Shri Shivaji Education Society Amravati's

SHRI SHIVAJI SCIENCE AND ARTS COLLEGE

Chikhli, Dist. Buldana- 443201.

NAAC Reaccredited with 'B++' Grade (CGPA 3.0)

Dr. Meena T. Nikam
Officiating Principal

Hon'ble Shri Harshvardhan P. Deshmukh
President

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

Content

Syllabus

- Syllabus on Professional Ethics
- Syllabus on Gender Sensitization
- Syllabus on Human Values
- Syllabus on Environment and Sustainability

Activities Conducted for the address cross cutting issues relevant to

- Environment and Sustainability
- Gender Sensitization
- Human Values
- Professional Ethics

Shri Shivaji Sci. & Arts College Chikhli, Dist. Buldana

PRINCIPAL
Shri Shivaji Science & Arts College, Chikhli, Dist Buldana

Syllabus on

Professional Ethics

Sant Gadge Baba Amravati University Amravati

Appendix A4

Scheme of Teaching, Learning & Examination leading to the Degree Master of Science (Computer Science)

(Two Years- Four Semesters Degree Programme- C.B.C.S)

(M. Sc. Part-II) Semester- IV

S. N.	Subject Code	Type	Subject	Teaching & Learning Scheme							Duration Of Exam Hours	Examination & Evaluation Scheme						
				Teaching Period Per Week				Credits				Maximum Marks					Minimum Passing	
												Theory		Practical		Total Marks		
	Core Subject			L	T	P	Total	L/T	Practical	Total		Theory+ MCQ External	Theory Internal	Internal	External		Marks	Grade
1	2022-4MCS1	DSC1	1 Cloud Computing	4	-	-	4	4	-	4	3	80	20			100	40	P
2	2022-4MCS2	DSC2	2 Big Data	4	-	-	4	4	-	4	3	80	20			100	40	P
3	2022-4MCS3	DSC3	3 Cyber Security	4	-	-	4	4	-	4	3	80	20			100	40	P
4	2022-4MCS4	DSC4	4 Block Chain Technology	4	-	-	4	4	-	4	3	80	20			100	40	P
			Skill-4															
5	2022-4MCS5	SEC4	Android Programming	-	2	2	4	4	-	4	3	-	-	25	25	50	25	P
			Elective-4															
6.	2022-4MCS6(1)	DSE1	(1) Software Testing															
7.	2022-4MCS6(2)	DSE2	(2) Internet of Things(IOT)															
8,	2022-4MCS6(3)	DSE3	(3) Human Computer Interaction	4	-	-	4	4	-	4	3	80	20			100	40	P
			Laboratories															
11	2022-4MCS7	Lab-VII	1,2 - Cloud Computing and Big Data	-	-	4	4	-	2	2	3	-	-	25	25	50	25	P
12	2022-4MCS8	Lab-VIII	3,4 – Block Chain Technology and Cyber Security	-	-	4	4	-	2	2	3	-	-	25	25	50	25	P
13	2022-4MCS9		Seminar	2				1		1				25	25	50	25	P
14	2022-4MCS10		Project			4			2	2				50	50	100	50	P
			Internship															
15	2022-4MCS11		#Internship/Field Work/Work Experience@															
			TOTAL	22	2	14	38	25	6	31								
			Open Elective															
16	2022-4MCS12	OE4	Openelective (OE) /GIC/Openskill/MOOC*	-	2	-	2	-	1	1	-			25	25	50	25	P
			TOTAL	22			40	25	7	32								
			GIC															
		GIC7	Ethics in Technology & Innovation															
		GIC8	Business Intelligence															

L: Lecture, T: Tutorial, P: Practical

Students may complete their Internship/Field Work/Work Experience in First OR Second OR Third Semester of M. Sc. (Computer Science) according to their convenience; @ denotes Ancillary Credit

Note : Internship /Apprenticeship/Field Work / Work Experience (During vacations of Semester I to Semester III) for duration of minimum 60 hours to maximum 90 hours mandatory to all the students, to be completed during vacations of Semester I to III. This will carry 2 Credits for learning of 60 hours or 3 Credits for learning of 90 hours. Its credits and grades will be reflected in final semester IV credit grade report.

