

SYLLABUS

DERGAON KAMAL DOWERAH COLLEGE (AUTONOMOUS) FOUR YEARS UNDER GRADUATE PROGRAMME (FYUGP)

[AS PER NEP 2020]



COMPUTER SCIENCE (MINOR)

(Recommended by Board of studies in Computer Science, D.K.D.C. (Autonomous), in its meeting held on 00.05.2026 and approved by the Academic Council meeting held on and effective from 2026-2027)

1. THE PREAMBLE:

As recommended by Board of Studies and approved by the Academic Council of Dergaon Kamal Dowerah College (Autonomous), the Department of Computer Science works to implement the relevant components of New Education Policy (NEP), 2020 for Four Years Under Graduate Programme (FYUGP) under Choice Based Credit System (CBCS). The following facts are taken into consideration when designing the basic structure of the FYUGP programme:

- a) Flexibility to switch between disciplines of study
- b) Opportunity for learners to select the courses of their interest across all disciplines
- c) Flexible entry and exit options with UG certificates, UG diplomas, or Bachelor degrees depending on the number of credits earned
- d) Flexibility for students to switch between institutions so they can engage in multi-and/or interdisciplinary learning
- e) Flexibility to switch to alternative modes of learning
- f) Knowledge required for self-employment initiatives and entrepreneurship mindset
- g) Ability for complex critical thinking and real-life problem solving
- h) Capability to understand global issues, multicultural competence and digital literacy
- i) Capable on research skills, communication skills, community-based engagement, environment awareness, responsibility and accountability

Title of the course : Foundation of computer system and applications
 Course code : CS1MN01
 Nature of the course : Minor
 Credit : 4 (3+1)

Distribution of marks: end-semester: 45 (Th) +15 (Pr), In-semester: 30 (Th)+10 (Pr)

COURSE OBJECTIVES:

- To discuss about basics of computers and their applications.
- To explain fundamental concepts of computer hardware and software.
- To discuss about different types of operating systems and their functions.
- To familiar with a variety of computer application, including word processing, spreadsheets, databases.

Units	Contents	L	T	P	Total Hours
I (Marks) 10	History and Evolution of computer: Early calculating device, contribution of Charles Babbage, evolution from mechanical to electronic computer, generation of computers, and classification of computer.	05	01	00	06
II (Marks) 7	Introduction to computer and information technology: Introduction to computer-definition, characteristics ,capabilities and limitations, classifications of computers, generations of computers	05	01	00	06
III (Marks) 10	Computer Organizations and working : Components of computer system, input devices, output devices, computer memory. Number system	10	01	00	11
IV (Marks) 10	Computer software: Need of software, types of software, system software and application software, programming languages: machine, assembly, high level, 4GL, their merits and demerits, application software: word processing spread sheet, presentation graphics and database management system.	10	01	00	11
V (Marks) 8+15P	MS Office Suite : <u>Basics of MS- Word:</u> Creating and editing document, Formatting document, Auto-text, Autocorrect, Spelling and Grammar Tool, Page Formatting, Mail-Merge. <u>MS-Excel:</u> Introduction to MS-Excel, Creating and Editing Worksheet, Formatting and Essential Operations, Formulas and Functions, Charts. <u>MS-powerPoint :</u> Presentation, Creating, Manipulating and enhancing slides, Animations and Sounds, Excel Charts. <u>MS-Access :</u> Introduction to MS-Access, features and uses of database, opening and saving database files, understanding tables, records and fields, creating a new database.	10	01	15	26
	Total (in hrs)	40	05	15	60

Where, L-Lecture T: Tutorial P: Practical
Modes of In-Semester Assignment: (40 Marks)

- **One Internal (TH) Examination ----10 Marks**
- **One Internal (PR) Examination-----10 Marks**
- **Others**
 - **Quiz-5**
 - **Seminar presentation-5**
 - **Assignment-10**

COURSE OUTCOMES:

After the completion of this course, the learner will be able to:

- **Identify computer hardware and peripheral devices.**
- **Familiar with software applications**
- **Understand the risks of different computer viruses.**
- **Learn different DOS commands.**
- **Apply the basic concepts of a word processing package ,electronic spreadsheet and PowerPoint tool.**

SUGGESTED READINGS/ REFERENCES :

1. **“computer fundamentals”, Pradip Kr. Sinha and Priti Sinha,BPB Publication**
2. **“Computer Skill” by Vikram Gupta and S.S. Bhatia**
3. **“Computer Fundamentals” by Anita Goel.**
4. **“Fundamentals of Computer” by V.Rajaraman and Neeharika Adabala**
5. **“Fundamentals of Information Technology” by Deepak Bharijhoke**

Title of the course	:	Cyber Security and web development basics
Course code	:	CS2MN02
Nature of the course	:	Minor
Total credits	:	04(3+1)
Distribution of marks	:	End -Sem: 45 TH+15PR, In-Sem: 30 TH+10 PR

Course objectives:

- To introduce the concept of cyberspace, internet governance and cyber security issues and challenges.
- To familiarize with different types of cyber crime and legal perspective of cyber crime
- To introduce the idea of internet and web technology.
- To explain the different types web development tools.

Units	Contents	L	T	P	Total Hours
I (Marks) 10	Introduction to Cyber Security: Defining Cyberspace and Overview of computer and Web-technology, communication and web technology, internet, world wide web, concept of security, Issues and challenges of cyber security	08	01	-	09
II (Marks) 10	Cyber crime and Cyber Law: Classification of cyber crimes, Common cyber crimes, reporting cyber crimes, remedial and mitigation measures, legal perspective of cyber crime, IT Act 2000 and its amendments, cyber crime and offences, cyber security in India.	08	01	-	09
III (Marks) 10	Social media Overview and security: Introduction to Social networks, Types of Social media, Siocial media platforms, Social media privacy, challenges, opportunities and pitfalls in online social network, Security Issues relates to social media , best practices for the use of Social media.	09	01	-	10
IV (Marks) 7+5P	Introduction to web Technologies: Basics of Internet, Internet protocols, Internet vs Intranet, ISP, URLs, Email, File Transfer Protocol, Internet chatting, Web Servers, web servers, Web browsers, Search Engine.	08	02	03	10
V (Marks) 8 +10P	Web development tools: HTML5: Introduction and basic structure, standard content elements, semantics of HTML5, XML, Cascading Style Sheets, Scripting languages,	10	02	07	22
	Total(in Hrs)	43	07	10	60

Where, L:Lectures T:Tutorials P:Practicals

Modes of In-Semester Assessment: (40 Marks)

- **One Internal (TH) Examination -- 10 marks**
- **One Internal (PR) Examination -- 10 marks**
- **Others :**
 - **Quiz--5**
 - **Seminar presentation--5**
 - **Assignment--10**

Course outcomes:

- 1. Understand the concept of cyber space, communication and web technology, internet society**
- 2. Identify the different types of cyber crimes, the legal perspective of cyber crime in India**
- 3. Analyze social media platforms, their challenges, opportunities and pitfalls and the security issues relates to social media.**
- 4. Understand different web technologies.**

Suggested readings:

- 1. Introduction to Cyber Security by Anand Shinde**
- 2. Cyber Security : Understanding Cyber Crimes , Computer Forensics and Legal Perspectives by Nina Godbole and Sunit Belapure.**
- 3. Computer and Cyber Security : Principles, Algorithm, Applications and Perspective by B.B.Gupta,D.P Agrawal and Haoxiang Wang(CRC Press)**
- 4. HTML and CSS : The Complete Reference by Thomas A. Powell**
- 5. “Cyber Security And Digital Forensics” by J.B. Patel, H.K.Patel, D.K Thakar, Atul Prkashn ,**