Prose:

4. Letter to a Teacher – The School of Barbiana
5. My Duty to My Neighbour – Sir Earnest Barker
6. The End of the Mohan Man-Eater – Jim Corbett

Poetry:

3. Indian Weavers – Sarojini Naidu
4. When I Think of Death – Maya Angelou

Grammar and Vocabulary:

2. Tenses

Communication:

Unit 2

1. Interviewing
2. Group Discussion
3. Email
4. Blog and Social Media

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

B. A./B.Sc/B.Com–I

(Semester I and II)

ENGLISH (Compulsory) Revised Syllabus (CBCS)

Golden Petals (2019-2020)

Total Theory Lectures 45

Semester I

Unit 1 **Credit 01** **No. of Lectures 15**

Prose:

4. Charlie Chaplin – McDonald Conway and Ricci
5. The First Woman Jawan – Shanti Tigga
6. Nachiketa – Adapted from the Original Story

Unit 2 **Credit 01** **No. of Lectures 15**

Poetry, Grammar and Vocabulary

5. I Find No Peace – Thomas Wyatt
6. Success is Counted Sweetest – Emily Dickenson

Grammar and Vocabulary

Parts of Speech

5. Nouns
6. Pronouns
7. Articles
8. Verbs

Unit 3 **Credit 01** **No. of Lectures 15**

Communication

5. What is Communication?
6. Words and Thoughts
7. Process of Communication: The Communication Cycle, the Sender of the Message, Channel, Feedback
8. Communication Environment, Essentials of Effective Communication

Golden Petals

Total Theory Lectures 45

Semester II

Unit 1 **Credit 01** **No. of Lectures 15**

Prose:

4. Letter to a Teacher – The School of Barbiana
5. My Duty to My Neighbour – Sir Earnest Barker
6. The End of the Mohan Man-Eater – Jim Corbett

Unit 2 **Credit 01** **No. of Lectures 15**

Poetry and Grammar

Poetry:

7. Indian Weavers – Sarojini Naidu
8. When I Think of Death – Maya Angelou

Grammar:

2. Tenses

Unit 3 **Credit 01** **No. of Lectures 15**

Communication:

Unit 2

5. Interviewing
6. Group Discussion
7. Email
8. Blog and Social Media

Solapur University, Solapur
B.A /B. Sc. Part–III
English (Compulsory)
Text Prescribed: Literary Quest
Semester V&VI
(Teaching Years: 2018-19, 2019-20, 2020-2021)

(CBCS Semester Pattern Syllabus *w.e.f.* June, 2018)

Preamble:

The purpose of this course is to introduce students to the theory, fundamentals and tools of communication and to develop in them vital communication skills which should be integral to personal, social and professional interactions. One of the critical links among human beings and an important thread that binds society together is the ability to share thoughts, emotions and ideas through various means of communication: both verbal and non-verbal. In the context of rapid globalization and increasing recognition of social and cultural pluralities, the significance of clear and effective communication has substantially enhanced.

The present course hopes to address some of these aspects through an interactive mode of teaching-learning processes and by focusing on various dimensions of communication skills. Some of these are: Language of communication, various speaking skills such as personal communication, social interactions and communication in professional situations such as interviews, group discussions and office environments, important reading skills as well as writing skills such as report writing, note-taking etc.

This textbook presents balanced treatment of both the theory and applications of communication. Content includes strong coverage of ethics, cross-cultural communication and the newest technological influences in communication. Unique prose and poems are provided. Coverage of listening skills, intercultural communication, developing PowerPoint presentations, and writing instructions has been extensively enhanced. This book captures the dynamics of communication. It presents the subject in a fascinating way, powerfully stimulating and motivating readers. This book will give the foundation for excellent, effective, and practical communication and will definitely satisfy the literary quest of students.

Semester V

I.) General/Survey Topics: **(Credit: 01)** **(Lectures-15)**

1. Indianness in Indian writing in English (with reference to prescribed texts)
2. Salient features of modern Indian English poetry.(with reference to poems prescribed)

II.) Poems Prescribed: **(Credit: 01)** **(Lectures-15)**

1. Nissim Ezekiel: Goodbye Party for Miss. Pushpa T. S.
2. A.K. Ramajujan: A River
3. Arun Kolatkar: An Old Woman.
4. Kamala Das: My Grandmother's House.
5. Jayant Mahapatra: Dawn at Puri
6. Dilip Chitre: Father Returning Home

III.) Drama: **(Credit: 01)** **(Lectures-15)**

Girish Karnad: Hayavadana (OUP-2012)

IV.) Fiction: **(Credit: 01)** **(Lectures-15)**

Shashi Deshpande: Roots and Shadows. (Orient Blackswan-1992)

List of Reference Books:

1. R. Parthsarathy(edi): Ten Twentieth Century Indian Poets (Oxford University Press-2001)
2. Menka Shivadasani (edi): Anthology of Contemporary Indian Poetry (Vol. 1) Big Bridge Press, 2013.
3. A.K. Mehrotra (edi): Oxford Indian Anthology of Twelve Indian Modern Poets (Oxford Uni. Press 1993)
4. Bruce King: Three Indian Poets: Nissim Ezekiel, A.K. Ramanujan, Dom Moraes. (OUP-1991)
5. K. R. Srinivas Iyengar: Indian Writing in English, (Sterling publishers, 1962.)
6. M.K. Naik: A History of Indian English Literature. (Sahitya Akademi, New Delhi, 1982)
7. Natesan Sharada Iyer: Musings on Indian Writing: Drama (Sarup and Sons, 2007)
8. Kaustav Chakraborty: Indian Drama in English.
9. A.N. Dwivedi: Studies in Contemporary English Drama.
10. Dr. S.S. Upase: Power in Karnad's Plays.
11. Nandkumar: Indian English Drama: Study in Myths.

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

पुण्यश्लोक अहिल्यादेवी होळकर
सोलापूर विद्यापीठ
।। विद्यया संपन्नता ।।

NAAC Accredited-2015
'B' Grade (CGPA 2.62)

Name of the Faculty: For All Faculties

Environmental Studies
(Non-Credit)

CHOICE BASED CREDIT SYSTEM

Syllabus: ENVIRONMENTAL STUDIES

(Syllabus to be implemented w.e.f. June 2020)

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

All UG for Fourth Semester Compulsory Paper

Environmental Studies

(CBCS - Syllabus) - 2020

1) **Title of the Paper:** Environmental Studies
2) **Pattern:** Semester and Credit system
3) **Total Contact Hours:** 45 hours

Structure for Environmental Studies

Class & Semester	Code	Name and type of the paper		L/P	Credits	Total Marks	UA	CA
		Type	Name					
		For All UG Semester IV (Second year)						
All UG Second Year (4th Semester)	EVS	Ability Enhancement Course (AECC) and Non Credit	Environmental Studies	50	NC	50	40	10
Compulsory: *Unit Test / Assignment/ Seminar/ Nature Visits / Field Work / Field Tour/ Industrial visits of 1-2 days and submission of report is compulsory under internals marks (CA)								

1. The credit earned by student with this course shall not be considered for calculation of SGPA/CGPA
2. This course is not considered as a passing head for counting passing heads for ATKT
3. Student must pass this subject for award of the degree

Evaluation Scheme:

Theory paper has 50 marks out of which 40 marks will be for Term End examination and 10 marks for College Internal Assessment. The candidate has to appear for internal evaluation of 10 marks and external evaluation (University Examination) of 40 marks.

A) College Internal Evaluation:

In case of theory paper, internal examination has to conduct by department / college.

Marks for internal assessment shall be given based on Unit Test / Assignment/ Seminar/ Nature Visits / Field Work / Field Tour/ Industrial visits of 1-2 days and submission of report is compulsory under internals marks (CA).

B) External Evaluation (End of Term University Examination):

I) Nature of Theory question paper:

1) Theory paper is of 40 marks.
2) Theory paper will be of 2 hours duration
3) There shall be 05 questions each carrying 08 marks.
4) Students have to attempt all the questions.

Syllabus As Per UGC Guidelines

UGC Letter – File No. 13-01/2000 (EA/ENV/COS-01 Dated 14th May, 2019)

Environment Studies (AECC)

Theory Lectures - (45)

Unit 1 : Introduction to environmental studies (2 lectures)

- Multidisciplinary nature of environmental studies;
- Scope and importance; Concept of sustainability and sustainable development

Unit 2 : Ecosystems (6 lectures)

- What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems :
  a) Forest ecosystem
  b) Grassland ecosystem
  c) Desert ecosystem
  d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit 3 : Natural Resources : Renewable and Non-renewable Resources (8 lectures)

- Land resources and land use change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).
- Energy resources : Renewable and non- renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit 4 : Biodiversity and Conservation (8 lectures)

- Levels of biological diversity : genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots
- India as a mega-biodiversity nation; Endangered and endemic species of India
- Threats to biodiversity : Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.
- Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Unit 5 : EnvironmentalPollution (8 lectures)

- Environmental pollution : types, causes, effects and controls; Air, water, soil and noise pollution
- Nuclear hazards and human health risks
- Solid waste management : Control measures of urban and industrial waste.
- Pollution case studies.

Unit 6 : Environmental Policies & Practices (7 lectures)

- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture
- Environment Laws: Environment Protection Act, Air (Prevention, & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).
- Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

Unit 7 : Human Communities and the Environment (6 lectures)

- Human population growth: Impacts on environment, human health and welfare.
- Resettlement and rehabilitation of project affected persons; case studies.
- Disaster management : floods, earthquake, cyclones and landslides.
- Environmental movements : Chipko, Silent valley, Bishnois of Rajasthan.
- Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.
- Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).

Unit 8 : Field work (Equal to 3 lectures)

- Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc.
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds and basic principles of identification.
- Study of simple ecosystems-pond, river, dam, pond, ocean / marine etc.