- OEC can be studied during semester I to IV-As per Appendix 5

Total Credits: 119

2

Employability Potential in M.Sc. Computer Science

If you've studied computer science, you will have gained many technical and non-technical skills which are highly valued by employers, from leadership to programming. The increasing scope of

computer science means you have plenty of choice in a wide variety of highly specialized areas.

Computer technologies are integral to modern life, so you're likely to find your computer science skills in high demand across many different industries. These include financial organizations, management consultancy firms, software houses, communications companies, data warehouses, multinational companies, governmental agencies, universities and hospitals.

As always, it's extremely beneficial to have completed relevant work experience. You should also consider compiling a portfolio of your own independent projects outside of your degree, which could be in the form of programming, moderating online or even building an app. This will demonstrate to employers your interest in the subject and your problem-solving skills, creativity and initiative.

- Application analyst.
- Applications developer.
- Cyber security analyst.
- Data analyst.
- Forensic computer analyst.
- Game designer.
- Games developer.
- Machine learning engineer

- Cyber security analyst

  - Data analyst
  - Forensic computer analyst
  - Game designer
  - Games developer
  - Machine learning engineer
  - Penetration tester
  - Software engineer
  - Systems analyst
  - UX designer
  - Web designer & Developer
  - Business analyst
  - IT sales professional
  - IT trainer
  - Nanotechnologist
  - Network Engineer
  - Telecommunications researcher
  - Database Manager/ Administrator

Course Code	**2022-4MCS3/DSC 3**
Course Name	**3. Cyber Security**
Total Credits	**4**
Course Outcomes (COs):	On completion of this course, students would be able to: 7. Analyses and evaluate the importance of personal data & its privacy & security. 8. Recognized the importance of firewall in cyber-attacks from unauthorized access in network. 9. Increase awareness about Cyber-attack vectors and safety against Cyber-frauds 10. Take measures for self -Cyber protection as well as societal Cyber- Protection. 11. Analyses and evaluate existing legal framework and laws on Cyber security 12. Analyses and evaluate the digital payment system security and remedial measures against digital payment frauds

Unit	Contents	Periods
I	**Introduction to Cyber Security** Defining Cyberspace and Overview of Computer and Web-technology, Architecture of cyberspace, Communication and web technology, Internet, World wide web, Advent of internet, Internet infrastructure for data transfer and governance, Internet society, Regulation of cyberspace, Concept of cyber Security, Issues and challenges of cyber security.	10
II	**Network Defence tools** **Firewalls and Packet Filters:** Firewall Basics, Packet Filter Vs Firewall, Packet Characteristic to Filter, Stateless Vs Stateful Firewalls, Network Address, Translation (NAT) and Port Forwarding. **VPN:** the basic of Virtual Private Networks. Firewall: Introduction, Linux Firewall, Windows Firewall. Snort: Introduction Detection System.	10
III	**Digital Devices Security , Tools and Technologies for Cyber Security** End Point device and Mobile phone security, Password policy, Security patch management, Data backup, Downloading and management of third party software, Device security policy, Cyber Security best practices, Significance of host firewall and Ant-virus, Management of host firewall and Anti-virus, Wi-Fi security, Configuration of basic security policy and permissions	10
IV	**Introduction to Cyber Crime, law and Investigation** Cyber Crimes, Types of Cybercrime, Hacking, Attack vectors, Cyber space and Criminal Behaviour, Clarification of Terms, Traditional Problems Associated with Computer Crime, Introduction to Incident Response, Digital Forensics, Computer Language, Network Language, Realms of the Cyber world. Internet crime and Act: A Brief History of the Internet, Recognizing and Defining Computer Crime, Contemporary Crimes, Computers as Targets, Contaminants and Destruction of Data, Indian IT ACT 2000.Firewalls and Packet Filters, password Cracking,	10

