

# **Sri Sathya Sai College for Women, Bhopal**

**(An Autonomous College affiliated to Barkatullah University, Bhopal)**

**(NAAC Accredited 'A' Grade)**



## **SYLLABUS**

### **UG**

### **SESSION- 2021-22**

**Course Type: Certificate Course**

## **MS Office**

**PRINCIPAL**  
Sri Sathya Sai College  
For Women, Bhopal (M.P.)

## Sri Sathya Sai College for Women, Bhopal

(An Autonomous College affiliated to Barkatullah University, Bhopal)

Department of Higher Education, Govt of M.P.

As recommended by Central board of Studies Approved by HE the Governor of M.P.

Session 2021-22

(New Education Policy-2020)

Part A : Introduction			
Program: CERTIFICATE	Class :UG	Year : I Year	Session 2021-2022
Subject : M.S Office			
1. Course Code	S1-COAP2G		
2. Course Title	M.S. Office		
3. Course Type	Elective		
4. Pre-requisite (If any)	Students Should have a basic understanding of Computer peripherals like mouse, keyboard, monitor, Screen, etc. and their basic Operations.		
5. Course Learning Outcomes (CLO)	<p><b>On the completion of this course student will be able-</b></p> <ul style="list-style-type: none"> <li>To Create and manage professional documents using word.</li> <li>Analyze, manage and present data using excel.</li> <li>Create and manage presentation using power point.</li> <li>To insert a table, picture, or drawing into the document.</li> <li>To prepare the document to be sent as a circular letter.</li> </ul>		
6. Credit Value	2	ELECTIVE Th - 4 Pr - 2 ADDITIONAL COURSE Th - 1 Pr - 3	
7. Total Marks	Max.Marks : 25+75		Min. Passing Marks : 33
<b>Part B : Content of the Course M.S. OFFICE</b>			
<b>Unit</b>	<b>Topics</b>		
I	<p><b>MS. Word:</b> Introduction, Feature &amp; area of use. Working with MS Word: Ribbon tabs- Homes, Insert , Page Layout, Reference, Mailings, Review and View, Using word to create a new document, open, Save and print a document, edit and format text, change the page layout background and borders, insert headers and footers, insert and edit tables, insert clip art and pictures to documents. Formatting Fonts in word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Data and Time option in Word. Creating project abstract Features to be Covered:- Formatting Styles, Inserting Table, Bullets and Numbering Changing Text Direction, Cell alignment, Footnote,Hyperlink, Symbols, Spell Check, Track, Changes.</p>		
II	<p>Creating a Newsletter: Features to be Covered:- Table of Content, Newspaper columns , Image from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes and Paragraphs</p> <p>Creating a Feedback form- Features to be covered – Forms, Text Fields Inserting Objects Mail Merge: Creating Custom document, Creating main document. Crating data source, editing data source, Opening a data source, sorting the data source, finding a record in data sources, editing main document, sorting merged documents, filtering merged</p>		

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	documents, printing merged documents, Merging onto) letterhead, using different data sources with a single main document
III	<p><b>MS EXCEL</b> : Introduction to excel interface understanding rows and columns, Naming cells, Working with excel workbook and sheets Formatting excel work book, New, Open, Close, Save, Save As Formatting Text: Font size Font Style, Font Color, Use the Bold, Italic, and Underline Wrap text, Merge and Centre Currency, Accounting and other formats, Modifying Columns Rows &amp; Cells, Perform Calculations with Functions, Creating Simple Formulas Setting up your own formula, Date and Time Functions, Financial Functions Logical Functions, Lookup and Reference, Functions.</p> <p><b>Calculations</b>-Features to be covered : Cell Referencing, Formulae in excel- average, Standard deviation, Charts, Renaming and Inserting worksheets, Hyper Linking, Count function, Mathematical Functions, Statistical Functions, Text Functions. Sort and Filter Data with Excel Sort and Filtering data Using number filter, Text filter, Custom filtering Removing filters from columns, Conditional formatting.</p>
IV	<p>Create Effective charts to Present Data Visually inserting Column, Pie chart etc. Create an effective chart with Chart Tool, Design, Format, and Layout options, Adding chart title, Changing layouts, Chart Styles, Editing chart data rang Editing data series, Protecting and Sharing the work book Protecting a workbook with a password. Allow user to edit ranges, Track changes, Working with Comments.</p> <p>Insert Excel Objects and Charts in Word, Use Macros to Automate Tasks creating and Recording Macros, Assigning Macros to the work sheets, Saving Macro enabled workbook.</p> <p>Performance Analysis – Features to be Covered: Split Cells, freeze panes, group and outline, Sorting Boolean and logical Operators, Conditional formatting Cricket Score Card creation – Features to be covered:- Pivot Tables Interactive Buttons, Importing Data, Data Protection Data Validation</p>
V	<p><b>Creating PowerPoint Presentations:</b> Making Presentation which demonstrate use of Hyperlinks, Inserting –Images Clip Art, Audio Video, Objects Table and Charts. Create Master Layouts (Slide, Template, and notes), Types of View (basic, Presentation, Slide Slotter, notes etc,) Inserting – Background, textures, Design Templates, Hiddent slide, Auto Content Wizard, Slide Transition, Custom Animation, Auto Rehearsing</p>
<b>Part C: Learning Resources</b>	
	<p><b>Suggested Digital Platforms, Web Links</b></p> <ol style="list-style-type: none"> <li><a href="https://www.youtube.com/watch?v=Zv3XMBb3V6A">https://www.youtube.com/watch?v=Zv3XMBb3V6A</a></li> <li><a href="http://www.digimat.in/nptel/courses/video/121106007/L12.html">http://www.digimat.in/nptel/courses/video/121106007/L12.html</a></li> <li><a href="https://www.webucator.com/how-to/how-use-mail-merge-microsoft-word.cfm">https://www.webucator.com/how-to/how-use-mail-merge-microsoft-word.cfm</a></li> <li><a href="https://support.microsoft.com/en-us/office/create-pivottable-or-pivotchart-view-in-an-access-desktop-database-83e524df-dfbd-456d-9dd0-0a48c1aa6752">https://support.microsoft.com/en-us/office/create-pivottable-or-pivotchart-view-in-an-access-desktop-database-83e524df-dfbd-456d-9dd0-0a48c1aa6752</a></li> <li><a href="https://support.microsoft.com/en-us/office/create-a-pivottabel-to-analyze-worksheet-data-a9a84538-bfe9-40a9-a8e9-f99134456576">https://support.microsoft.com/en-us/office/create-a-pivottabel-to-analyze-worksheet-data-a9a84538-bfe9-40a9-a8e9-f99134456576</a></li> </ol> <p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"> <li>Microsoft Office 97 : Will Train, Gini Courter, Annette Marquis BPB Publication.</li> <li>MS Office 2000 for Everyone:</li> <li>Writer's Guide to Microsoft Word : Kari Holloway</li> <li>Access 2016 Bible: Michael Alexander, Richard Kuselikha</li> <li>Excel 2019 : Greg Harvey</li> </ol> <p>Microsoft Powerpoint Made Easy : chris Smith</p>