Suggested Readings:

1. Environmental Studies E - Text Book (Marathi and English Medium) Solapur University Solapur (2017).
2. Carson, R. 2002. *Silent Spring*. Houghton Mifflin Harcourt.
3. Gadgil, M., & Guha, R. 1993. *This Fissured Land: An Ecological History of India*. Univ. of California Press.
4. Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge.
5. Gleick, P. H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
6. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. *Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
7. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. *Science*, 339: 36-37.
8. McCully, P. 1996. *Rivers no more: the environmental effects of dams* (pp. 29-64). Zed Books.
9. McNeill, John R. 2000. Something New Under the Sun: An Environmental History of the Twentieth Century.

10. Odum, E.P., Odum, H.T. & Andrews, J. 1971. *Fundamentals of Ecology*. Philadelphia: Saunders.
11. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. Environmental and Pollution Science. Academic Press.
12. Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
13. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. *Environment*. 8th edition. John Wiley & Sons.
14. Rosencranz, A., Divan, S., & Noble, M. L. 2001. *Environmental law and policy in India. Tripathi 1992*.
15. Sengupta, R. 2003. *Ecology and economics*: An approach to sustainable development. OUP.
16. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
17. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. *Conservation Biology: Voices from the Tropics*. John Wiley & Sons.
18. Thapar, V. 1998. *Land of the Tiger: A Natural History of the Indian Subcontinent*.
19. Warren, C. E. 1971. *Biology and Water Pollution Control*. WB Saunders.
20. Wilson, E. O. 2006. *The Creation: An appeal to save life on earth*. New York: Norton.
21. World Commission on Environment and Development. 1987. *Our Common Future*. Oxford University Press.

Nature of Question Paper for CBCS Semester Pattern

All UG and all Faculties

Paper: Environmental Studies (Compulsory)

Time: - 2 hrs. **Total Marks: - 40**

Instructions:

1. ***All questions are compulsory***
2. ***Draw Neat diagram and give equations wherever necessary***
3. ***Figures to the right indicate full marks***

Q. 1	**Multiple choice questions (One Marks each)**	**08**
1)	..... a) b) c) d)	
2)		
3)		
4)		
5)		
6)		
7)		
8)		
Q. 2	**Answer any FOUR of the followings.**	**08**
	i)	
	ii)	
	iii)	
	iv)	
	v)	
	vi)	
Q. 3	**Write short notes on any TWO of the following**	**08**
	i)	
	ii)	
	iii)	
Q. 4	**Answer any TWO of the following**	**08**
	i)	
	ii)	
	iii)	
Q. 5	**Answer any ONE of the following**	**08**
	i)	
	ii)	

SOLAPUR UNIVERSITY, SOLAPUR

सोलापूर विद्यापीठ
॥ विद्यया संपन्नता ॥

NAAC Accredited-2015
'B' Grade (CGPA 2.62)

For All Faculty

Syllabus of

Democracy, Elections and Good Governance

For All UG First year Semester - II

With effect from June – 2018

Structure for Democracy, Elections and Good Governance

	Name and type of the paper		L/P	Credits	Total Marks	UA	
	Type	Name					
Class	For All UG Semester-II (First year)						
	Fundamental	Democracy, Elections and Good Governance	15	01	50	50	20

1. The credit earned by student with this course shall not be considered for calculation of SGPA/CGPA
2. This course is not considered as a passing head for counting passing heads for ATKT
3. Student must pass this subject for award of the degree

Democracy, Elections and Good Governance

[Credits:01, Theory-(01)]

Total Theory Lectures- 15

- **Unit no. 1 - Democracy in India** (No. of Lectures 05)
  - Dimensions of Democracy: Social, Economic and Political
  - Decentralisation: Grassroots Level Democracy
  - Challenges before Democracy: women and marginalised sections of the society
- **Unit no. 2 - Election to Local Self Government Bodies** (No. of Lectures 05)
  - 73rd and 74th Constitutional Amendment Acts: Institutions at the local level and Role of State Election commission
  - Local Body Elections: Urban & Rural
  - Duties of an Individual towards electoral process
- **Unit no. 3 - Good Governance** (No. of Lectures 05)
  - Meaning and concept
  - Government and Governance
  - Good Governance initiatives in India

Type:DSE1BCourseTitle:SystemSecurity (PaperCode:PaperXIV)

CourseObjectives:

1. Tolearncryptographictools.
2. Tolearn securityissues regardinguser Authentication.
3. Tounderstandthevariousaccesscontrolmechanisms.
4. TolearnvarioustypesofmaliciousSoftwaresandDenial-of-Serviceattacks.

CourseOutcomes: Uponsuccessful completionof thiscourse, studentswill beable to-

1. Develop an understanding of information assurance as practiced in computer operatingsystems,distributed systems,networks and representativeapplications.
2. Gainfamiliaritywithprevalentnetworkanddistributedsystemattacks,defensesagainstthem, and forensics to investigate theaftermath.
3. Developabasicunderstandingofcryptography,howithasevolved,andsomekeyencryption techniques used today.
4. Developanunderstandingofsecuritypolicies(suchasauthentication,integrityand confidentiality),as well as protocols to implement such policies in the form ofmessageexchanges.

Unit1:Cryptographic Tools [6]

Confidentiality with Symmetric Encryption, Message Authentication and Hash Functions,Public-Key Encryption, Digital Signatures and Key Management, Random andPseudorandomNumbers,PracticalApplication: EncryptionofStoredData.

Unit2:UserAuthentication [6]

Means of Authentication, Password-Based Authentication,Token-BasedAuthentication,BiometricAuthentication,Remote UserAuthentication,SecurityIssuesforUserAuthentication,Practical Application: An Iris Biometric System, Case Study: SecurityProblemsforATM Systems.

Unit3:AccessControl [8]

Access Control Principles, Subjects, Objects, and Access Rights, Discretionary AccessControl, Example: UNIX File Access Control, Role - Based Access Control, Case Study:RBACSystem for aBank.

Unit4:DatabaseSecurity [6]

The Need for Database Security, Database Management Systems, Relational Databases,Database Access Control, Inference, Statistical Databases, Database Encryption, CloudSecurity

Unit5:MaliciousSoftware [10]

Types of Malicious Software (Malware), Propagation– Infected Content– Viruses,Propagation–Vulnerability Exploit–Worms, Propagation–Social Engineering–SPAM E-mail,Trojans, Payload–System Corruption, Payload–Attack Agent–Zombie, Bots, Payload–Information Theft– Keyloggers, Phishing, Spyware, Payload–Stealthing– Backdoors,Rootkits,,Countermeasures

Unit6:Denial-of-ServiceAttacks [8]

Denial-of-ServiceAttacks,FloodingAttacks, Distributed Denial-of-Service Attacks,Application-Based BandwidthAttacks,ReflectorandAmplifierAttacks,DefensesAgainstDenial-of-ServiceAttacks, Respondingto aDenial-of-ServiceAttack.

ReferenceBooks:

- M.Stamp,"InformationSecurity:PrinciplesandPractice,"2stEdition,Wiley, ISBN:0470626399, 2011.
- M. E. Whitman and H. J. Mattord, "Principles of Information Security," 4 st Edition,CourseTechnology,ISBN: 1111138214, 2011.
- M. Bishop, "Computer Security:Art and Science," Addison Wesley, ISBN: 0 -201-44099-7, 2002.
- G.McGraw, "Software Security:Building Security In," Addison Wesley, ISBN:0321356705, 2006.

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NAAC Accredited-2015
'B' Grade (CGPA 2.62)

Name of the Faculty: Science & Technology

CHOICE BASED CREDIT SYSTEM

Syllabus: Entire Computer Science

Name of the Course: B. Sc. (E.C.S.) Part- III (Sem. V & VI)

(Syllabus to be implemented from w.e.f. June 2021)

PunyashlokAhilyadeviHolkarSolapurUniversity,Solapur

FacultyofScienceandTechnology

ChoiceBasedCreditSystem(CBCS)(w.e.f.2021-22)RevisedStructureforB.Sc.(ECS)-III

Subject/ CoreCourse	Nameand Typeof thePaper		No. ofPapers /Practical	Hrs./Week			Total Marks perPaper	UA	CA	Credits
	Type	Name		L	T	P				
Class:	**B.Sc.(EntireComputer Science)- IIISemester–V**									
AbilityEnhancementCourse	(AECC)	English (BusinessEnglish)	Paper IIPart A	4	--	--	50	40	10	2.0
Core	DSE1 A	Data CommunicationandNetworking	Paper IX	4	--	--	100	80	20	4.0
	DSE2 A	Theory of ComputerScience	PaperX	4	--	--	100	80	20	4.0
	DSE3 A	VisualProgramming	PaperXI	4	--	--	100	80	20	4.0
	DSE4 A	AdvancedJava	PaperXII	4	--	--	100	80	20	4.0
SkillEnhancementCourse	SEC3	Advanced PythonProgramming	Paper XIII	4	--	--	100	80	20	4.0
TotalTheorySemester-V				**24**			**550**	**440**	**110**	**22**
Class:	**B.Sc.(EntireComputerScience)-IIISemester –VI**									
AbilityEnhancementCourse	(AECC)	English (BusinessEnglish)	Paper IIPartB	4	--	--	50	40	10	2.0
Core	DSE1 B	SystemSecurity	Paper XIV	4	--	--	100	80	20	4.0
	DSE2 B	CompilerConstruction	PaperXV	4	--	--	100	80	20	4.0
	DSE3 B	InternetProgramming usingASP.Net	Paper XVI	4	--	--	100	80	20	4.0
	DSE4 B	AngularJS	Paper XVII	4	--	--	100	80	20	4.0
Skill Enhancement Course	SEC4	Mobile ApplicationDevelopment	Paper XVIII	4	--	--	100	80	20	4.0
TotalTheorySemester-VI				**24**			**550**	**440**	**110**	**22**
Practical'son		DSE2 AandDSE 2 B		--	--	5	100	80	20	4.0
		DSE3 AandDSE 3 B		--	---	5	100	80	20	4.0
		DSE4 AandDSE 4 B		--	--	5	100	80	20	4.0
		Project work		--	--	5	100	80	20	4.0
Total(practical's)						**20**	**400**	**320**	**80**	**16**
Grand Total				**48**	--	**20**	**1500**	**1200**	**300**	**60**

Type: DSE1A

CourseTitle:DataCommunicationandNetworking(PaperCode:PaperIX)

CourseObjectives:

1. TounderstandthestructureofDataCommunicationsSystemanditscomponents.
2. Befamiliarizewithdifferentnetworkterminologies.