	Practical List: Block Chain Technology 1. 1 To study basic Hadoop commands 2. To study and implement hash table using hash functions 3. Create simple blockchain using any suitable tool 4. Implementing proof of work 5. Miner rewards and transactions 6. Signing transactions 7. Use Geth for Creating private blockchain using Ethereum 8. Use Geth for Creating account using Ethereum blockchain 9. Use Geth for mining 10. Write a smart contract on solidity to store and get hello world **Each student should perform sample practical list given below using listed tools. More practicals can be added to implement BCT more efficiently.** **List of Tools used for Block chain Technology Analysis Software:** 1. **AnChain.ai** : Based in Silicon Valley, AnChain.AI is a blockchain analytics company that specializes in AI-powered platforms. AnChain.AI provides around-the-clock protection, securing crypto exchanges, protocols, and DApps worldwide for several millions of dollars in weekly transaction amounts. 2. **Coin base Tracer :** Coinbase Tracer (formerly Coinbase Analytics) supports crypto compliance for governments, financial institutions, and crypto businesses, and connects crypto currency transactions to real-world entities using public blockchain attribution data, enabling users to monitor risk on millions. 3. **Crystal Blockchain :** Crystal is a blockchain investigative tool from the Bitfury Group headquartered in Amsterdam. Designed for law enforcement and financial institutions, Crystal provides a view of the public blockchain ecosystem and uses analytics and data scraping to map suspicious transactions. 4. **Uppsala Security :**Uppsala Security headquartered in Singapore built a crowdsourced Threat Intelligence Platform known as the Sentinel Protocol, which is powered by blockchain technology. Supporting the framework is a team of security analysts and researchers, who aim to deliver a safely interconnected. 5. **Coinfirm:** Founded in 2016, Coinfirm provides blockchain analytics and regulatory technology solutions. The company specializes in blockchain AML ('Anti-Money laundering') services and fraud investigations, whose blockchain coverage supports 1,500+ crypto assets including Bitcoin.
Course Code	**2022-4MCS7 /DSE2: Lab-VIII**
Course Name	**3. Block Chain Technology and Cyber Security**
Total Credits	**2**
Course Outcomes (COs):	On completion of this course, students would be able to: 1. Understand the cyber security threat landscape. 2. Develop a deeper understanding and familiarity with various types of cyber attacks, cybercrimes, vulnerabilities and remedies thereto. 3. Analyse and evaluate existing legal framework and laws on cyber security. 4. Analyse and evaluate the digital payment system security and

Syllabus on Gender

अ.क्र. (Sr. No.)	घटक (Topic)	अध्यापन तासिका (Teaching Hours)
विभाग - अ	**वैचारिक**	१५ तासिका
१)	संस्कृती आणि साहित्य - साने गुरुजी	
२)	सावित्रीबाई फुले आणि ताराबाई शिंदे - सदानंद मोरे	
३)	सुधारक वृत्तीचा जाणता राजा - अरुणा ढेरे	
विभाग - ब	**ललित**	१५ तासिका
१)	लढे हा विदर्भ - मधुकर केचे	
२)	सांबराचे लोटण - मारुती चितमपल्ली	
३)	महालूट - सदानंद देशमुख	
विभाग - क	**कविता**	१५ तासिका
१)	संतवाणी अ) ताटीचे अभंग - संत मुक्ताबाई, ब) फुलाचे अंगा सुवास असे - संत चोखामेळा	
२)	अखंड - म. जोतीराव फुले	
३)	धनी गेला ! - पां. श्रा. गोरे	
४)	जमाना - नारायण कुळकर्णी कवठेकर	
५)	स्टेज - वाहरू सोनवणे	
६)	गुढी - आत्माराम किसन सोनोने	
विभाग- ड	**कौशल्य विकास आधारित अभ्यासक्रम (उपयोजित मराठी)**	१५ तासिका
	मराठी भाषिक कौशल्ये विकास : संपादक - डॉ. पृथ्वीराज तौर, अथर्व पब्लिकेशन्स, धुळे, या पुस्तकातील पुढील दोन घटकांचा समावेश केला आहे. १) मराठी भाषा कौशल्ये आणि व्यवसायाच्या संधी - सुनीता सांगोले २) अहवाल लेखन - स्वाती दामोदरे	
		एकूण ६० तासिका

Syllabus on
Human Values

Sant Gadge Baba Amravati University, Amravati Syllabus

Prescribed under Choice based Credit System 2022-23

Faculty : Humanities Programme: B.A.