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	<b>Part D : Assessment and Evaluation (Theory)</b>		
	<b>Maximum Marks:</b>		<b>100</b>
	<b>Continued Comprehensive Evaluation</b>		<b>25</b>
	<b>University Exam (UE) :</b>		<b>75</b>
	<b>Time :02:00 Hours</b>		
	<b>Internal Assessment : Continued Comprehensive Evaluation (CCE):</b>	<b>Class Test</b>	<b>15</b>
		<b>Assignment/Presentation</b>	<b>10</b>
		<b>Total</b>	<b>25</b>
	<b>External Assessment: University Exam</b>	<b>Section (A) : Three Very Short Question (50 words each)</b>	<b>03×03=09</b>
		<b>Section (B) Four Short Questions (200 Words each)</b>	<b>04×09=36</b>
		<b>Section (C) : Two Long Questions (500 Words each)</b>	<b>02× 15=30</b>
		<b>Total</b>	<b>75</b>

<b>Part –A Introduction</b>			
<b>Program: Certificate</b>	<b>Class : UG I</b>	<b>Year : 2021</b>	<b>Session :2021-2022</b>
	<b>Subject : Computer Application</b>		
1.	<b>Course Code</b>	<b>SI-COAP2A</b>	
2.	<b>Course Title</b>	<b>MS Office (Practical)</b>	
3.	<b>Course Type</b>	<b>General Elective</b>	
4.	<b>Pre-requisite (If any)</b>		
5.	<b>Course Learning Outcomes (CLO)</b>	<p>On the completion of this course student will be able.</p> <ul style="list-style-type: none"> <li>• To use keyboard shortcuts to performs tasks.</li> <li>• To create a new document, open, save and print a document.</li> <li>• To edit and format text, change the page layout, background and borders.</li> <li>• To modify power point custom template presentation.</li> <li>• To insert clip art and pictures to documents.</li> <li>• To navigate the start menu to locate programs. Files, and setting &amp; Create files and folders.</li> <li>• To create a word document with customized template.</li> </ul>	
6.	<b>Credit Value</b>	<b>2</b>	
7.	<b>Total Marks</b>	<b>Max. Marks : 25+75</b>	<b>Min. Passing Marks:33</b>
<b>Part – B Content Of the Course MS office (Practical)</b>			

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**Practical Lab will be conducted based on the theory syllabus**

**List of Practical**

1. Create a document and apply different formatting options.
2. Design a Greeting Card using word art and smart arts for different festivals.
3. Create your biodata and use page borders and shading.
4. Create a document and insert header and footer, page title etc.
5. Create a document, set the margins, orientation, size, Column, Water mark, page, color and page borders etc.
6. Insert a table into the document. Prepare a mark sheet of your class subjects.
7. Apply the creating, editing, saving, printing securing & protecting operations to an excel spreadsheets.
8. Prepare a bar chart & pie chart for analysis of five year results of your institute.
9. Work on the following exercise on a workbook:
  - a. Copy an existing Sheet
  - b. Rename the old Sheet
  - c. Insert a new Sheet into an existing Workbook
  - d. Delete the renamed Sheet.
10. Prepare an Attendance sheet of 10 students for any 6 Subjects of your syllabus. Calculate their total attendance, total percentage of attendance of each student & average of attendance, if formulae for calculating grade based on percentage.
11. Create a worksheet on Students list of any 4 faculties and perform following database functions on it.
  - a. Sort data by Name
  - b. Filter data by Class
  - c. Subtotal of no. of students by Class.
12. Apply themes and layouts to power point slides and insert pictures. Graphics, shapes, and tables into presentation.
13. In power point slide make use of adding transitions and animation & Working with master Slides.
14. Create a excel worksheet and perform computations using available data and using mathematical functions chosen from menus.