CourseOutcomes: Upon successfulcompletionofthis course,studentswill beable to-

1. Familiarizewithcontemporaryissuesin network technologies.
2. Knowthelayered modelapproachexplainedinOSIandTCP/IP network models
3. Identifydifferenttypes ofnetworkdevices andtheirfunctions withinanetwork.
4. Know the Basic routing mechanisms, IP addressing scheme and internetworkingconcepts.
5. Familiarizewith IPand TCP Internetprotocols.
6. Understandmajor conceptsinvolvedindesignof WAN, LAN andwirelessnetworks.
7. Knowthebasicsofnetworkconfigurationandmaintenance.
8. Knowthe fundamentals of networksecurityissues.

Unit1:IntroductiontoComputerNetworks **[6]**

Network Definition, Network Topologies, Network Classifications, Network Protocol,Layered Network Architecture, Overview of ISO-OSI Reference Model, Overview of TCP/IPProtocolSuite.

Unit2:DataCommunicationFundamentalsandTechniques **[10]**

Signals-Analog and Digital Signal, Data-Rate Limits, Digital to Digital Line EncodingSchemes, Pulse Code Modulation,ParallelandSerialTransmission,DigitaltoAnalogModulation, Multiplexing Techniques- FDM, TDM, Transmission Media, Switching: CircuitSwitching,MessageSwitching, Packet Switching,

Unit3:DataLinkLayerFunctionsandProtocols **[8]**

Design issues, Error Detection and Error Correction Techniques, Data-Link Control-Framingand Flow Control, Error Recovery Protocols-Stop and Wait ARQ, Go-Back-N ARQ, Point toPointProtocol on Internet.

Unit4:MultipleAccess ProtocolandNetworkLayer **[8]**

Design issues, CSMA/CDProtocols, EthernetLANS;ConnectingLANandBack BoneNetworks-Repeaters,Hubs, Switches, Bridges, Router and Gateways, Networks LayerFunctions and Protocols, Routing,RoutingAlgorithms,NetworkLayerProtocolofInternet-IP Protocol,Internet ControlProtocols.

Unit5:Transport,Session,Presentation andApplicationLayerProtocol

[12]Trans

port Services- Error and Flow Control, Connection Establishment and ConnectionRelease, Flow Control & Buffering, TCP/IP protocol suite, Concept of- TCP, UDP, IP, FTP,DNS,Telnet, SMTP, POP, HTTP, WWW, ARP,RARP.

ReferenceBooks:

- B.A.Forouzan:Data Communications and Networking, Fourth edition, THMPublishingCompanyLtd2007.
- S.Tanenbaum:ComputerNetworks, Fourthedition,PHIPvt. Ltd2002

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NAAC Accredited-2015
'B' Grade (CGPA 2.62)

Name of the Faculty: Science & Technology

CHOICE BASED CREDIT SYSTEM

Syllabus: Computer Science

Name of the Course: M.Sc. I (Sem.–I & II)

(Syllabus to be implemented from w.e.f. June 2020)

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

M. Sc. I year (Computer Science)

Syllabus (Semester – I and II)

(Choice Based Credit System)

With Effect from June 2020

6. Structure of the Syllabus – M.Sc. (Computer Science):

Part – I Semester-I

Paper Code	Title of the Paper	Hrs / week	Distribution of Marks for Examination			Credits
			Internal	University	Total	
Hard Core - Theory						
HCT 1.1	Object Oriented Programming using C++	04	20	80	100	4
HCT 1.2	Advanced DBMS	04	20	80	100	4
HCT 1.3	Data Structures and Algorithms	04	20	80	100	4
Soft Core – Theory (Any One)						
SCT 1.1	Software Engineering	04	20	80	100	4
SCT 1.2	UML					
Hard core Lab / Project						
HCP 1.1	Practical based on HCT 1.1	04	10	40	50	2
HCP 1.2	Practical based on HCT 1.2	04	10	40	50	2
HCP 1.3	Practical based on HCT 1.3	04	10	40	50	2
HCP 1.4	Project – I	02	10	40	50	2
	Tutorial	02	25	-	25	1
Total		**32**	**145**	**480**	**625**	**25**

Part – I Semester-II

Paper Code	Title of the Paper	Hrs / week	Distribution of Marks for Examination			Credits
			Internal	University	Total	
Hard Core – Theory						
HCT 2.1	Java Programming	04	20	80	100	4
HCT 2.2	Python Programming	04	20	80	100	4
Soft Core – Theory (Any One)						
SCT 1.1	Computer Communication Network	04	20	80	100	4
SCT 1.2	Artificial Intelligence	04	20	80	100	4
Open Elective – Theory (Any One)						
OET 2.1	Office Automation	04	20	80	100	4
OET 2.2	SWAYAM Course*	--	--	--	--	4
Hard core Lab / Project						
HCP 2.1	Practical based on HCT 2.1	04	10	40	50	2
HCP 2.2	Practical based on HCT 2.2	04	10	40	50	2
HCP 2.3	Project – II	02	10	40	50	2
Open Elective (Any One)						
OEP 2.1	Practical Based on OET 2.1	04	10	40	50	2
OEP 2.2	Practical / Seminar / Viva based on SWAYAM course OET2.2					
Others	Tutorial	02	25	-	25	1
Total		**32**	**145**	**480**	**625**	**25**

**** : The credits will be transferred as per university policy and UGC guidelines after submitting the completion certificate / mark list from the SWAYAM.***

Course Code: SCT-2.1,

Course Title: Computer Communication Network

Total Lectures: 60 Hrs **Contact Hrs (L) 4**
University Evaluation: 80 Marks **Internal Evaluation:** 20 Marks

Unit – I

Introduction: Uses of Computer networks: Business Applications, Home Applications, Mobile Users, Social Issues; Network Hardware: Local Area Networks, Metropolitan Networks, Wide Area Networks, Wireless Networks, Home Networks, Internetworks; Network Software: Protocol Hierarchies, Design Issues for the Layers, Connection-Oriented and Connectionless Service Primitives, Relationship of Services to Protocols; Example of Networks: The Internet, The ARPANET, NSFNET, Internet usage, Architecture of the internet. [07]

Data Link Layer: Data Link Layer Design Issues: Services Provided to the Network Layer, Framing, Error Control, Flow Control; Error Detection and Correction: Error-Correcting Codes, Error-Detecting Codes; Elementary Data Link Protocols: An Unrestricted Simplex Protocol, A Simplex Stop-and-Wait Protocol, A Simplex Protocol for a Noisy Channel; Sliding Window Protocols: A One-Bit Sliding Window Protocol, A Protocol Using Go Back N, A Protocol Using Selective Repeat; Example Data Link Protocols: HDLC—High-Level Data Link Control, The Data Link Layer in the Internet. [08]

Unit – II

Network Layer: Network Layer Design issues: Store and Forward packet Switching, Services Provided to the Transport Layer, implementation of Connectionless Service, Implementation of Connection-oriented Services, Comparison of Virtual Circuit and Datagram subnets; Routing algorithms: The Optimality Principle, Shortest Path Routing, Flooding, Distance Vector Routing, Link state Routing, Hierarchical Routing, Broadcast Routing, Routing for Mobile Hosts; Congestion Control Algorithms: General Principles of Congestion Control, Congestion Prevention Policies, Congestion Control in Virtual-Circuit Subnets, Congestion Control in Datagram Subnet, Load Shedding, Jitter Control; Quality of Service: Requirements, Techniques for Achieving Good Quality of Service; Internetworking: Differences in Networks, Network Connection, Concatenated Virtual Circuits, Connectionless Internetworking; Tunneling; Internetwork Routing, Fragmentation; The Network Layer in the Internet: The IP Protocol, IP Addresses, Internet Control Protocols, Mobile IP; IPV6. [15]

Unit – III

The Transport Layer: The Transport Service: Services Provided to the Upper Layers, Transport Service Primitives, Berkeley Sockets; Elements of Transport Protocols: Addressing, Connection Establishment, Connection Release Flow Control and Buffering, Multiplexing, Crash Recovery; The Internet Transport Protocol – UDP: Introduction to UDP, Remote Procedure Call, The Real-Time Transport Protocol; The Internet Transport Protocols – TCP: Introduction to TCP, The TCP Service Model, The TCP Protocol, The TCP Segment Header, TCP Connection Establishment, TCP Connection Release, Modeling TCP Connection Management TCP Transmission Policy, TCP Congestion Control, Wireless TCP and UDP. [15]

Unit – IV

The Application Layer: DNS – The Domain Name System: The DNS Name Space, Resource Records, Name Servers; Electronic Mail: Architecture and Services, The User Agent, Message Formats, Message Transfer, Final Delivery; The World Wide Web: Architectural Overview, Static Web Documents, Dynamic Web Documents, HTTP, Performance Enhancements, The Wireless Web. [15]

Reference Books:

1. Computer Networks: Andrew S. Tanenbaum, 4th Edition, Pearson Education, Asia, 2002.
2. Communication Networks: Fundamental Concepts and Key Architectures, Alberto Leon-Garcia, Indra Widjaja, Tata McGraw Hill, 2006.
3. Data Communications and Networking: Behrouz A. Forouzan, Tata McGraw Hill, Second Edition, 2001.

