

Rajarshi Shahu Mahavidyalaya, (Autonomous), Latur

Department of Computer Science

Teaching Plan (Semester-I)

(September -2021 to December-2021)

Name of the Teacher: Mr. Arun S Shinde

1. Details of Classes to be taught

Sr. No.	Class	Subject	Course code and title	Total Lectures
1	B Voc FY	Computer Technology	Introduction to IT (General Education) CT.GE.103	60
2	B Voc FY	Computer Technology	Office Automation Tool (Skill Component) CT.SC.102	60
3	B SC FY	Computer Science	Fundamentals of Computer CCOS-1 Section –A	45
4	M SC CS FY	Computer Science	Object Oriented Programming using Python M. Sc. CS-CC-3	60

Course: Introduction to IT (General Education) (B. Voc-FY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>Unit 1: Introduction to Computers Introduction, Definition, Characteristics of computer,</p> <p>Evolution of Computer, Block Diagram of a computer, Generations of Computer, Classification of Computers,</p> <p>Applications of Computer, Capabilities and limitations of computer.</p>	<p>05</p> <p>05</p> <p>05</p>	<p>21/09/2021 to 27/09/2021</p> <p>28/09/2021 to 06/10/2021</p> <p>08/10/2021 to 15/10/2021</p>	<p>Computer Generations Presentation Chart</p>	
2	<p>Unit II: Basic Computer Organization Role of I/O devices in a computer system. Input Units: Keyboard, Terminals and its types.</p> <p>Pointing Devices, Scanners and its types, Voice Recognition Systems,</p>	<p>05</p> <p>05</p>	<p>16/10/2021 to 23/10/2021</p> <p>25/10/2021 to 01/11/2021</p>	<p>Handling Hardware Components Of PC</p>	<p>Unit Test I</p>

	Vision Input System, Touch Screen, Output Units: Monitors and its types. Printers: Impact Printers and its types. Non-Impact Printers and its types, Plotters, types of plotters, Sound cards, Speakers.	05	02/11/2021 to 09/11/2021		
3	Unit III Storage Fundamentals Primary Vs Secondary Storage, Data storage & retrieval methods. Primary Storage: RAM ROM, PROM, EPROM, EEPROM. Secondary Storage: Magnetic Tapes, Magnetic Disks, hard disks, Floppy disks, Optical Disks, Compact Disks, Zip Drive, Flash Drives.	05 05 05	12/11/2021 To 19/11/2021 20/11/2021 To 27/11/2021 29/11/2021 To 06/12/2021	Collection Of All Storage Devices	
4	Unit IV Computer Arithmetic and Basics of Internet Binary, Binary Arithmetic, Number System: Positional & Non-Positional, Binary, Octal, Decimal, Hexadecimal, Converting from one number system to another,	05	17/12/2021 To 24/12/2021	Online Open Book Quiz in All Units I To IV	Activity Based Unit Test II

	Logic Gates: AND, OR, NOT, NAND, NOR, XOR, XNOR History of Internet, Applications of Internet, Web browsers, web Servers, creating email accounts, Managing emails, Search engines	05	25/12/2021 To 01/01/2022		
		05	03/01/2021 To 10/01/2021		

Course: Office Automation Tools (B. Voc-FY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>Unit I: Word Processing</p> <p>Introduction, Features, Creating, Saving and Opening Documents in Word, Interface, Toolbars, Ruler,</p> <p>Menus, Keyboard Shortcut, Editing, Previewing, Printing, formatting a Document, Find & Replace,</p> <p>Using Thesaurus, Using Auto-Multiple Functions, Mail Merge, Handling Graphics, Tables & Charts, Converting a word document into various formats like- HTML,PDF etc.</p>	<p style="text-align: center;">05</p> <p style="text-align: center;">05</p> <p style="text-align: center;">05</p>	<p style="text-align: center;">22/09/2021 To 29/09/2021</p> <p style="text-align: center;">30/09/2021 To 07/10/2021</p> <p style="text-align: center;">08/10/2021 To 15/10/2021</p>	<p>Presentation on Various Office Tools Like MS Office, Libre Office, WPS Office Google Docs, Sheets & Presentations</p>	
2	<p>Unit II Spreadsheet</p> <p>Introduction, Worksheet basics, creating worksheet, heading information, data, text, dates, alphanumeric values, saving worksheet.</p> <p>Toolbars and Menus, Keyboard shortcuts, working with single and multiple workbooks, working with formula & cell</p>	<p style="text-align: center;">05</p> <p style="text-align: center;">05</p>	<p style="text-align: center;">16/10/2021 To 23/10/2021</p> <p style="text-align: center;">27/10/2021 To 03/11/2021</p>	<p>Assignment of creating a spreadsheet to calculate Internal Examination Merit list Using Various Excel Formulas</p>	<p>Unit Test I</p>