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**Part -C**

**Learning Resources**

**Suggested Digital Platforms, Web links**

1. <https://www.youtube.com/watch?v=Zv3xMBb3V6A>
2. [https:// www.digimat.in/nptel/courses/video/121106007/L12.html](https://www.digimat.in/nptel/courses/video/121106007/L12.html)
3. <https://www.webucator.com/how-to/how-use-mail.merge-microsoft-word.cfm>
4. <https://support.microsoft.com/en-us/office/create-pivottable-or-pivotchart-views-in-an-access-desktop-database-83e524df-dfbd-456d-9dd0->
5. <https://support.microsoft.com/en-us/office/create-a-pivottable-to-analyze-worksheet-data-a9a84538-bfe9-40a9-a8e9-f99134456576>

**Suggested Readings:**

- 1 Microsoft office 97 : will Train, Gini Courter, Annette Marquis,BPB Publication.
- 2 MS Office 2000 for Everyone: Saxena Sanjay, S Schnd
- 3 Writer's Guide to Microsoft word: Kari Holloway
- 4 Access 2016 Bible : Michael Alexander, Richard Kusleika
- 5 Excel 2019 : Greg Harvey
- 6 Microsoft PowerPoint Made Easy : Chris Smith

**Part D: Assessment and Evaluation (Practical)**

<b>Maximum Marks:</b>		<b>100</b>	
<b>Continued Comprehensive Evaluation (CCE):</b>		<b>25</b>	
<b>University Exam (UE) :</b>		<b>75</b>	
Internal Assessment	Marks	External Assessment	Marks
Class Interaction	10	Vivo vOce on Practical	15
Attendance	5	Practical Record File	10
Assignment (Charts/Seminar /Technology Dissemination/Report of Excursion /Lab Visits. Survey/ Industrial Visit	10	Table Work /Experiments	50
<b>Total</b>	<b>25</b>		<b>75</b>

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Pragati*

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*Akumar*

*Trachy*

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# **Sri Sathya Sai College for Women, Bhopal**

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(NAAC Accredited 'A' Grade)



## **SYLLABUS**

### **UG**

**SESSION- 2021-22**

**Course Type: Certificate Course**

## **Medicinal Plants**

**PRINCIPAL**  
Sri Sathya Sai College  
For Women, Bhopal (M.P.)

## Sri Sathya Sai College for Women, Bhopal

(An Autonomous College Affiliated to Barkatullah University Bhopal)

Department of Higher Education, Govt. of M.P.

Under Graduate Annual Wise Syllabus

As recommended by Central Board of Studies and approved by the Governor of M. P.

उच्चशिक्षाविभाग, म.प्र. शासन

स्नातक कक्षाओं के लिये वार्षिक पद्धति अनुसार पाठ्यक्रम

केन्द्रीय अध्ययनमण्डल द्वारा अनुशंसित तथा म.प्र. के राज्यपाल द्वारा अनुमोदित पाठ्यक्रम

केन्द्रीय अध्ययन मण्डल द्वारा अनुशंसित तथा म.प्र. के राज्यपाल द्वारा अनुमोदित

(New Education Policy Session / सत्र-2021-22)

Class/ कक्षा	:	B.Sc.
Year /वर्ष	:	First/प्रथम
Subject/विषय	:	Vocational / Certificate Course
Title /शीर्षक	:	Medicinal Plants
Max. marks	:	25+50= 75
Credit Value	:	4

### Course Learning Outcomes (CLO)

After Studying this course, the students will be able to understand:

- The utility of plants as medicines.
- The preparation of basic herbal medicinal products.
- The idea of cultivation practices.
- The storage, packaging and marketing of herbal medicines.
- To work with individual plant and plant products.

### Particulars

<b>Unit - I</b>	<p><b>General aspects of Medicinal plants</b></p> <p>1.1 Definition, History, present and future needs.</p> <p>1.2 Introduction of plant parts (fruits, leaves, roots, stem, seeds and their modifications).</p> <p>1.3 Cultivation and harvesting practices.</p> <p>1.4 Processing and storage practices.</p> <p>1.5 Marketing of medicinal products.</p> <p>1.6 Role in human health and balanced diet.</p> <p>1.7 Basic idea of quality control and contribution of national research laboratories like CDRI, CIMAP, NBRI etc.</p> <p>1.8 Precautions during use of herbal medicinal products.</p>
इकाई 1	<p><b>औषधीय पादपों की सामान्य जानकारी</b></p> <p>1. परिभाषा इतिहास व वर्तमान तथा भविष्य की आवश्यकताएं।</p> <p>2. पादप. अंगों का परिचय (फल, जड़, तना, पत्ती, बीज और उनके रूपान्तरण)</p> <p>3. खेती और कटाई की प्रक्रिया</p> <p>4. प्रसंस्करण व भंडारण प्रक्रिया</p>