Course Code: SCT-2.2,

Course Title: Artificial Intelligence

Total Lectures: 60 Hrs **Contact Hrs (L) 4**
University Evaluation: 80 Marks **Internal Evaluation:** 20 Marks

Unit-I **15 Hrs**

The AI Problems, the Underlying Assumption, AI Technique, Problems.

Problem Spaces and Search: Problem definition, state space search, production systems, problem characteristics, production system characteristics, Issues in the design of search programs.

Unit-II **15 Hrs**

Heuristic Search Techniques: Generate-and-Test, Hill Climbing, Search techniques, Problem Reduction, Constraint Satisfaction, Means-Ends Analysis.

Representing Knowledge Using Rules: Procedural versus Declarative Knowledge, Forward Versus Backward Reasoning, Matching.

Unit -III **15 Hrs**

Statistical Reasoning: Probability and Bayes' Theorem, Certainty Factors and Rule-Based Systems, Bayesian Networks, Dempster-Shafer Theory, Fuzzy Logic.

Slot-and Filler Structures: Semantic Nets, Frames, Strong Slot-and-Filler Structures: Conceptual Dependency, Scripts.

Unit - IV **15 Hrs**

Natural Language Processing: Introduction, Syntactic Processing, Semantic Analysis, Discourse and Pragmatic Processing.

Expert Systems: Representing and Using Domain Knowledge, Expert System Shells, Explanation, Knowledge Acquisition.

Reference Books:

1. Artificial Intelligence by Elaine Rich, Kevin Knight, S Nair TMH, 3Rd Edition.
2. Artificial Intelligence: A Modern Approach, S. Russel and P. Norvig, 3rd edition, Pearson.
3. Introduction to Artificial Intelligence and Expert Systems by D W Patterson, PHI, 2nd Edition.

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NAAC Accredited-2015
'B' Grade (CGPA 2.62)

Name of the Faculty: Science & Technology

CHOICE BASED CREDIT SYSTEM

Syllabus: Computer Science

Name of the Course: M.Sc. II (Sem.–III & IV)

(Syllabus to be implemented w.e.f. June 2021)

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

M. Sc. II year (Computer Science)

Syllabus (Semester – III and IV)

(Choice Based Credit System)

With Effect from June 2021

M.Sc. (Computer Science) Part – II Semester-III

Paper Code	Title of the Paper	Hrs / week	Distribution of Marks for Examination			Credits
			Internal	University	Total	
Hard Core - Theory						
HCT 3.1	Digital Image Processing	04	20	80	100	4
HCT 3.2	Open Source Technologies (PHP, MySql)	04	20	80	100	4
Soft Core – Theory (Any One)						
SCT 3.1	Network Security	04	20	80	100	4
SCT 3.2	Cloud Computing					
SCT 3.3	Mobile Computing					
Open Elective – Theory (Any One)						
OET 3.1	Fundamental of Web Designing	04	20	80	100	4
OET 3.2	SWAYAM Course*					
Hard core Lab / Project						
HCP 3.1	Practical based on HCT 3.1	04	10	40	50	2
HCP 3.2	Practical based on HCT 3.2	04	10	40	50	2
HCP 3.3	Project – III	02	10	40	50	2
Open Elective (Any One)						
OEP 3.1	Practical Based on OET 3.1	04	10	40	50	2
OEP 3.2	Practical / Seminar / Viva based on SWAYAM course OET 3.2					
Others	Tutorial	02	25	-	25	1
Total of Sem. III		**32**	**145**	**480**	**625**	**25**
Add on Skill Course : Website Design using WordPress		**Theory : 50 marks, Practical : 50 marks**				4

Part – II Semester-IV

Paper Code	Title of the Paper	Hrs / week	Distribution of Marks for Examination			Credits
			Internal	University	Total	
Hard Core – Theory						
HCT 4.1	•Net Technology	04	20	80	100	4
HCT 4.2	Machine Learning	04	20	80	100	4
HCT 4.3	Data Warehouse and Mining	04	20	80	100	4
Soft Core – Theory (Any One)						
SCT 4.1	Soft Computing	04	20	80	100	4
SCT 4.2	Block chain Technology					
Hard core Lab / Project						
HCP 4.1	Practical based on HCT 4.1	04	10	40	50	2
HCP 4.2	Practical based on HCT 4.2	04	10	40	50	2
HCP 4.3	Practical based on HCT 4.3	04	10	40	50	2
HCP 4.4	Project – IV	02	10	40	50	2
Others	Tutorial	02	25	-	25	1
Total of Sem. IV		**32**	**145**	**480**	**625**	**25**

** : The credits will be transferred as per university policy and UGC guidelines after submitting the completion certificate / mark list from the SWAYAM.*

Course Code: SCT 3.1

Course Title: Network Security

Total Lectures: 60 Hrs **Contact Hrs (L) 4**
University Evaluation: 80 Marks **Internal Evaluation:** 20 Marks

Course Objective: The objective here is to acquaint the students with the application of networking. Detail description of the various protocols and the working of security policy and its performance, Network security and authentication, and various algorithms related to it has been dealt, to get a practical approach.

Unit – I

Introduction:Security Concepts, Threats and Risks, Attacks – Passive and Active Security Services, Confidentiality, Authentication, Non-Repudiation, Integrity, Access Control, Availability, Model for Internet work Security, Internet Standards and RFCs. [08]

Access Control Mechanisms:Access Matrix, HRU, TAM, ACL and capabilities, Access Control Models, Chinese Wall, Clark-Wilson, Bell- LaPadula, Non-Interference and Role BaseModel. [07]

Unit – II

Cryptography:Secret Key and Public Key Cryptosystems, Symmetric Ciphers, Block Ciphers and Stream Ciphers, DES, IDEA and Key Escrow, RSA and ElGamal, Secure Hash and Key management, Digital Signature andNon-repudiation,cryptanalysis[15]

Unit – III

Network Security:Objectives and Architectures, Internet Security Protocols, IP encapsulating Security Protocol, Network and Transport LayerSecurity. [07]

Network Security Applications:Authentication Mechanisms – Passwords, Cryptographic authentication protocols, Smart Card, Biometrics, Digital Signatures and seals, Kerberos, X.509 LDAP Directory. Web Security - SSL Encryption, TLS, SET, E-mail Security, PGPs / MIME,IPSecurity. [08]

Unit – IV

Access and System Security:Intruders, Intrusion Detection and Prevention. Firewalls - Hardware Firewall, Software Firewall, Application Firewall, Packet Filtering, Packet Analysis. Proxy Severs - Firewall setting in Proxy, ACLinProxy [15]

Reference Books:

1. Network Security Essentials: William Stallings,Prentice-Hall.
2. Fundamentals of Computer Security Technology: Edward Amoroso, Prentice-Hall.
3. Cryptography and Data Security: Dorothy E. Denning, Addison- Wesley.
4. Computers under Attack: Peter J. Denning,Addison-Wesley.
5. Cryptography - Theory and Practice: Douglas R. Stinson, CRC Press.
6. Building Internet Firewalls: D. Brent Chapman and Elizabeth D. Zwicky, O'Reilly andAssociates.

Course Code: SCT 3.2

Course Title: Cloud Computing

Total Lectures: 60 Hrs **Contact Hrs (L) 4**
University Evaluation: 80 Marks **Internal Evaluation:** 20 Marks

Course Objective: The course presents a top-down view of cloud computing, from applications and administration to programming and infrastructure. The topic introduces students with various concepts like cloud systems, parallel processing in the cloud, distributed storage systems, virtualization, security in the cloud, and multi-core operating systems. Students will study state-of-the-art solutions for cloud computing developed by Google, Amazon, Microsoft etc.

Unit – I

Introduction to Cloud Computing What is a cloud, Definition of Cloud Computing, Characteristics of Cloud Computing, Driving factors towards cloud,Architecture, How Cloud Computing Works, Role of Networks in Cloud computing, protocols used, Role of Web services, Service Models: IaaS, PaaS, SaaS, NaaS, Cloud Clients, Deployment Models: Public Clouds, Community Clouds, Hybrid Cloud, Private Cloud, Issues in Cloud Computing, Applications. [10]

Unit – II

Infrastructure as a Service(IaaS) IaaS definition, Introduction to virtualization, Different approaches to virtualization, Resource Virtualization- Server, Storage, Network, Hypervisors, Machine Image, Virtual Machine(VM), Data storage in cloud computing(storage as a service), Examples like Amazon EC2-Renting, EC2 Compute Unit, Platform and Storage, pricing, customers. [15]

Unit – III

Platform as a Service(PaaS) What is PaaS, Service Oriented Architecture (SOA), Cloud Platform and Management, Examples like Google App Engine. Module IV: Software as a Service(SaaS) Introduction to SaaS, Web services, Web 2.0 [20]

Unit – IV

Overview of Security Issues, Infrastructure Security: Network level security, Host level security, Application level security, Data security and Storage, Challenges and Risks of Cloud Computing Platforms and Cloud Services. [15]

Reference Books:

1. Raj Kumar Buyya, James Broberg, Andrezei M.Goscinski, Cloud Computing: Principles and paradigms, 2011
2. Michael Miller, Cloud Computing, 2008
3. Cloud Computing, A Practical Approach By Toby Velte, Anthony Velte, Robert C. Elsenpeter, 2009

Code: HCT 4.2

Course Title: Machine Learning

Total Lectures: 60 Hrs **Contact Hrs (L) 4**

University Evaluation: 80 Marks **Internal Evaluation:** 20 Marks

Course Objective: The course is spearhead for Machine Learning models and uncover hidden insights to problems that were once thought impossible. Student could become a leader in the ML & AI by learning about its breakthroughs achieved and future that it holds. The student could gain solid awareness of the key concepts of AI, ML, Deep Learning, Data Mining & Data Science. Make strategically important decisions in students professional domain with ML techniques, models, and various algorithms Leverage your innovative ability to develop intelligent ML & AI-based solutions using the required platforms and languages.