(Political Science)

Syllabus Prescribed for 2022-23-Year UG Programme Programme: B.A. (Political-Science)

Semester 1

Code of the Course/Subject	Title of the Course/Subject	(Total Number of Periods)
Political-Science	**Indian Political System**	**65**

COs

At the end of the course the students should be able to:

1: Understand and explain the significance of Indian constitution as the fundamental law of the land.

2: To know the making process of the constitution and salient features of Indian constitution.

3: Exercise the fundamental rights in proper sense at the same time identifies his responsibilities in national building.

4: Analyze the Indian Political System, the powers and functions of the Union, State Government in detail.

5: Critically analyzing the important institutions of Indian Union: The Executive: President, Vice-President, Prime Minister, Council of Ministers, State Executive: Governor, Chief Minister, Council of Ministers, The Legislature: Rajya Sabha, LokSabha, State Legislature, The Judiciary: Supreme Court and High Court: Composition and jurisdictions.

6: To make conscious of the social, cultural, economic and political environment that affects politics in India, at the national as well as regional levels.

Unit	Content
Unit I	1. Making of Indian Constitution: Constituent Assembly and its work. 2. Salient features of Indian Constitution 3. Preamble: Text and significance **(periods:15)**
Unit II	**Fundamental Rights and its Importance** **2. Fundamental Duties..** **3. Directive Principles of State Policy-** **(periods:14)**
Unit III	**1. President of India: Election process, Qualifications, Emoluments, Term, Powers & Functions, Constitutional position.** **2. Vice-President: Election, Qualifications, Powers and functions.** **-(periods:13)**
Unit IV	1. Prime Minister: Appointment, Powers & functions, Role. Council of Ministers. 2. Council of Ministers: Formation, Role and function **(periods:11)**
Unit V	1. Parliament: RajyaSabha and LokSabha- Composition, Powers & functions 2. Judiciary: Supreme Court- Structure, Jurisdiction, Independent judiciary **(periods:12)**
Unit VI if applicable	---------- **(periods)**
***SEM**	
COs: **1**: To improve knowledge and communication and presentation skill of the students. **2:** To encourage the students to explore new areas relevant to the topic.	
**Activities	1. 1 Seminar -Marks -10 2. Assignment - Marks -10 **(periods)**

Page **1** of **2**

Syllabus on
Environment and Sustainability

B. Sc. Zoology Semester IV

Name of the Programme: B.Sc. II **Class: Part 3S**

Semester: IV DSC-4-04S **Subject: Zoology**

Name of the course (Paper): Genetics and Ecology

Course Outcomes Code: COs-04

About the course

The course is a walk for the Bachelor's degree through the amazing diversity of living organisms from simple to complex. The course makes a detailed knowledge of genetics and ecology. It explains the inheritance of traits in animals, mechanism of linkage, crossing over and different genetic disorders. It also deals with effect of abiotic and biotic factors on organisms and structure and functioning of ecosystems.

COs:

Upon completion of this course successfully, students would be able to

1. Describe Mendel's Laws of Inheritance.
2. Differentiate between a monohybrid and a dihybrid cross.
3. Deduce the type of gene interaction from ratio of offspring.
4. Describe linkage and crossing over.
5. Describe various modes of sex determination.
6. Identify the type of syndrome from karyotype.
7. Describe various prenatal diagnostic techniques.
8. Describe effects of water, temperature and light as ecological factors.
9. Identify the type of biotic interaction from given example.
10. Describe components of ecosystem and structure of terrestrial and marine ecosystem.