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	<p>5. औषधीय उत्पादों का विपणन</p> <p>6. मानव स्वास्थ्य व संतुलित आहार में सुविधा</p> <p>7. गुणवत्ता नियंत्रण का आधारभूत विचार व राष्ट्रीय अनुसंधान प्रयोगशालाओं जैसे सी.टी. आर.आई, सी., मेप, एन.बी.आर.आई. का योगदान</p> <p>8. हर्बल औषधीय उत्पादों के प्रयोग के दौरान सावधानियाँ</p>
<p><b>Unit – II</b></p> <p>इकाई 2</p>	<p><b>Important Indian Medicinal Plants (Part – 01)</b></p> <p>1.1 Plants parts used as powder: Identification and utilization of Amla (<i>Embellica officinalis</i>), Bahera (<i>Terminalia bellerica</i>), Harad (<i>Terminalia chebulla</i>), Turmeric (<i>Curcuma longa</i>), Garlic (<i>Allium sativum</i>), Bitter guard (<i>Momordica charantia</i>), Black plum (<i>Syzygium cumini</i>), Fenugreek (<i>Trigonella foenum- graecum</i>), Cinnamon (<i>Cinnamomum verum</i>), Sarpagandha (<i>Raulfia serpentina</i>), Black pepper (<i>Piper nigrum</i>), Ashwagandha (<i>Withania sominifera</i>), Psyllium husk (<i>Plantago ovata</i>).</p> <p>1.2 Plant parts used as juice/decoction: Identification and utilization of Amla (<i>Embellica officinalis</i>), Ginger (<i>Zingiber officinale</i>), Onion (<i>Allium cepa</i>), Bottle gourd (<i>Lagenaria siceraria</i>), Basil (<i>Oscimum sanctum</i>), Arjun (<i>Terminalia arjuna</i>), Neem (<i>Azadirachta indica</i>), Gwarpatha (<i>Aloe vera</i>), Brahmi (<i>Bacopa monnieri</i>), Giloy (<i>Tinospora cordifolia</i>), Shankhpushpi (<i>Convolvulus prostrate</i>), Bael (<i>Aegle marmelos</i>).</p> <p>महत्वपूर्ण औषधियुक्त भारतीय पादप (भाग-01)</p> <p>1. चूर्ण के रूप में पादप-अंगों का उपयोग: आंवला(एम्बेलिका ऑफिसिनैसिस), बहेडा (टर्मिपेलिया बेलेरिका), हरड़ (टर्मिनेलिया चेबुला), हल्दी (कुरकुमा लोंगा), लहसुन (एलियम सटाईवम), करेला (मोमोर्डिका करेशिया), जामुन (साइजाईजियम क्यूमिनी), मैथी (ड्राईगोनेला फीनम-ग्रीकम), दालचीनी (सिनामोमम वेरम), सर्पगंधा (राउल्फिया सपेंटाईना), कालीमिर्च (पाईपर नाईग्रम), अश्वगंधा (विथेनिया सोमिनीफेरा), इसबगोल भूसी (प्लांटैगो आबेटा) और बेल (एगल मार्मेलोस) की पहचान और उपयोग।</p> <p>2. रस/काढ़े के रूप में पादप-अंगों का उपयोग: आंवला(एम्बेलिका ऑफिसिनैसिस), अदरक (जिजिबर ऑफिसिनेल), प्याज (एलियम सेपा), लौकी (लेजेनेरिया सिसेरिया), तुलसी (ऑसीमम सेक्टम), अर्जुन (टर्मिनेलिया अर्जुना), नीम (एजाडिरेक्टा इंडिका), ग्वारपाठा (एलोबेरा), ब्राह्मी (बकोपा मोननेरी), गिलोय (टिनोस्पोरा कॉर्डिफोलिया) और शंखपुष्पी(कॉनवोल्बुलस प्रोस्ट्रेटस) की पहचान व उपयोग।</p>
<p><b>Unit - III</b></p>	<p><b>Important Indian Medicinal Plants (Part-02)</b></p> <p>1.1 Plants parts used as lotion/ointment: Identification and utilization of Gwarpatha (<i>Aloe vera</i>), Fenugreek (<i>Trigonella foenum- graecum</i>), Pot marigold (<i>Calendula officinalis</i>), Neem (<i>Azadirachta indica</i>).</p> <p>1.2 Plant parts used as oil: Clove (<i>Syzygium aromaticum</i>), Neem (<i>Azadirachta indica</i>), Coconut (<i>Coccus nucifera</i>), Nilgiri (<i>Eucalyptus Sp.</i>).</p> <p>1.3 Plant parts used as surgical fibre, sutures and dressings: Identification and utilization of Cotton (<i>Gossypium Sp.</i>), Jute (<i>Corchorus capsularis</i>), Banana (<i>Musa sp.</i>).</p> <p>1.4 Plant parts used as poultice: Identification and utilization of Turmeric (<i>Curcuma longa</i>), Nilgiri (<i>Eucalyptus sp.</i>), Ginger (<i>Zingiber officinale</i>), Garlic (<i>Allium sativum</i>), Onion (<i>Allium cepa</i>), Dhatura (<i>Datura sp.</i>), Aak (<i>Calotropis sp.</i>), Arandi (<i>Ricinus communis</i>).</p>