Unit I

Introduction- Machine Learning Definitions, Artificial Intelligence Definitions, Machine Learning vs AI Machine Learning vs Deep Learning, Most Common ML Algorithms, Types of Machine Learning Supervised Unsupervised Reinforcement, General Steps or Process of Machine Learning, Data cleaning, data transform/fitting Overfitting, Under fitting, Variance, Bias, Required Maths- Linear Algebra - In Numpy, Probability, Stats, Calculus (Derivates), Tool Kit, Python Basics, Python Advance, Numpy, Pandas, Matplotlib, Scikit-learn or sklearn Library. [15]

Unit II

Supervised Learning, Classification, Random Forest, Decision Trees, Logistic Regression, Support Vector Machines, KNN, Naïve Bayes, Usage, Regression, Linear Regression, Regularization Techniques (LASSO), Polynomial Regression, Usage, Case Study (Classification). [15]

Unit III

Unsupervised Learning, Clustering, K-Means, K Nearest Neighbours, Association Rule Learning, Dimensionality Reduction, PCA, SVD, tSNE, Case Study (Clustering/Anomaly/Fraud Detection). [15]

Unit IV

Reinforcement Learning, Markov Decision Monte Carlo Prediction, Case Study (next best offer, dynamic pricing), Natural Language Processing, Text Mining Generation, Case Study (Generation) Predictive Analytics – Forecasting, Logistic, Time Series (ARIMA), Case Study (Time Series), Ensemble Techniques Boosting, Bagging, Machine Learning Applications across Industries- Healthcare, Retail, Financial Services, Manufacturing, Hospitality [15]

References books:

1. Introduction to Machine Learning, 2nd Edition, by Ethem Alpaydin.
2. Machine Learning, Tom Mitchell, First Edition, McGraw Hill, 1997.
3. C. Bishop, Pattern Recognition and Machine Learning. Berlin: Springer-Verlag, 2006.

Code: SCT 4.1

Course Title: Soft Computing

Total Lectures: 60 Hrs **Contact Hrs (L) 4 University**
Evaluation: 80 Marks **Internal Evaluation:** 20 Marks

Course Objective: To develop the skills to gain a basic understanding of neural network theory and fuzzy logic theory. To introduce students to artificial neural networks and fuzzy theory from an engineering perspective

Unit – I

Fundamentals of Neural Networks:Basic concepts, models of artificial neuron, neural network architectures, characteristics, learning methods. [06]

Backpropagation networks:Architecture, backpropagation learning: input, hidden and output layer computation, error calculation, training of neural network, method of steepest descent, effect of learning rate, back propagation algorithm. [09]

Unit – II

Crisp Sets: an Overview, Fuzzy Sets: Basic Types, Basic Concepts, Fuzzy Sets Vs Crisp Sets, Additional Properties of alpha cuts, Presentation of fuzzy sets, Extension principle forfuzzysets. [15]

Unit – III

Operations on Fuzzy Sets:Types of operations, Fuzzy complements, Fuzzy Intersections, Fuzzy Unions, Crisp and Fuzzy Relation, Binary Fuzzy Relations, Binary Relation on single set, Fuzzy Equivalence Relations, Fuzzy Compatibility Relation. [15]

Unit – IV

Basic concepts, working principle, Genetic representations, Encoding:binary, octal, hexadecimal encoding, permutation encoding, value encoding, tree encoding, Fitness function, Reproduction: Roulette- wheel selection, Tournament selection, Rank selection, Mutation operator, GenerationalCycle,applications.

[15]

Reference books:

1. Neural Networks, Fuzzy Logic and Genetic Algorithms: S.Rajasekaran, G. A. Vijayalakshmi Pai,PHI.
2. Fuzzy Sets and Fuzzy Logic Theory and Application: George J. Klir, Bo Yuan, PHI.
3. Fuzzy Sets Uncertainty and Information: George J. Klir, Tina A. Floger, PHI.
4. Introduction to the Theory of Neural Competition John hertz, Krogh and Richard, Addison Wesley.
5. Introduction to Artificial Neural Network: Jaeck M. Zurada, Jaico PublishingHouse. 6. Neural Network and Fuzzy System A Dynamic System: Koska,PHI.

Code: SCT 4.1

Course Title: Block Chain Technology

Total Lectures: 60 Hrs **Contact Hrs (L) 4 University**
Evaluation: 80 Marks **Internal Evaluation:** 20 Marks

Course Objective: To understand fundamentals of blockchain technology. To understand how blockchain systems (mainly Bitcoin and Ethereum) work. To impart strong understanding of Blockchain technologies. To introduce application areas, current practices, and research activity. To integrate ideas from blockchain technology into their own projects.

Unit I

Introduction Need for Distributed Record Keeping Modeling faults and adversaries Byzantine Generals problem Consensus algorithms and their scalability problems Why Nakamoto Came up with Blockchain based cryptocurrency? Technologies Borrowed in Blockchain – hash pointers, consensus, byzantine fault-tolerant distributed computing, digital cash etc, Basic Distributed Computing Atomic Broadcast, Consensus, Byzantine Models of fault tolerance. [15]

Unit II

Basic Crypto primitives Hash functions, Puzzle friendly Hash, Collison resistant hash, digital signatures, public key crypto, verifiable random functions, Zero-knowledge systems. [7]

Blockchain 1.0 Bitcoin blockchain, the challenges, and solutions, proof of work, Proof of stake, alternatives to Bitcoin consensus, Bitcoin scripting language and their use [8]

Unit III

Blockchain 2.0 Ethereum and Smart Contracts, The Turing Completeness of Smart Contract Languages and verification challenges, Using smart contracts to enforce legal contracts, comparing Bitcoin scripting vs. Ethereum Smart Contracts. [10]

Blockchain 3.0 Hyperledger fabric, the plug and play platform and mechanisms in permissioned blockchain [5]

Unit IV

Privacy, Security issues in Blockchain Pseudo-anonymity vs. anonymity, Zcash and Zk-SNARKS for anonymity preservation, attacks on Blockchains – such as Sybil attacks, selfish mining, 51% attacks - - advent of algorand, and Sharding based consensus algorithms. [15]

Reference books:

1. Josh Thompson, 'Blockchain: The Blockchain for Beginnings, Guild to Blockchain Technology and Blockchain Programming', Create Space Independent Publishing Platform, 2017.
2. Mastering Blockchain, Second Edition Distributed ledger technology, decentralization, and smart contracts explained, Packt- BIRMINGHAM – MUMBAI.

Course Code: SCT 3.3

Course Title: Mobile Computing

Total Lectures: 60 Hrs **Contact Hrs (L) 4 University**
Evaluation: 80 Marks **Internal Evaluation:** 20 Marks

Course Objective: The objective of this consortium is to shape and expand a full-scale and sound mobile computing system market. To achieve this, cooperation is required of interests related to communication (network), computer hardware/software, system integrator (including service providers), and the media.

Unit – I

Introduction to Personal Communications Services (PCS) PCS Architecture, Mobility management, Networks signaling. Global System for Mobile Communication (GSM) system overview: GSM Architecture, Mobility management, Network signaling. [10]

Unit – II

General Packet Radio Services (GPRS) &Wireless Application Protocol (WAP) GPRS Architecture, GPRS Network Nodes. Mobile Data Communication: WLANs (Wireless LANs) IEEE 802.11 standard, Mobile IP. Wireless Application Protocol (WAP): The Mobile Internet standard, WAP Gateway and Protocols, wireless mark up Languages (WML). [15]

Unit – III

Third Generation (3G) Mobile Services Introduction to International Mobile Telecommunications 2000 (IMT 2000) vision, Wideband Code Division Multiple Access (W-CDMA), and CDMA 2000, Quality of services in 3G. Wireless Local Loop(WLL): Introduction to WLL Architecture, wireless Local Loop Technologies. [15]

Unit – IV

Global Mobile Satellite Systems Global Mobile Satellite Systems; case studies of the IRIDIUM and GLOBALSTAR systems. Module V:Enterprise Networks Introduction to Virtual Networks, Blue tooth technology, Blue tooth Protocols. Advanced techniques in mobile computing. [20]

Reference Books:

1. "Wireless and Mobile Networks Architectures", by Yi-Bing Lin &ImrichChlamtac, John Wiley & Sons, 2001.
2. "Mobile and Personal Communication systems and services", by Raj Pandya, Prentice Hall of India, 2001.
3. "Guide to Designing and Implementing wireless LANs", by Mark Ciampa, Thomson learning, Vikas Publishing House, 2001.
4. Wireless Web Development", Ray Rischpater, Springer Publishing, 2000.

Shri Shivparvati Sarvajanik Vikas Trust's

Greenfingers College of Computer and Technology

Shivratna Knowledge City, Shankarnagar- Akluj

International Women's Day

Date: 08-March-2022

Chief Guest
Hon. Shitaldevi D. Mohite-Patil
President, Daughetr's Mom Foundation and Shivratna Foundation

President
Dr. B. R. Karche
Principal, Greenfingers College of Computer and Technology, Akluj

दैनिक
जनसत्य
निःपक्ष नजर..., निःपक्ष खबर...

स्त्री पुरुष समानता आणायला हवी : शीतल देवी

जनसत्य प्रतिनिधी

अकलूज : अकलूज येथील ग्रीन फिंगर्स कॉलेज ऑफ कम्प्युटर अँड टेक्नॉलॉजी अंतर्गत गुणवत्ता कक्ष व राष्ट्रीय सेवा योजना तर्फे डॉटर्स मॉम फाउंडेशन अध्यक्ष आदरणीय सौ शितल देवी मोहिते-पाटील यांच्या प्रमुख उपस्थितीमध्ये महिला दिन साजरा करण्यात आला.

महिलांनी स्वतःच्या हक्कासाठी दिलेल्या लढ्याच्या स्मरणार्थ दरवर्षी ८मार्च हा दिवस जागतिक महिला दिन म्हणून साजरा करण्यात येतो.