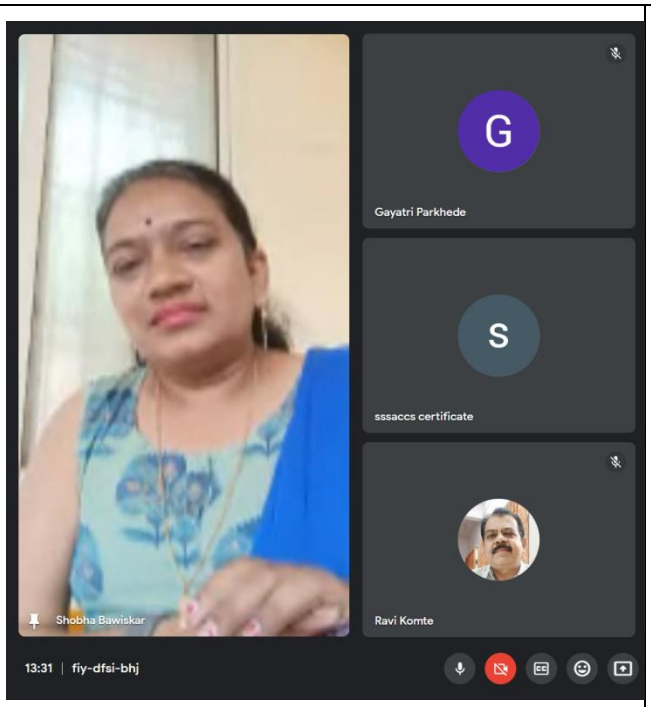
UNIT V:

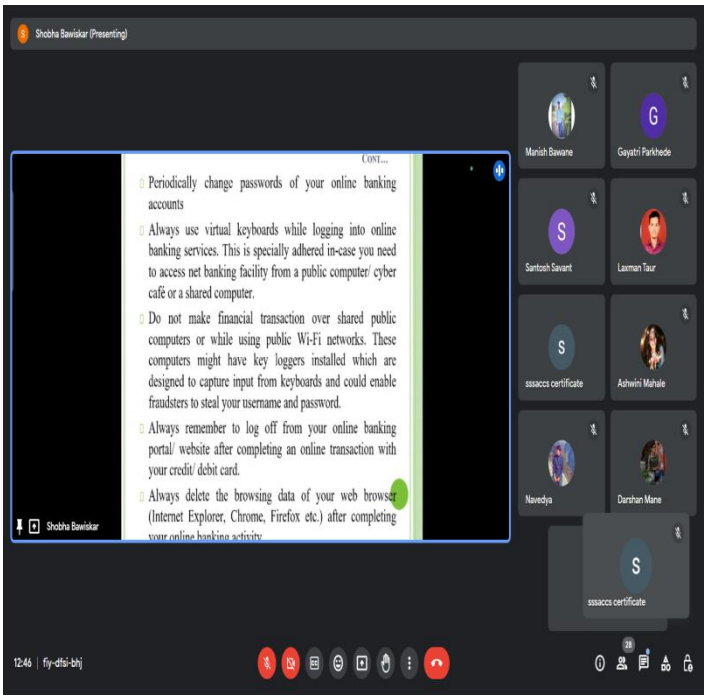
1. Water as an abiotic ecological factor.
2. Temperature: Temperature tolerance, Effects of temperature on animals. Homeotherms, poikilotherms. hibernation, aestivation.
3. Light: Biological effects of light on aquatic and terrestrial animals: Reproduction, Metamorphosis, pigmentation, vision, photokinesis, phototropism, photoperiodism,
4. Biotic factors: Intraspecific and interspecific associations: Predation, parasitism, Antagonism, commensalism, mutualism, competition (Gauze's Principle).

UNIT VI:

1. Autotrophs and heterotrophs.
2. Food chain, food web, ecological pyramids (number, energy and biomass).
3. Terrestrial ecosystem: Characteristics, types of Biomes.
4. Aquatic ecosystem: Characteristics, Fresh water ecosystems (Lentic and Lotic) and Marine Ecosystem.
5. Ecotone and Edge Effect.