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इकाई 3	<p><b>महत्वपूर्ण औषधियुक्त भारतीय पादप (भाग-02)</b></p> <ol style="list-style-type: none"> <li>1. लोशन व मरहम के रूप में पादप-अंगों का उपयोग: ग्वारपाठा (एलोबेरा), मैथी (ट्राईगोनेला फीनम-ग्रीकम), मैरीगोल्ड (कैलेंडुला ऑफिसिनैलिस), नीम (एजाडिरेक्टा इंडिका) की पहचान और उपयोग।</li> <li>2. तेल के रूप में पादप-अंगों का उपयोग: लौंग (साईजाईजियम एरोमैटिकम), नीम (एजाडिरेक्टा इंडिका), नारियल (फोकस न्यूमीफेरा), युकेलिप्टस (यूकेलिप्टस प्रजाति) की पहचान और उपयोग।</li> <li>3. सर्जिकल तंतु, टाँके व ड्रेसिंग के रूप में पादप-अंगों का उपयोग: कपास (गॉसिपियम प्रजाति), जूट (कारकोरस कैप्सुलेरिस), केला (म्युसा प्रजाति) की पहचान और उपयोग।</li> <li>4. पुल्टिस के रूप में पादप-अंगों का उपयोग: हल्दी (कुरकुमा लोंगा), युकेलिप्टस (यूकेलिप्टस प्रजाति), अदरक (ज़िजिबर ऑफिसिनेल), लहसुन (एलियम सटाईवम), प्याज (एलियम सेपा), धतूरा (धतूरा प्रजाति), आक (केलोट्रोपिस प्रजाति) और अरंडी (रिसिनस कम्पुनिस) की पहचान और उपयोग।</li> </ol>
I	<p><b>Practical</b></p> <ol style="list-style-type: none"> <li>1. Identification of locally available common medicinal plants.</li> <li>2. Basic preparations of herbal products as Kadha, Powder (e.g. neem leaf, moringa leaf, tulsi leaf, giloy, anardana), Juice (e.g. Amla, Aloe vera), Trifla, Chyavanprash, Amla candy, Herbal tea etc.</li> <li>3<sup>rd</sup> Study and documentation of commercial production of at least 5 medicinal plants. (Using websites/ YouTube).</li> </ol>
II	<ol style="list-style-type: none"> <li>1. Submission of digital photo album of at least 10 medicinal plants with brief description,</li> <li>2. Study of basic tools/instruments/apparatus used in making herbal medicines.</li> <li>3. Cultivation, maintenance and reporting of at least 5 medicinal plants within college campus.</li> </ol> <p><b>Educational visit to herbal medicine factory/small processing unit/medicinal agriculture field and submission of project report. (At least 01)</b></p>
1	<p><b>प्रायोगिक पाठ्यक्रम</b></p> <ol style="list-style-type: none"> <li>1. स्थानीय उपलब्ध सामान्य औषधीय पादपों की पहचान</li> <li>2. हर्बल उत्पाद जैसे काढ़ा, चूर्ण (जैसे नीम पत्ती, मुनगा पत्ती, गिलोय, अनारदाना ) रस (जैसे आंवला, ग्वारापाठा), त्रिफला, च्यवनप्राश आंवला केडी व हर्बल चाय को तैयार करने की प्रक्रिया।</li> <li>3- कम से कम 05 औषधीय पादपों के व्यावसायिक उत्पादों का अध्ययन और अभिलेख प्रस्तुतिकरण।</li> </ol>
2	<ol style="list-style-type: none"> <li>1. 10 औषधीय पादपों का संक्षिप्त विवरण के साथ फोटो एलबम प्रस्तुत करना।</li> <li>2. पादप औषधि के निर्माण में उपयोगी औजारों/उपकरणों का अध्ययन।</li> <li>3. महाविद्यालय परिसर में कम से कम 05 औषधीय पादपों की खेती, रखरखाव और प्रतिवेदन प्रस्तुत करना।</li> </ol> <p>पादप औषधी उद्योग/लघु प्रसंस्करण इकाई/औषधीय कृषि क्षेत्र का शैक्षणिक भ्रमण। (कम से कम 01)</p>

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# **Sri Sathya Sai College for Women, Bhopal**

**(An Autonomous College affiliated to Barkatullah University, Bhopal)**

**(NAAC Accredited 'A' Grade)**



## **SYLLABUS**

### **UG**

### **SESSION- 2021-22**

**Course Type: Certificate Course**

## **ICT Skills**

**PRINCIPAL**  
Sri Sathya Sai College  
For Women, Bhopal (M.P.)

# Sri Sathya Sai College for Women, Bhopal

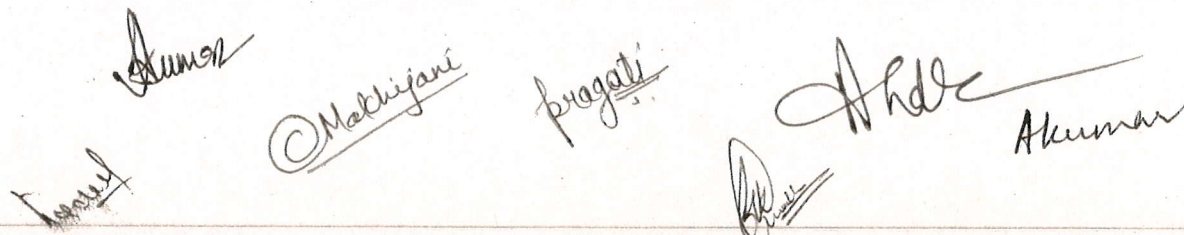
(An Autonomous College Affiliated to Barkatullah University Bhopal)

