Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

Department of Computer Science

Course Type: GE-I

Course Title: Fundamentals of Computer

Course Code: 101COS1401

Credits: 4 **Marks: 100** **Hours: 45 (T) + 30 (P)**

Learning Objectives:

LO 1. Describe basic structure of computer system, Software and Networks.
LO 2. State basic terminology of Information Technology and familiarize students with various tools.
LO 3. Memorize the basic concepts, terminology of IT and familiar with the use of IT tools.
LO 4. Recognize role of operating system in computer system and applications of computer networks.
LO 5. Identify and use Free and Open-Source Software (FOSS).

Course Outcomes:

After completion of course the student will be able to-
CO 1. Identify the components of a personal computer system.
CO 2. Demonstrate input/output unit functions.
CO 3. Demonstrate window and menu commands and how they are used.
CO 4. Use internet for navigate and search the information and communicate with the people.
CO 5. Describe and use the open-source software.

Unit No.	Title of Unit & Contents	Hrs.
I	**Introduction to Computers and Data Representation**	10
	Introduction Basic structure, ALU, Memory, CPU, I/O devices Generations of computer, Evolution of computer **Classification of computers:** Notebook computers, personal computers, Workstation, micro, mini, mainframe, super computers, Computer Codes. **Introduction to number system:** Decimal, Binary, Octal, Hexadecimal. Conversions: Binary Arithmetic, Floating point numbers.	
	Unit Outcomes: UO1: Comprehend the basic structure of computer system. UO2: Perform binary conversions and operations.	

Unit No.	Title of Unit & Contents	Hrs.
II	**Output Devices and Memory**	**12**
	Input Devices: Keyboard, Point & Draw Devices, Data Scanning Devices, Digitizer, Electronic Card Reader, Voice Recognition Devices. Output Devices: Monitor, Printer, Plotter, Screen Image Projector, Voice Response System. 1. **Memory:** RAM, ROM, PROM, EPROM, EEPROM 2. Base Memory, Extended Memory, Expanded Memory, Cache Memory 3. **Storage Devices:** Tape, FDD, HDD, CD ROM	
	Unit Outcome: UO 1: Distinguish computer memory. UO 2: Comprehend the I/O devices and usage of it.	
III	**Computer Software**	**13**
	Definition of Software Types of Software Main function of operating system Files and Directories, Types of OS Introduction to DOS Introduction to Windows, Computer Languages Structured Programming Basics of OOPs	
	Unit Outcomes: UO 1: Demonstrate and distinguish system and application software. UO 2: Work on DOS & Windows Operating System Platforms	
IV	**Introduction to Free and Open-Source Software**	**10**
	Introduction to FOSS Notion of Community–Guidelines for effectively working with FOSS community Benefits of Community based Software Development Requirements for being open Free software, open-source software Four degrees of freedom FOSS Licensing Models – FOSS Licenses – GPL- AGPL- LGPL – FDL – Implications – FOSS examples. Free and Open-Source Tool: Google Drive	
	Unit Outcomes: UO 1: Describe the Free and Open-Source Software UO 2: Work on google drive	
V	**Practical**	**30**
	Perform 8 Practical on above contents	

Learning Resources:

1. Computer Fundamentals, P. K. Sinha, BPB Publications
2. Fundamental of Computers, E Balaguru Swamy, TataMc- Graw Hill Publishing Co. Ltd.-New Delhi
3. Computer Fundamentals, Ankita Goel, Pearson Publications
4. Fundamentals of Computer Science, V. Rajaraman and N. Adabala, Prentice Hall India Learning Private Limited Publications
5. DOS: Disk Operating System, Dr Suhas Rode
6. Networking Essentials, Jeffery S Beasley, Pearson Publications
7. Windows Operating System Fundamentals, Crystal Panek, Publisher(s): Sybex 2019
8. https://www.geeksforgeeks.org/basics-computer-networking/
9. https://mycsvtunotes.weebly.com/uploads/1/0/1/7/10174835/computer_fundamental_complete-i.pdf
10. https://www.w3schools.com/c/index.php