तसेच डॉटर्स मॉम फाउंडेशन या संस्थेअंतर्गत गेली आठ वर्ष पेक्षा जास्त काळ झाला अनेक महिलांना घेऊन मुलगी वाचवा मुलगी शिकवा अंतर्गत महिला सबलीकरणाचे काम

चालू आहे. महिलांसाठी आरोग्य तपासणी शिबिरे, रक्तदान शिबिरे, व्याख्याने, योगा प्राणायाम व झुम्बा वर्कशॉप व क्लासेस, विविध सांस्कृतिक, क्रीडा, पाककला इत्यादी स्पर्धांचे आयोजन केले जाते. महिला सबलीकरणाच्या कार्यात महाविद्यालयीन युवक-युवती ची भूमिका खूप महत्त्वाची आहे. तुम्ही सर्वांनी जर साथ दिली तर आपण हे सामाजिक कार्य अधिक प्रभावीपणे करू शकतो असे त्यांनी उपस्थित विद्यार्थ्यांना सांगितले.

जागतिक महिला दिनानिमित्त या कार्यक्रमामध्ये महिला प्राध्यापकांचा व महिला कामगारांचा सन्मान सौ शीतल देवी मोहिते-पाटील यांच्या शुभहस्ते करण्यात आला. जागतिक महिला दिनानिमित्त आयोजित कार्यक्रमाचे प्रास्ताविक प्राध्यापिका कु.श्वेता कंगळे यांनी केले कार्यक्रमाचे आभार प्राध्यापिका मोनिका आखाडे यांनी केले कार्यक्रमाचे सूत्रसंचालन विद्यार्थिनी कु .मेहंदी थोरात हिने केले कार्यक्रमास महाविद्यालयीन विकास समिती सदस्य मनाली गांधी, महाविद्यालयाचे प्राचार्य डॉ. भानुदास कर्चे, संजय साळुंखे, डॉ.तुळशीराम पिसाळ अमोल शिंदे सर्व प्राध्यापक वर्ग विद्यार्थी उपस्थित होते.

Main Edition
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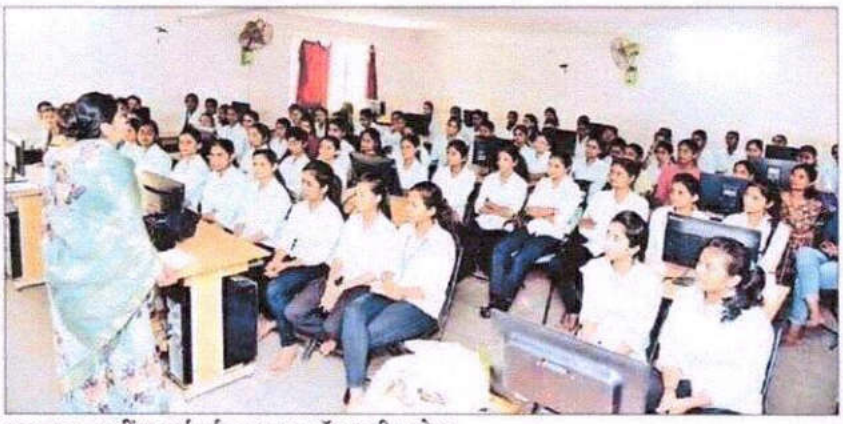
पुढारी

महिला सबलीकरणात कायद्याची भूमिका महत्त्वपूर्ण : ॲड. हसीना शेख

अकलूज : पुढारी वृत्तसेवा

ग्रीनफिंगर्स कॉलेज ऑफ कॉम्प्युटर ॲंड टेक्नॉलॉजी येथे गुणवत्ता दक्षता समितीच्या वतीने मुलींसाठी भारतीय कायदे व महिला सबलीकरण, कायदा सुव्यवस्था यांचे ज्ञान, लैंगिक छळ प्रतिबंधक दक्षता निवारण या विषयांवर विद्यार्थिनींसाठी ॲंड. हसीना शेख यांचे मार्गदर्शन आयोजित केले होते.



अकलूज : मुलींना मार्गदर्शन करताना ॲंड. हसीना शेख.

ॲंड. हसीना शेख म्हणाल्या की, आपल्या समाजात अजूनही बऱ्याच प्रमाणात बऱ्याच ठिकाणी महिला मानसिक, भावनिक, शारीरिक, सामाजिक किंवा आर्थिकदृष्ट्या परावलंबी असते. म्हणून स्त्रीला सक्षम करणे, त्यांच्यावरील अन्याय दूर करणे आणि त्यांच्या हक्काचे रक्षण करणे यादृष्टीने आपले कायदे हे महिलांसाठी संरक्षक स्वरुपाचे आहेत.

महिलांना स्वत:च्या पायावर उभे राहण्याची, स्वत: चे निर्णय स्वत: घेण्याची, आणि जबाबदारी घेण्याची जाणीव करून दिली तर मुली खऱ्या अर्थाने सक्षम होतील.

महिला सबलीकरणात कायद्याची भूमिका कायम महत्त्वपूर्ण राहिली आहे. यावर्षी जागतिक महिलादिन 'ब्रेक द बायस' ही संकल्पना घेऊन साजरा होत आहे. सर्व महिलांनी आर्थिक सक्षम व स्वतंत्र होणे गरजेचे आहे. यासाठी सर्व मुलींनी चांगले शिक्षण घेऊन आपल्या पायावर उभे राहावे. यावेळी विद्यार्थिनींनी प्रश्न विचारून आपल्या शंकांचे निरसन केले. या कार्यक्रमाप्रसंगी प्राचार्य डॉ . भानुदास कर्चे व सर्व महिला प्राध्यापिका उपस्थित होत्या. कार्यक्रमाचे सूत्रसंचालन श्वेता अग्रवाल हिने केले.

My Solapur Edition
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लोकमत

अकलूजच्या कार्यशाळेत आपत्ती व्यवस्थापनाचे धडे

लोकमत न्यूज नेटवर्क

अकलूज : अचानक उद्‌भवणाऱ्या नैसर्गिक आपत्तीत मोठी जीवित व वित्तहानी होते. ही हानी वाचविण्यासाठी आपत्ती निवारण ज्ञान होणे गरजेचे आहे. आपत्ती निवारणचे ज्ञान विद्यार्थ्यांनी प्रात्यक्षिकासह आत्मसात करून समाजोपयोगी पडावे, असे प्रतिपादन शिवरत्न शिक्षण संस्थेचे कार्यकारी अध्यक्ष धैर्यशील मोहिते-पाटील यांनी केले.

शिवरत्न शिक्षण संस्था, श्री शिवपार्वती सार्वजनिक विकास ट्रस्ट, सोलापूर विद्यापीठ राष्ट्रीय सेवा योजना यांच्यातर्फे अयोजित तीन दिवसीय आपत्ती निवारण व्यवस्थापन या राष्ट्रीय कार्यशाळेचे उद्‌घाटन धैर्यशील मोहिते-पाटील यांच्या हस्ते करण्यात आले. यावेळी ते बोलत होते. याप्रसंगी शिवरत्न शिक्षण संस्थेच्या अध्यक्षा शीतलदेवी मोहिते-पाटील, राष्ट्रीय आपत्ती व्यवस्थापन समिती संघ मार्गदर्शक निरीक्षक ब्रिजेशकुमार राईकवर, उपनिरीक्षक अजयकुमार यादव, हेड कॉन्स्टेबल दिलीप थोरात, राजेंद्र ठाकरे, अंकलजी सिद्धराम, वैभव सादाळे, डॉ. विश्वनाथ आवड, धर्मराज दगडे, पराग गायकवाड, शीतल मगदूम, आश्रफ शेख, अरविंद कुंभार, महेश डँबरे, आदी उपस्थित होते. या कार्यशाळेत ग्रीन फिंगर्स कॉलेज ऑफ कॉम्प्युटर अँड टेक्नॉलॉजी, विजयसिंह मोहिते-पाटील कॉलेज ऑफ नर्सिंग अँड मेडिकल रिसर्च, शिवरत्न इन्स्टिट्यूट ऑफ मॅनेजमेंट स्टडीज, राष्ट्रीय आपत्ती व्यवस्थापन समिती भारत सरकार यांचा सहभाग आहे. प्रास्ताविक अनिल लोंढे यांनी केले. सूत्रसंचालन धनश्री हातोळकर यांनी केले.

अकलूज येथे तीन दिवसीय आपत्ती निवारण व्यवस्थापन कार्यशाळेच्या उद्‌घाटनप्रसंगी धैर्यशील मोहिते-पाटील, शीतलदेवी मोहिते-पाटील व अन्य.

लोकसहभागही महत्त्वाचा

कार्यशाळेत भूकंप, महापूर, चक्रीवादळ, अतिवृष्टी अशा नैसर्गिक आपत्तीमध्ये होणारी जीवित व वित्तहानी टाळण्यासाठी प्रशासकीय यंत्रणा राबवली जात असली तरी संकटकालीन परिस्थितीचा मुकाबला करण्यासाठी लोकसहभागही तितकाच महत्त्वाचा आहे. यासाठी महाविद्यालयीन विद्यार्थ्यांना प्रात्यक्षिक स्वरुपात योग्य मार्गदर्शन केले जात आहे.

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"SHRI SHIVPARVATI SARVAJANIK VIKAS TRUST'S"

GREENFINGERS COLLEGE OF COMPUTER AND TECHNOLOGY, AKLUJ

Affiliated to Solapur University, Solapur.