Certificate Course in ICT Skills

Duration – 6 months

Session 2021-22 onwards

PART A: Introduction		
1.	Course Code	
2.	Course Title	ICT Skills
3.	Course Type	Certificate Course
4.	Pre-Requisite (if any)	<b>Open for all</b>
5.	Course Learning Outcomes(CLO)	<p><b>After completing the course, student will be able to –</b></p> <ul style="list-style-type: none"> <li>Get an understanding of the basic components, use and application of different ICT systems and networks</li> <li>Understand the impact of current and new technologies on methods of working in the outside world</li> <li>Function as discerning students in an increasingly digital society</li> <li>Access various tools and applications for learning and skill development opportunities</li> <li>Operate a variety of hardware and software independently and troubleshoot common problems and using the ICT facility with care, ensuring the safety of themselves, others and the equipment</li> <li>Practice safe, legal and ethical means of using ICT</li> </ul>
6.	Credit Value	<b>4(1Th. + 3Pr.)</b>
7.	Total Marks	Max. Marks: <b>40+60</b> Min. Passing Marks: <b>33</b>
PART B: Content of the Course		
Module	Topics	
I	<p><b>ICT - Introduction, Objectives, Evolution, Purpose (Connecting with the World • Connecting with each other • Creating with ICT • Interacting with ICT), Usefulness, Applications, Types of ICT, Creating textual communication, visual communication, audio-video communication.</b></p> <p><b>ICT application areas in everyday life - E-Commerce, E-governance, Banking, Agriculture,</b></p>	





	<p>Education, Medicine, Defense, Transport, Publicity, Manufacturing, Finance, Travel &amp; Leisure, Libraries, Expert Systems, Retail</p> <p>Advantages of ICT in everyday life, Disadvantages of ICT</p> <p><b>Computers, Data Storage and Peripherals:</b> Types and classification of computers, Block diagram of computer, C.P.U., registers, system bus, main memory unit, RAM, ROM cache memory, Primary, secondary, auxiliary memory, hard disks, pen drive, optical disks, Inside a computer - SMPS, Motherboard, Ports and Interfaces, expansion cards, ribbon cables, memory chips, different processors and clock speed.</p>
II	<p><b>Input Devices:</b> Characteristics, uses, advantages and disadvantages of input devices including: keyboard, numeric keypad, pointing devices, remote control, joystick/driving wheel, touch screen (as an input device), scanners, camera, microphone, sensors, light pen</p> <p><b>Output Devices:</b> Characteristics, uses, advantages and disadvantages of output devices including monitors, touch screen (as an output device), multimedia projector, laser printer, inkjet printer, dot matrix printer, plotter, 3D printers, speaker, actuator</p> <p><b>Memory</b> - definition of computer memory, its types – primary and secondary memory, RAM, ROM, EPROM, Cache, Registers.</p> <p><b>Storage devices:</b> Magnetic tapes, Floppy Disks, Hard Disks and its types – PATA, SATA, SCSI, SSD, NVM Express etc., Compact Disc – CD-ROM, CD-RW, VCD, DVD, DVD-RW, usb drives, Blue Ray Disc, SD/MMC Memory cards, Zip Drive, Formatting &amp; Scanning a HD, Partitioning a HD.</p>
III	<p><b>Computer Software:</b> What is Software? Relationship between Hardware and software, Types of Software: system software, Application Software, Firmware, Role of System Software, Types of system Software: Operating Systems, Language Translator, Utility Programs, Communication software, Commonly used Application Software, Database, Graphics, Education, Entertainment Software, Mobile App Software, Social Media Software: Instant Messaging, Email, Chat Bot, Web Blogs. Free Open Source Software (FOSS) .</p> <p><b>Application Software and their uses</b> - Word Processing, Spreadsheet, Presentation, Database, Graphics, Designing, Recording sound and video, newsletters, posters, websites, multimedia presentations, audio, video, media streaming and E-publications, blog, forum, wiki, social networking.</p> <p>Using office tools - any of MS-Office/ Libre Office, Google Workplace – Google Docs, Sheets, Meet, Drive, Zoho Mail, WPS Office, OfficeSuite, Polaris Office, OnlyOffice Docs, WordPerfect etc.</p> <p>Utility Software - PDF Creator, File Archiving, File Converter</p> <p>Collaboration tools – Docs, Chat, forum, wiki, online groups, audio/video conferencing, social bookmarking and social networking, Web Conferencing.</p>
IV	<p><b>Managing files</b> - Locate stored files, Open and import files of different types, Save files in a planned hierarchical directory/folder structure, Save files using appropriate file names</p> <p>Save and print files in a variety of formats including a document, screenshots, database reports, data tables, graphs/charts, a web page in browser view, a web page in HTML view Save and export in the file format of an application package including .docx, .doc, .xlsx, .xls, .sdb, .sdc, .accdb .odb, .rtf, .pptx, .ppt, Save and export in a generic file format including .csv, .txt, .rtf, .pdf, .css, .htm, .jpg, .png</p> <p><b>File formats</b> - Characteristics and uses of file formats including css, csv, gif, htm, jpg, pdf, png, rtf, txt, zip, rarsv, gif, htm, jpg, pdf, png, rtf, txt, zip, rar</p>