	<p>referencing, Auto sum, Absolute & relative addressing, Worksheet with ranges, formatting of worksheet,</p> <p>Previewing & Printing worksheet, Graphs and charts, Creating and Using macros, Multiple worksheets- concepts, creating and using.</p>	05	<p>04/11/2021 To 12/11/2021</p>		
3	<p>Unit-III Presentation</p> <p>Creating slide show with animations. Auto-content Wizard, creating a blank presentation, auto-layout,</p> <p>Power point screen: screen layout and Views, insert a new slide, applying design template, changing slide layout, reordering and hiding slides, slide show and editing custom slide. Resizing a text box ,Text box properties, Delete a text box, Bulleted lists, Numbered lists,</p> <p>Adding notes, Video and Audio, adding text Editing options, Formatting text, replace fonts, Line spacing, change case Spelling check, Color schemes , adding clip art, adding an image from a file Editing graphic, AutoShapes,WordArt,</p>	05	<p>13/11/2021 To 20/11/2021</p>	<p>Assignment of Creating a Departmental Presentation Using PowerPoint</p>	--
		05	<p>24/11/2021 To 01/12/2021</p>		
		05	<p>02/12/2021 To 09/12/2021</p>		

	Backgrounds, Action buttons Slide animation preview Slide transitions Slide show options Slide master Header and footer Slide numbers Date and time.				
4	<p>Unit IV: Database: Access basics, Database concepts and terminology</p> <p>Creating Databases, Using the table wizard, working in design view,</p> <p>Working with Fields and Records: Changing the Design of a table, Adding and deleting records, Closing a database and Access.</p>	05 05 05	10/12/2021 To 17/12/2021 18/12/2021 To 25/12/2021 29/12/2021 To 05/01/2021	Database Application To Calculate Dues of Internal Examination	Activity Based Unit Test II

Course: Fundamentals of Computer (B. Sc FY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	UNIT I: Introduction to Computers and Data Representation Introduction Basic structure, ALU, Memory, CPU, I/O devices Generations of computer, Evolution of computer	05	22/09/2021 To 29/09/2021	Computer Generation Presentation	
	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	06	04/10/2021 To 13/10/2021		--

2	<p>UNIT II: Input / Output Devices and Memory</p> <p>Input Devices: Keyboard, Point & Draw Devices, Data Scanning Devices, Digitizer, Electronic Card Reader, Voice Recognition Devices.</p> <p>Output Devices: Monitor, Printer, Plotter, Screen Image Projector, Voice Response System.</p> <p>Memory: RAM, ROM, PROM, EPROM, EBase Memory, Extended Memory, Expanded Memory, Cache Memory</p> <p>Storage Devices: Tape, FDD, HDD, CD ROM EPROM</p>	05	18/10/2021 To 26/10/2021	Display Of All Hardware Components of PC	Unit Test I
3	<p>Unit III Computer Software and Introduction to OOPs</p> <p>Definition of Software, Types of Software, Operating System</p> <p>Main function of operating system, Files and Directories, Types of OS Introduction to DOS, Introduction to Windows,</p> <p>Structured Programming, What is OOPs? Basics of OOPs</p>	08	10/11/2021 To 29/11/2021	Presentation on Types of Software Development Techniques (POP, OOP) With Practical	--
		03	30/11/2021 To 06/12/2021		

4	<p>UNIT IV: Computer Networks and Introduction to Internet</p> <p>Definition of computer network Network types: LAN, MAN and WAN, Network Topologies: Star, Ring, Hybrid Network, Wireless Networks, Different Search Tools, Web Browsers,</p> <p>Definition, Uses of Internet Basic Services: Electronic mail, File Transfer Protocol, Telnet</p>	06	07/12/2021 To 20/12/2021	Presentation On Different Networking Devices	Activity Based Unit Test II
		05	21/12/2021 To 29/12/2021		

Course: Object Oriented Programming using Python (M. Sc. CS FY)

1. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>Unit I: Introduction to Python Installation and Working with Python, Understanding Python variables, Python basic Operators, Understanding python blocks,</p> <p>Declaring and using Numeric data types: int, float, complex, Using string data type and string operations, Defining list and list slicing, Use of Tuple data type,</p> <p>Conditional blocks using if, else and elif, Simple for loops in python, For loop using ranges, string, list and dictionaries, Use of while loops in python, Loop manipulation using pass, continue, break and else, Programming using Python conditional and loops block</p>	<p>05</p> <p>05</p> <p>05</p>	<p>27/09/2021 To 01/10/2021</p> <p>04/10/2021 To 08/10/2021</p> <p>09/10/2021 To 14/10/2021</p>	<p>Presentation on Python International Certification Path /Track</p>	--

2	<p>Unit II: Python Functions, Modules and Packages</p> <p>Organizing python codes using functions, Organizing python projects into modules, Importing own module as well as external modules,</p> <p>Understanding Packages, Powerful Lamda function in python, Programming using functions, modules and external packages, Building blocks of python programs,</p> <p>Understanding string in build methods, List manipulation using in build methods, Dictionary manipulation, Programming using string, list and dictionary in build functions.</p>	05	15/10/2021 To 19/10/2021	Presentation On Python Functions, Modules, Packages	Unit test-I
3	<p>Unit III: Python File Operation and OOPs</p> <p>Reading config files in python, Writing log files in python, Understanding read functions, read(), readline() and readlines(), Understanding write functions, write() and</p>	04	01/11/2021 To 04/11/2021		<p>Seminar on Date:05/11/2021, 06/11/2021</p>

	writelines(), Manipulating file pointer using seek, Programming using file operations, Concept of class, object and instances, Constructor, class attributes and destructors, Real time use of class in live projects inheritance,	06	08/11/2021 To 16/11/2021		Seminar on Date:12/11/2021, 13/11/2021
	overlapping and overloading operators, Adding and retrieving dynamic attributes of classes, Programming using OOPs support.	05	18/11/2021 To 25/11/2021		Seminar on Date:19/11/2021, 20/11/2021
4	UNIT IV: Python Regular Expression, Exception Handling & Database Interaction Powerful pattern matching and searching, Power of pattern searching using regex in python, Real time parsing of networking or system data using regex, Password, email, url validation using regular expression, Pattern finding programs using regular expression, Avoiding code break using exception handling, Safe guarding file operation using exception handling, Handling and helping developer with	10 08	29/11/2021 To 09/12/2021 11/12/2021 To 18/12/2021	Presentation on International Database Certifications	Seminar on Date:26/11/2021, 27/11/2021 Activity based Unit Test- II

	error code, Programming using Exception handling, SQL Database connection using python, Creating and searching tables, Reading and storing config information on database, Programming using database connections	10	20/12/2021 To 31/12/2021		
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Mr Arun S Shinde

**Name of the Teacher
and Signature**

Head of Department

Principal

Rajarshi Shahu Mahavidyalaya, (Autonomous), Latur

Department of Computer Science

Teaching Plan (Semester-II/IV/VI)

(December-2021 to April-2022)

Name of the Teacher: Mr. Arun S Shinde

1. Details of Classes to be taught

Sr. No.	Class	Subject	Course code and title	Total Lectures
1	B SC TY VI Sem	Computer Science	U-COS-642 Introduction to Python Programming –XII A	45
2	B Voc SY IV Sem	Computer Technology	CT.GE.402 Basics of Networking (General Education)	60
3	B Voc SY IV Sem	Computer Technology	CT.SC.402 Introduction to Python Programming (Skill Component)	60

Course: Introduction to Python Programming –XII A (B. Sc. - TY)

2. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>UNIT I: Beginning Python Introduction, History, important features,</p> <p>overview of python and installation.</p> <p>Lexical Matters: Lines, Comments, Names and Tokens, Doc Strings.</p>	<p>3</p> <p>3</p> <p>3</p>	<p>20/12/2021 To 22/12/2021</p> <p>27/12/2021 To 29/12/2021</p> <p>03/01/2022 To 05/01/2022</p>	<p>Presentation on different Programming Paradigm like POP, OOP, Event Driven etc</p>	
2	<p>UNIT II: Getting Started Simple Program, Identifiers, Reserved Words, Multi-Line Statements,</p> <p>variables, assignment, Operators,</p> <p>Numbers (int, long, float and complex), Strings.</p>	<p>3</p> <p>3</p> <p>3</p>	<p>10/01/2022 To 12/01/2022</p> <p>17/01/2022 To 19/01/2022</p> <p>24/01/2022 To</p>	<p>Presentation on Job Opportunities in Python Programming Language</p>	Unit Test I