Career counseling session on

Cyber Security and Ethical Hacking

15th Sept 2018
at 03:00 pm

Resource Person :
Mr. Vishal Pandhare
Officer Forensic Science Laboratory,
Home Department Government of Delhi

Greenfingers College of Computer and Technology
Shankarnagar
Akluj

महर्षि Digital News
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ग्रीन फिंगस मध्ये सायबर सेक्युरिटी अँड एथिकल हॅकिंग विषयावर व्याख्यान

महर्षि डिजीटल न्यूज

ग्रीन फिंगर्स कॉलेज ऑफ कॉम्पुटर अँड टेकनॉलॉजि,अकलूज येथे दि . १५ सप्टेंबर २०१८ रोजी दु . ३ वाजता सायबर सेक्युरिटी अँड एथिकल हॅकिंग या विषयावर बीसीए व बीसीएस भाग २ व ३ मधील विद्यार्थ्यांसाठी व्याख्यान आयोजित करण्यात आले . या व्याख्यानासाठी मा . विशाल पांढरे हे प्रमुख वक्ते म्हणून उपस्थित होते .मा. विशाल पांढरे सर हे एक ऑफिसर फॉरेन्सिक सायन्स लॅबोरेटरी,होमी डिपार्टमेंट गव्हर्नमेंट ऑफ दिल्ली येथे कार्यरत आहेत ,त्यांनी त्यांचा अमूल्य असा वेळ ग्रीन फिंगर्स मधील विद्यार्थ्यांसाठी दिला .मुख्य उपस्थितीत आलेल्या वक्तृत्वाच्या व्याख्यानात मा. विशाल पंढरे सर यांनी सुरक्षा विज्ञान, तंत्रज्ञान आणि नैतिक हॅकिंगच्या विविध पहिल्या आणि ताज्या विषयांवर चर्चा केली. म्हणजे सर्वांनी तंत्रज्ञानाच्या क्षेत्रातील रुजान घेण्याच्या उद्दिष्टांतून तंत्रज्ञानी विचार दिले .मा. पंढरे यांच्या अनुभवी वक्तृत्वाने विद्यार्थ्यांना सायबर सुरक्षा व नैतिक हॅकिंगच्या महत्त्वपूर्ण मुद्द्यांच्या विचारांची माहिती दिली.या आयोजनातील विद्यार्थ्यांनी संगणक सुरक्षा आणि नैतिक हॅकिंगच्या क्षेत्रातील ताज्या विचारांना समृद्धीसाठी अनुसरण केला.हे व्याख्यान विद्यार्थ्यांसाठी अतिशय अमोलचे असे ठरले .

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Report

Session Name: Career Counseling Session on Cyber Security and Ethical Hacking

Date: 15th Sept 2018

Time: 03:00 PM Onwards.

In session I/C Principal Prof. Salunkhe S.S give the introduction of speaker to students. The Career Counseling Session on Cyber Security and Ethical Hacking was organized as a guest lecture to provide students with insights into the dynamic and rapidly evolving field of cyber security. The session aimed to introduce students to the concepts of Ethical Hacking, its importance in safeguarding digital systems, and the diverse career opportunities available in the field.

The Career Counseling Session on Cyber Security and Ethical Hacking provided valuable insights into the exciting and evolving field of cyber security. The guest speaker's expertise and engaging presentation style captured the attention of the audience. Students left the session with a better understanding of the field's importance, career options, and the skills required to succeed in this dynamic industry. The event successfully motivated and inspired students to explore the world of cyber security and ethical hacking as a potential career path and the vote of thanks delivered by Prof. Pisal T.B.

Total No .Students Attended: 180

Greenfingers College of Computer and Technology Shankarnagar Akluj

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Shankarnagar-Akluj.

"Shri Shivparvati Sarvajanik Vikas Trust's"
GREENFINGERS COLLEGE OF COMPUTER AND TECHNOLOGY
(Affiliated to Solapur University,Solapur)

- gfc_akluj@yahoo.com
- Ph.(02185) 223225
- Established on 2nd July 2007
- www.gfcct.in

Yashwantnagar-Akluj,Tal-Malshiras,Dist-Solapur Pin-413118

Ref. No: 1047/2018-19 Date: 10-5-2018

To,

Mr. Vishal Pandhare

Officer Forensic Science Laboratory,

Home Department, Government of Delhi.

Subject: Invitation as Resource Person

Dear Sir,

We hope this letter finds you well. On behalf of Greenfingrs College of Computer and Technology Yashwantnagar-Akluj, we are delighted to extend our warmest invitation for you to be a career counseling speaker at our upcoming Session Date: 15th Sept 2018 Time: 03:00 PM.

Thank you for considering our invitation. We believe your participation will significantly enrich the experience of our students, helping them shape their futures with confidence.

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Greenfingers College of Computer and Technology, Shankarnagar-Akluj

Greenfingers College of Computer and Technology ★ Shankarnagar Akluj

Received
Pandhare
10-5-18

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Date: 13/09/218

Notice

All students are hereby informed that the college is going to organize a **"Career Counseling Session on Cyber Security and Ethical Hacking"** on 15th Sept 2018 at 03:00 PM.

BSC [ECS) I -

BSC [ECS) II -

BSC [ECS] III -

BCA I -

BCA II -

BCA III -

MSC I -

MSC II -

PRINCIPAL
Greenfingers College of
Computer and Technology,
Shankarnagar-Akluj

carrer counseling session on cyber security and Ethical Hacking

15-8-2018

Sr. No	Name of the participant	sign.
1	Arjun Akshay Shivaji	Shivaji
2	Bhingare Nirmala Haridas	Bhingare
3	chaugule Punam Pandurang	Pchm
4	peshmukh sanjanel popatrao	SDeshmukh
5	Deshmukh Teishri kalidas	TKeshmuk
6	Harman amruta anant	Harman
7	Ingle Amruta Jaysing	AJIng
8	Kamble Sonali Balasaheb	S.B.Kamble
9	jadhav patil gaurav chandrakant	gcjg
10	Kapse pallavi Tukaram	KPT
11	Karande vidya Hanumant	KVH
12	Magar shital Haridas	MSH
13	Mali Anita Gorakh	Mali.A.G.
14	Mane Atul sambhaji	Mane.A.S.
15	Nashte Nikhil Pandurang	Nashte.
16	Pawar kuldip Manikrao	K.M.P
17	Sapkal Prajakta Shivaji	P.S.Sapkal
18	sapkal vidya mahadev	V.M.Sapkal
19	Shinde Vishal Sopan	VSshinde
20	Pruthviraj Tukaram Katkar	P.T.Katkar
21	sapkal prajakta shivaji	Psapkal
22	Sul Archana Gajanan	A.G.Sul
23	Shinde vishal Gopan	V.G.Shinde
24	Wagh sonali Dattatrey	WSD
25	Pawar Raju Ahanta	Paw
26	pruthviraj Tukaram Katkar	P.T.Katkar
27	Chavan Vishal Vishwasrao	V.V.chavan
28	Wagh Dipali Machindra	Machindra
29	Dixit Ranjana Mukund	Dixranjana
30	Vyavare Ganesh vitthal	Gavare
31	chavan mangesh Bhagwat	Chmbs
32	Kadam Samadhan Hanumant	KadamS.H
33	Pakhare Yogesh B Dattatray	Pkhare.Y.D
34	Deshmukh Hrushikesh Vijay	Deshmukh
35	Tamboli shabbir Amin	S.A.Tamboli

36	Vavare Ganesh Vitthal	G Vavare
37	Wagh Dipali Pachindra	D Wagh
38	Jamadar Adam Khalil	
39	Gaikwad Madhuri Anil	Gaikwad. MA
40	Ghodake Laxman Harida	Ghodake
41	Gaikwad Dashrath Bandu.	G. D. B.
42	Ghodake Laxman Haridas	G. Laxman
43	Mulani Shahrukh Saheblal	S.S. Mulani.
44	Mulani Shahabaj Salim	S.S. Mulani
45	Chavan Avanti Udayshing	C. Avanti
46	Bhakare Sachin Vilas	Bhakare. S. V
47	Sarvade Snehal Ranu.	Ranu.
48	Yadav Dadaso Vilas	D. Yadav
49	Pawar Suraj Gulabrao	S. Pawar
50	Yadav Dadaso Vilas	D. Vilas
51	Shinde rohan shahaji	Shinde.
52	Tiwatane Swanand Ajit	Tiwatane
53	Kate Onkar vilas	Kate
54	pawar sandesh shahaji	Pawar
55	Shelke Harshad Hanumant	Shelke. H.
56	Sonavane Shrutika Sunil	Sonavane
57	Shendage Gaurav Sambhaji	Shendage
58	Khandagale Suraj dilip	Khandagale
59	Pise Pravin Mahadev	Mahadev
60	Bobade Vaishali Ramchandra	V Bobde
61	Jagtap poonam Dattatraya	P. D. Jagtap
62	Pise Avinash Bapu	A. B. Pise
63	parekar Shewta Bhairvnath	Parekar
64	Sawant Vaishali Anna	VS.
65	Shinde Swapnil Namdeo	Shn.
66	Dhavale kashiling Bhima	Akuj
67	Gavali Vishal Gautam	Vgm.
68	Kazi Parvin Pirmahamad	P Kazi
69	Khare Prajakta Yashwant	Khare P.Y.
70	Kenjale Pratap Baliram.	Kenjale P.