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	<p><b>Compress files</b> - Reduce file sizes for storage or transmission where necessary using file compression including .zip, .rar</p> <p><b>File compression</b> - The need to reduce file sizes for storage or transfer</p>
V	<p><b>Use of computer network:</b> Access to information, person to person communication, electronic commerce, internet of things.</p> <p><b>Types of computer network:</b> Broadband access network, Mobile and wireless network, content provider network, transit network, enterprise network.</p> <p><b>Mobile communication</b> - SMS messaging, phone calls, Voice over Internet Protocol (VoIP), video calls</p> <p><b>The Internet</b> - WWW, Browser, Search Engine, Uses of the Internet, Basic Services of Internet, advantages and disadvantages of using the internet, differences between internet, intranet and extranet, Difference between website and portal.</p> <p>Internet Service Provider (ISP), structure of a web address, Uniform Resource Locator (URL), hyperlink, web browser. Use of search engine including speed of searching, amount of information, the speed of finding relevant information, ease of finding reliable information.</p> <p><b>Cloud computing</b> - The characteristics, uses and issues relating to cloud computing. How data is stored, managed, and shared using cloud computing</p> <p>Advantages and disadvantages of using cloud storage methods</p>

### Suggestive List of Practicals

#### Hardware Lab

1. Prepare a list of various computer peripherals. (e.g. CPU, Mother Board, RAM, Hard Drive, Optical Drive, Solid State Drive, Monitor, Keyboard, Mouse, Speaker, Web cam, Printer, Scanner, microphone, speakers, modem, projector etc).
2. Identify common ports, associated cables, and their connectors.
3. Observe various connectors, ports back and front side of the computer. Write their purpose and specifications. (e.g. Power, PS/2 keyboard and mouse, Serial and parallel, USB, VGA, LAN, Audio & microphone, Firewire, HDMI, games, SATA etc.)

#### MS Office

Create a document and apply different formatting options.

1. Design a Greeting Card using word art and smart arts for different festivals.
2. Create a document and insert header and footer, page title, borders and shading etc.
3. Create a document, set the margins, orientation, size, Column, Water mark, page, color and page borders etc.
4. Insert a table into the document. Prepare a mark sheet of your class subjects.
5. Apply the creating, editing, saving, printing securing & protecting operations to an excel spreadsheets.
6. Prepare a bar chart & pie chart for analysis of five year results of your institute.
7. Work on the following exercise on a workbook:
  - a. Copy an existing Sheet
  - b. Rename the old Sheet
  - c. Insert a new Sheet into an existing Workbook
  - d. Delete the renamed Sheet.
8. Prepare an Attendance sheet of 10 students for any 6 Subjects of your syllabus. Calculate their total attendance, total percentage of attendance of each student & average of attendance, if formulae for calculating grade based on percentage.
9. Create a worksheet on Students list of any 4 faculties and perform following database functions on it.
  - a. Sort data by Name
  - b. Filter data by Class





- c. Subtotal of no. of students by Class.
10. Apply themes and layouts to power point slides and insert pictures. Graphics, shapes, and tables into presentation.
11. In power point slide make use of adding transitions and animation & Working with master Slides.
- File/ Folder Management**
1. Create folder(s) and file(s) using different ways.
  2. Apply different types of copy/cut/paste options.
  3. Managing the desktop icons, screen resolution and backgrounds.
  4. Making shortcuts to your files/folders on desktop.
  5. Compress a folder and mail it to yourself.
  6. Extract a zipped file to a folder in E drive.
  7. Convert doc to pdf and pdf to jpg.
- Collaborative online working**
1. Host a meeting on zoom/google meet, share the screen/pdf/documents, use board/annotations.
  2. Host a meeting on google meet, and record it on zoom.
  3. Create a google sheet, share it with 6 more participants and work simultaneously.
  4. Create a google doc, apply different types of formatting.
  5. Create a google form for youth festival to input their name, class, contact number and event participated and save the data to a google sheet.
- Create a google slide to make certificate for different names in the above program using autocrat.

### PART C: Learning Resources

Textbooks, Reference Books, Other Resources

#### Suggested Readings:

- Sinha P.K., Sinha Priti, "Computer Fundamentals", BPB, 2020, 8th Edition
- Alexis Leon & Mathews Leon "A Beginners Guide to Computers", Vikas Publishing House Pvt. Ltd., 2001.
- Mohan P., "Fundamentals of Computers", Himalaya Publishing House, 2010, Revised Edition,
- Sukhwinder Singh , Gaurav Kumar, kanwal Preet, "ICT Skill Development", Twentyfirst Century Publications, 2014
- Working in Microsoft Office, Ron Mansfield, Tata Mc. Graw Hill Publishing Company Limited.
- Learning Computer Fundamentals, Ms Office and Internet & Web Tech., Dinesh Maidasani, Laxmi Publication.
- G Suite for Dummies, Paul McFedries, Wiley

### PART D: Assessment and Evaluation

Online MCQ Exam : 40 marks

Project Report & Viva : 60 Marks

Any remarks/suggestions: **Focus of the Course/Lab practicals should be on developing ability of the student in acquiring expertise through hands on practice.**

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# **Sri Sathya Sai College for Women, Bhopal**

(An Autonomous College affiliated to Barkatullah University, Bhopal)

(NAAC Accredited 'A' Grade)



## **SYLLABUS**

### **UG**

### **SESSION- 2021-22**

**Course Type: Certificate Course**

# **Web Designing**

**PRINCIPAL**  
Sri Sathya Sai College  
For Women, Bhopal (M.P.)



**Sri Sathya Sai College for Women, Bhopal**  
 (An Autonomous College affiliated to Barkatullah University, Bhopal)  
 Department of Higher Education, Govt of M.P.  
 As recommended by Central board of Studies Approved by HE the Governor of M.P.  
Session 2021-22  
 (New Education Policy-2020)