	<p>Decision and Looping Statements , Introduction to decision statement,</p> <p>If, if—else, if-elif-else while loop, for loop, nesting of loop,</p> <p>break, continue and pass statement.</p>	<p>3</p> <p>3</p>	<p>26/01/2022</p> <p>31/01/2022 To 02/02/2022</p> <p>07/02/2022 To 08/02/2022</p>		
3	<p>UNIT III: Sequence: String, List, Tuples and Error, exceptions</p> <p>Strings, Strings and Operators, String Built-in methods,</p> <p>Lists, List type built-in method, Tuples, Special features of Tuples.</p> <p>What are exceptions?, exceptions in Python, Detecting and handling exceptions, Raising exception,</p> <p>Assertions, Standard exceptions, creating exceptions.</p>	<p>03</p> <p>03</p> <p>03</p> <p>03</p>	<p>14/02/2021 To 16/02/2022</p> <p>21/02/2022 To 23/02/2022</p> <p>26/02/2022 To 02/03/2022</p> <p>07/03/2022 To 09/03/2022</p>	<p>Presentation On Python Programming Certification Path</p>	

4	Unit IV: Functions, Class and OOPs	03	14/03/2022	Open Book Quiz on All Units I To IV	Activity Based Unit Test II
	What are functions, Calling functions, creating functions, passing functions,		To 16/03/2022		
	formal arguments, positional arguments, default arguments, variable length argument, recursion ,	03	21/03/2022		
	Introduction, OOP, Classes, Class attributes, Instances, Instance attribute, building and Method of invocation, Sub classing and derivation,	03	To 06/04/2022		
	Inheritance, Bult-in functions for classes, instances and other objects, Privacy.	03	11/04/2022		
			To 13/04/2022		

Course: Basics of Computer Networks (B. Voc. SY)

2. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	<p>Unit I Introduction to Communication and Networks</p> <p>Concept of communication system, Analog and Digital Communication,</p> <p>Data communication modes, Synchronous and Asynchronous transmission, Simplex, half-duplex, full-duplex communication,</p> <p>Networking Protocols and Standards, Layering, encapsulation, End-to-end argument.</p> <p>Protocol design issues, Network Applications.</p> <p>What is a computer Network? Components of a computer network, Use of Computer networks, network terminologies,</p>	<p>2</p> <p>3</p> <p>3</p> <p>2</p> <p>3</p>	<p>20/12/2021 To 21/12/2021</p> <p>22/12/2021 To 27/12/2021</p> <p>28/12/2021 To 30/12/2021</p> <p>03/01/2022 To 04/01/2022</p> <p>05/01/2022 To 10/01/2022</p>	<p>Presentation/ Demonstration of Hardware Components Required For Networking</p>	

	<p>Classification of networks, Network topologies: Bus, Ring, Mesh, Star, Tree.</p> <p>Switching; Circuit switching, Message switching, Packet switching,</p> <p>Multiplexing; FDM – Frequency division multiplexing, WDM – Wavelength division multiplexing, TDM – Time division multiplexing.</p> <p>The OSI Reference Model, The TCP/IP Reference Model, Comparison of the OSI & the TCP/IP Reference Models.</p>	<p>2</p> <p>4</p> <p>4</p> <p>3</p>	<p>11/01/2022 To 12/01/2022 13/01/2022 To 19/01/2022</p> <p>20/01/2022 To 27/01/2022</p> <p>31/01/2022 To 02/02/2022</p>		
2	<p>Unit II Communication Mediums and Network devices</p> <p>Transmission medium; Guided & Unguided Transmission medium, Twisted pair, Coaxial cable, Optical fiber,</p> <p>Wireless transmission; Electromagnetic spectrum, Radio transmission, Microwave transmission.</p> <p>Networking devices: Repeaters, Hubs, Switches, Bridges, Routers, Gateways .</p>	<p>2</p> <p>2</p> <p>2</p>	<p>03/02/2022 To 07/02/2022</p> <p>08/02/2022 To 09/02/2022</p> <p>10/02/2022 To 14/02/2022</p>	<p>Demonstration on Cables, RJ 45 Connector</p>	<p>Unit Test I</p>