Sr. No	Name of participant	sign.
71	Adgale Ajay Mahadev	Adgale
72	Admile Arjun Bhimrav	A Badmile
73	Atar Mujjam Mahamud	A M Mahamud
74	Autade shubhangi vitthal	S autade
75	Babar Pratiksha Hanumant	P. H. Babar
76	Babar Shubham Pandurang	S. P. Babar.
77	Balshankar Vishal Vanraj	B. Vanraj
78	Bankar Divya Suresh	Bankar
79	Bankar Pandurang Subhash	Banka
80	Bhagat Viraj Satish	Bhagat
81	Bhakare Priyanka Sunil	Bhakare
82	Bhalerao Sharayu Sanjay	S bhalerao
83	Bhongale Yash Vijay	Bhongale
84	Bhosle Aaba Tukaram	A bhosle
85	Bhosle Ajay Vijay	A. V. Bhosle
86	Bhosle Arati Anil	A. A. Bhosle
87	Bhosale Namrata Mahadev.	N. M. Bhosale
88	Bhosale pooja Arun	Bhosale P A.
89	Dhole Varsha Rajendra	D. V. Rajendra
90	Durane Vishrant Rajkuma	V. R. D.
91	Bodake Shweta. Mahadeo	S. M. B.
92	chavan Priyanka Hanumant	P chavan
93	chikane Rutuja Jotiram	R. J. chikane
94	Parade Ashwini Tukaram	Ashwini
95	Gaikwad Abhausinh Deepak	G Abhaus
96	Girme Asmita Ranjankumar	Asmita
97	Jadhav kishor Mahadev	kishor
98	Dhavale Snha Sugriv	Dhavale
99	Dhavale Swapnil Jambuwant	Swapnil
100	Bhosale Ramhari Shankar	R Bhosale
101	chintamani Pranali satish	P chintamani
102	Gaikwad Dattatray pandurang	D. P. Gaikwad
103	Jadhav Priti Balasaheb	Jadhav. Priti B
104	Jadhav pranjali Sanjaykumar.	P. S. Jadhav

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105	Jadhav Vaibhav Balu	Jadhav V.B.
106	Jadhav Vaishnavi Vasant	Vjadhav
107	kale shital Ajit	shitalkale
108	Jadhav Abhijeet Tanaji	A. T. Jadhav
109	Mane Pooja Popat	Poojamane.
110	Mane Harshada Bapu	Mane.
111	Bhosale shankar vilas	Bhosale.s.v.
112	Bhosale vishal vishnu	Bhosale V.V.
113	Dawane Tushar Sanjay	Tushar.D
114	Bhosale Rushikesh Dasharath	B
115	Bhosale Shamabala Subhash	SBhe
116	Jadhav shivkumar Sunil	Jadhavss
117	Jare Rohit Samadhan	J.R.Sa.
118	Kamale Priyanka Ashok	Kamale.
119	kadam Rajni Rajendra	Rekadam.
120	Inamdar Nihal Nashir	Inamdar N.
121	Kale Harshada Ramchandra.	Harshukale.
122	Kadam Swapnil Gopal	Sweepnik.
123	Kanse Supriya Somnath.	Ksupu.
124	Sayyad Asma Ikbal.	Sayyadismel.
125	Shaikh samir Sharif.	SSS.
126	Tamboli Anjum Aqbal	Anjum.
127	Shaikh Sahil Raju	Sahil.
128	Tik Shejal Ashok.	Shejal
129	Tamboli Sadiya Jakirhusen.	Jsadiya.
130	Hendre Shubham Laxman.	Shubhamhendre
131	Deokate pranali Ramesh	P. R. deokate
132	Deshmukh Vaishnavi Balasaheb	VBD
133	Deshpande Atharv Rahul	ARdeshpande
134	Bhujbal rutuja Madhukar	RMB
135	Darade Rutuja dilipkumar	R. d. Darade
136	Dhandare samadhan Balaso	SBD
137	Dorkar vishwajeet Rajendra	V. R. Dorkar
138	Gaikwad Akash Arun	Akash G
139	Ekatpure Vaishnavi madhukar	V. M. Ekatpure

Sr. No.	Name of student	sign
138	Bankar Darshan Anil	Bankar. D.A
139	Bhagat Avinash Hanumant	B.A.H
140	Bhosale Prashant Sanjay	Prashant.
141	chakre Sanket santosh	Sanket.
142	Chavan Mayuri Pattatray	M. D. chavan.
143	Dangat usha Lalaso	U. L. Dangat
144	DuPade Mauli Balasaheb	M. B. DuPade
145	Gaikwad Trupti Dattatray	Trupti
146	Gaikwad Namarta Balasaheb	NBG
147	Ingole Rameshwari Indiajeek	
148	Harihar Varsha Laxman	HVLaxman
149	Jadhav Rushikesh Lalaso	RJ.
150	Jagtap Kajal Bapurao	Kajal
151	Kadam Radhika Rajendra	Kadam
152	Kale Archana Bhivaji	Archana.
153	kale Pooja Ganpat	Kale P. G.
154	Kalana Swapnil Aba	Sabba.
155	koli manjula milan	Mkoli
156	Munguskar pooja popat	Munguskar
157	Nikam Pravin shahaji	Nikam. P.S
158	palkar Nilam Tukaram	N. T. palkar
159	Pandhare Supriya Tanaji	S. T. Pandhare
160	patankar Aniket kiran	Aniket.
161	Pathan Tanveer sikandar	Sikandar. P.T
162	pise Rahul Savata	Rpise
163	Ranpise prajakta Dayanand	Prajakta
164	Ranpise prajakta Balasaheb	
165	shinde shital Tanaji	Shital.
166	sathe Seema mahadev	Sathe S M
167	Survase Nikhil vitthal.	S. N. vitthal
168	Tikole Asif Amin	T. A. Amin
169	Shaikh Firdos Husen	S. F. Husen
170	Shaikh Parveen firoz.	Pareen
171	shaikh mahamm dsaif makbu	Shaikh
172	Shaik Asma Mustfe	Shaik A.

173	Shelake Pratiksha Hanumant	Shelake Pratiksha
174	Mardikar Suraj Shreehivas	Mardikar
175	Misal Suraj Satish	Misal
176	Mulani Saiel Mahamad	M. Saiel. M
177	Mulani Saifai Bashir	Saifai.
178	Pathan Rigana mahibab	PRM
179	Pawar Ranjeet Vijay	Pawar R.V.
180	Pawar Jotiram Tanaji	Pawar

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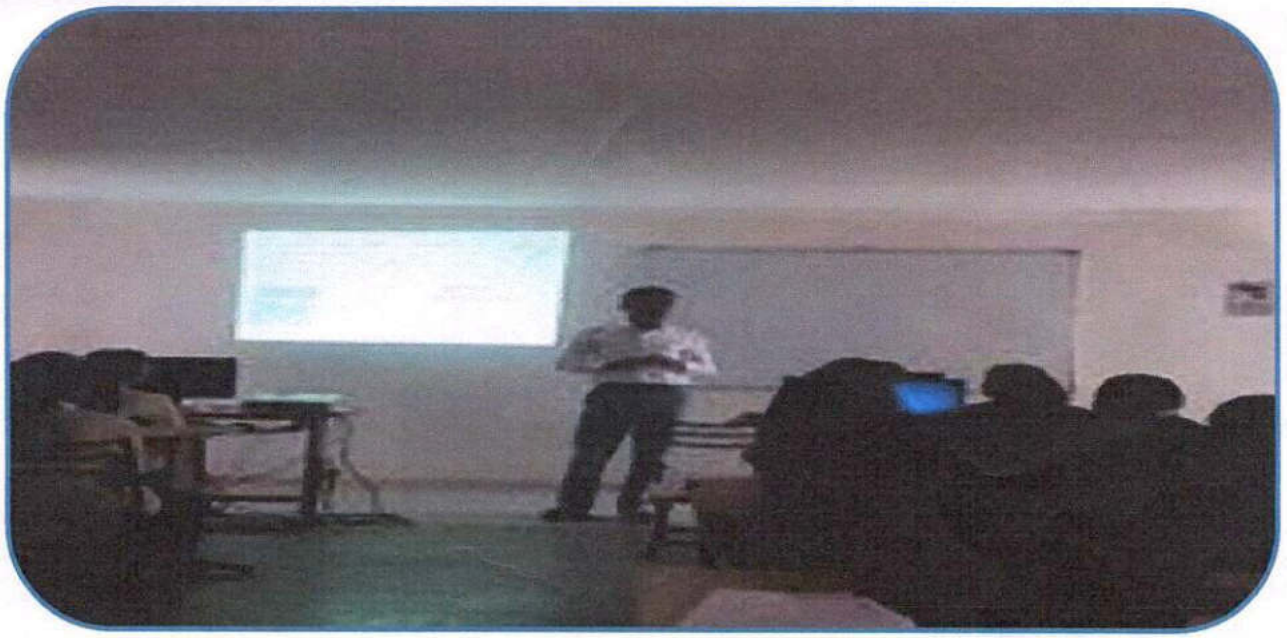
Activity Photo Date-15th Sept 2018



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Activity Feedback

Name of Activity : Career Counseling seesion on cyber security & ethical hacking Date 15/09/2018.

Name of Participant: Prithviraj Tukaram Katker.

Note: Put Mark in front of appropriate Option

Sr.No	Particular	Excellent	Very Good	Good	Fair
1	Quality of Program		✓		
2	Knowledge of Resource Person	✓			
3	Content of Program		✓		
4	Overall Impression of program	✓			

Any other suggestion if you want give:

No suggestion –

P. T. Katkar

Name and signature

(Katkar. P.T)

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Activity Feedback

Name of Activity : Career Counseling session on cyber security & ethical- hacking Date: 15/9/2018

Name of Participant: Ingle Amruta Jaysing

Note: Put Mark in front of appropriate Option

Sr.No	Particular	Excellent	Very Good	Good	Fair
1	Quality of Program	✓			
2	Knowledge of Resource Person	✓			
3	Content of Program			✓	
4	Overall Impression of program			✓	

Any other suggestion if you want give:

No any suggestion

Name and signature

(Ingle A.J.)

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Yashwantnagar-Akluj,Tal-Malshiras,Dist-Solapur Pin-413118

Ref. No: 1050/2018-19 Date: 16-5-2018

To,

Mr. Vishal Pandhare

Officer Forensic Science Laboratory,

Home Department, Government of Delhi

Dear Sir,

We are thankful to you for taking time from your busy schedule to be the guest speaker at our Lecture organized by Greenfingers College of Computer and Technology, Akluj and I want to express our heartfelt appreciation for your time, effort, and dedication in imparting this valuable knowledge.

Once again, thank you for your guidance and support. I look forward to exploring the opportunities that lie ahead and, should the need arise; I will not hesitate to seek your advice and expertise. I wish you continued success in your endeavors.

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Received
Pandhare
16-5-18