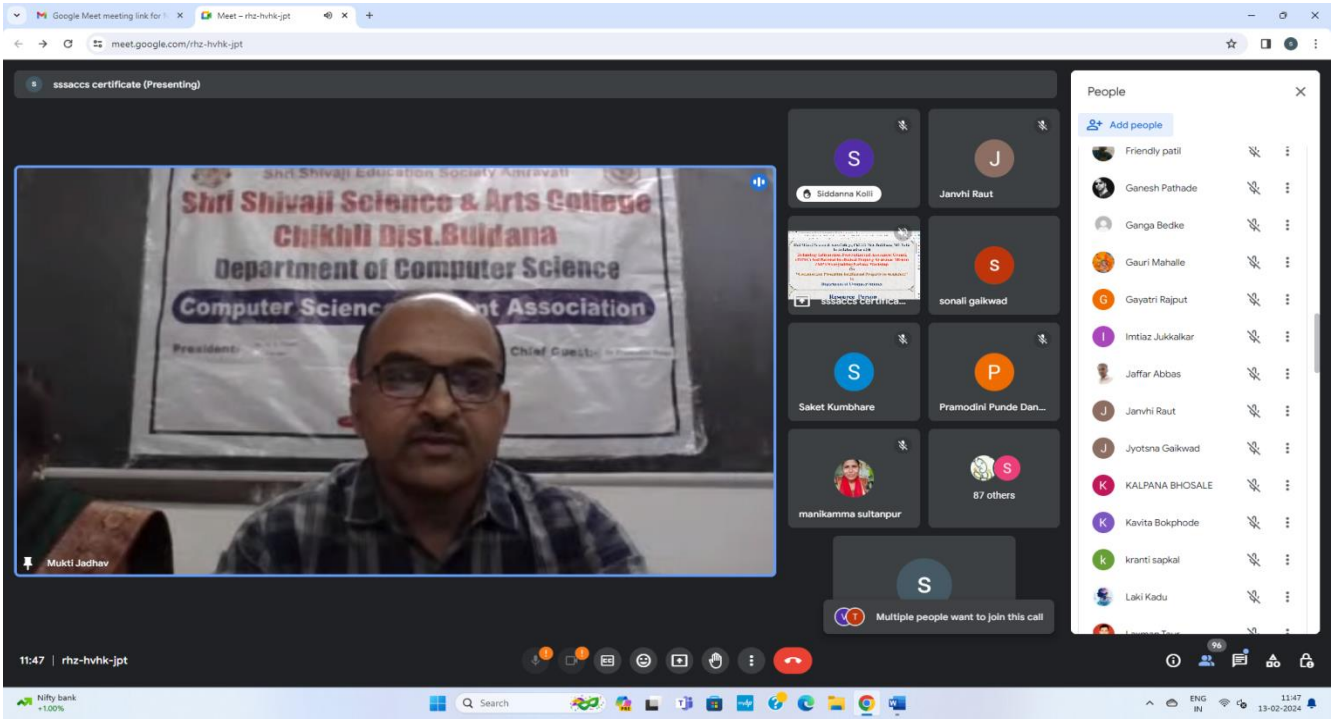
Activities Conducted for the address cross cutting issues relevant to Environment and Sustainability, Gender Sensitization, Human Values and Professional Ethics





Dr. Shobha Baviskar delivered a presentation on "The Cult Of Terror, Along with Cyber Crimes"

Date:23 August 2023



Dr. Pramodini Dange, Assistant Professor, STES's Sinhgad Institute of Business Administration and Research, Kondhwa, Pune Guided the participants in the **"Creation and Protecting Intellectual Property in Academia" Date:**13 Feb. 2024

Eco Friendly Rakhi Preparation Workshop

District Level Dish Decoration Competition from Millets

Rangoli Competition on the occasion of National Voters Day

National Voters Day Celebrations: Students and Faculty Take Oath to Exercise Right to Vote Responsibly

Rajmata Jijau Youth Self-Défense Program by Internal Complaints Committee

The Panchpran oath was taken under the program 'Meri Mati Mera Desh'

Poster Competition on Ozone inaugurated by Principal Dr. Jadhav

Honourable Principal and Staff member participated in cleanliness campaign on 1st October 2023

NSS volunteers is cleaning college campus roads.

Nest Making Workshop on World Sparrow Day

Shri Shivaji Sci. & Arts College Chikhli, Dist. Buldana

PRINCIPAL
Shri Shivaji Science & Arts College, Chikhli, Dist Buldana