	Other Devices: Modems, Proxy Server, Wireless router.	2	15/02/2022 To 16/02/2022		
3	Unit III Physical and Data Link Layer Design issues of Physical layer and data link layer, Error detection and correction, CRC, Framing, Retransmission strategies, Multi-access communication, CSMA/CD, Ethernet, Addressing, ARP and RARP. Protocols for Physical and data link layer	4 4 4	17/02/2022 To 23/02/2022 24/02/2022 To 02/03/2022 03/03/2022 To 09/03/2022	Demonstration on Devices Like Switch, Routers Etc	--
4	Unit IV Network, Transport and Application layer Network Layer Circuit and packet switching, Routing, Congestion control, Routing protocols: distance vector vs link-state routing, DV problems, Network Addressing, Forwarding, Fragmentation Error Messaging Services.	4 4 5	10/03/2022 To 16/03/2022 17/03/2022 To 23/03/2022 24/03/2022 To 31/03/2022	Demonstrating Videos For Packet Transmission & Data Flow in Network	Activity Based Unit Test II

	<p>Transport Layer Addressing and multiplexing, Flow control, Congestion control,</p>	04	<p>04/04/2022 To 07/04/2022</p>		
	<p>Data transport, Port numbers, service models, Intro to reliability, QoS. Application Layer</p>	02	<p>11/04/2022 To 12/04/2022</p>		
	<p>DNS, Remote Logging, File transfer, Network Management, client-server applications, WWW, E-mail, MIME</p>	02	<p>13/04/2022 To 14/04/2022</p>		

Course: Introduction to Python Programming (B. Voc. SY)

2. Summary of Lesson Plan

Sr. No.	Unit and Chapter to be covered	Expected No. of Lectures	Date	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Unit I : Introduction Introduction to Python Programming Language, Python Data, Variables, Expressions and Statements, Values and Data Types, Type Conversion Functions, Operators and Operands, Input Functions, Boolean Expressions, Logical operators, Conditional Execution, Unary Selection, Nested conditionals, Chained conditionals, Boolean Functions, Iteration, The for loop, The while Statement.	4 4 4 4	17/12/2021 To 21/12/2021 24/12/2021/ To 28/12/2021 31/12/2021 To 07/01/2022 08/01/2022 To 14/01/2022 15/01/2022 To 21/01/2022	Presentation on Programming Language Paradigm	--

2	<p>Unit II: Strings, Lists and Tuples in Python</p> <p>Strings, Operations on Strings, Index Operator, String Methods, Length, The Slice Operator,</p> <p>Lists, Accessing Elements, List Membership, Concatenation and Repetition, List Slices, List Deletion, List Methods,</p> <p>Tuples, Tuple operators and built-in functions, Tuples and Mutability, Tuple Assignment, Tuples as Return Values.</p>	<p>4</p> <p>4</p> <p>4</p>	<p>22/01/2022 To 28/01/2022</p> <p>29/01/2022 To 04/02/2022</p> <p>05/02/2022 To 11/02/2022</p>	<p>Presentation on Python International Certification Path /Track</p>	<p>Unit Test I</p>
3	<p>Unit III: Dictionary and File handling and OOP's</p> <p>Dictionaries, Dictionary Operations, Dictionary Methods, Dictionary Keys,</p> <p>Aliasing and Copying, Sparse Matrices, Working with Data Files,</p> <p>Finding a File on your Disk, Reading a File, Iterating over lines in a file, Writing Text Files.</p> <p>Object oriented Programming and Classes in Python:</p> <p>Creating Classes, Instance Objects Accessing Members, Constructor, Method Overloading , Inheritance,</p>	<p>4</p> <p>4</p> <p>4</p> <p>5</p>	<p>12/02/2022 To 18/02/2022</p> <p>19/02/2022 To 25/02/2022</p> <p>26/02/2022 To 04/03/2022</p> <p>05/03/2022 To 11/03/2022</p>	<p>Presentation On Python Functions, Modules, Packages</p>	<p>--</p>

4	Unit IV: Regular Expression and Exception Handling	5	12/03/2022 To 19/03/2022	Activity Based Unit Test II
	Regular Expressions, Exceptions, Standard Exceptions, Exceptions Syntax, The try/except/else Statement,			
	The try/finally Statement, Unified try/except/finally, The raise Statement, The assert Statement, with/as Context Managers	5	21/03/2022 To 28/03/2022	
	String-Based Exceptions, Class-Based Exceptions, General raise Statement Forms,	5	29/03/2022 To 05/04/2022	
	Catch All Exceptions, Catch A Specific Exception, Catch Multiple Specific Exceptions, Clean-up After Exceptions.	5	08/04/2021 To 15/04/2022	

Mr Arun S Shinde

**Name of the Teacher
and Signature**

Head of Department

Principal