<b>Part A Introduction</b>	
Program: Certificate	Year: First Session: 2021-22
Course Code	
Course Title	<b>Web Designing</b>
Course Type	<b>Vocational</b>
Pre-requisite (if any)	
Course Learning outcomes (CLO)	<p><b>After studying this Course the student will be able to –</b></p> <ul style="list-style-type: none"> <li>❖ Code a handful of useful HTML &amp; CSS examples</li> <li>❖ Build semantic, HTML &amp; CSS web page</li> <li>❖ Write basic scripts</li> <li>❖ Use Names, Objects, and Methods</li> <li>❖ Add Interactivity to a Web Page</li> <li>❖ Create Dynamic Web Pages using Java Script in HTML forms.</li> </ul>
Expected Job Role / Career opportunities	<p><b>Job Role -</b> Web Designer / Front End Developer/ Creative Ad Designer</p> <p><b>Job Description –</b> Web designers develop functional and appealing web pages, websites, web applications, online advertisements for individuals, businesses and government agencies to establish their online presence. They use knowledge of computer programming and graphic design to create websites that meet client needs.</p> <p><b>Career Opportunities –</b></p> <p>Typical employers of web designers are –</p> <ul style="list-style-type: none"> <li>❖ Software companies</li> <li>❖ IT consultancies</li> <li>❖ Specialist web design companies</li> <li>❖ Large corporate organisations</li> <li>❖ Any organisation that uses computer systems</li> <li>❖ Self-employment/freelance work is often possible for individuals with appropriate experience.</li> <li>❖ Vacancies are advertised online, by career services and by recruitment agencies.</li> </ul>
Credit Value	(4) Theory – 2 Practical – 2 Th – 1 Pr – 3
<b>Part B- Content of the Course</b>	
Module	Topics

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I	<p><b>Introduction to Internet-</b> World Wide Web, Internet Addressing, Browser, URL, Web server, website, homepage, Domain Name. Basic concepts.</p> <p><b>Softwares for Web Designing</b> - Notepad/Notepad++, Dreamweaver, Blue Griffon, Net beans, Sea Monkey, Word press, Sublime.</p> <p><b>Introduction to HTML:</b> HTML Tags and Attributes, HTML Basic Tags, Formatting Tags, HTML Color Coding, Div and Span Tags for Grouping.</p> <p><b>Lists:</b> Unordered Lists, Ordered Lists, Definition list. Images: Image and Image Mapping</p> <p><b>Hyperlink:</b> URL - Uniform Resource Locator, URL Encoding. Table: &lt;table&gt;, &lt;th&gt;, &lt;tr&gt;, &lt;td&gt;, &lt;caption&gt;, &lt;thead&gt;, &lt;tbody&gt;, &lt;tfoot&gt;, &lt;colgroup&gt;, &lt;col&gt;. Attributes Using Iframe as the Target</p> <p><b>Form:</b> &lt;input&gt;, &lt;textarea&gt;, &lt;button&gt;, &lt;select&gt;, &lt;label&gt;</p> <p><b>Headers:</b> Title, Base, Link, Styles, Script</p> <p>HTML Meta Tag, XHTML, HTML Depreciated Tags &amp; Attributes</p>
II	<p><b>CSS:</b> Introduction, Features and benefits of CSS, CSS Syntax, External Style Sheet using &lt;link&gt;, Multiple Style Sheets, Value Lengths and Percentages.</p> <p><b>Selectors:</b> ID Selectors, Class Selectors, Grouping Selectors, Universal Selector, Descendant / Child Selectors, Attribute Selectors, CSS – Pseudo Classes.</p> <p><b>Color Background Cursor:</b> background-image, background-repeat, background-position, CSS Cursor</p> <p><b>Text Fonts:</b> color, background-color, text-decoration, text-align, vertical-align, text-indent, text-transform, white-space, letter-spacing, word-spacing, line-height, font-family, font-size, font-style, font-variant, font-weight.</p>
III	<p><b>Lists Tables:</b> list-style-type, list-style-position, list-style-image, list-style, CSS Tables (border, width &amp; height, text-align, vertical-align, padding, color)</p> <p><b>Box Model:</b> Borders &amp; Outline, Margin &amp; Padding, Height and width, CSS Dimensions.</p> <p><b>Display Positioning:</b> CSS Visibility, CSS Display, CSS Scrollbars, CSS Positioning (Static Positioning, Fixed Positioning, Relative Positioning, Absolute Positioning), CSS Layers with Z-Index.</p> <p><b>Floats:</b> The float Property, The clear Property, The clearfix Hack.</p>
IV	<p><b>The JavaScript:</b> Nature of JavaScript, Script Writing Basics, Enhancing HTML Documents with JavaScript, The Building Blocks.</p> <p>Introduction to JavaScript, JavaScript Engines, Values, Variables and Operators, Variable Mutation, Basic Operators, Operator Precedence, JavaScript Types, Types Definition, Types in JavaScript, Objects, Type Conversion and Coercion, Static vs Dynamic Type Checking.</p> <p><b>JavaScript Conditionals:</b> Introduction to Conditionals, Conditionals in JavaScript, Ternary Operators and Conditionals. Conditional Ladder &amp; Switch statement.</p> <p><b>JavaScript Arrays:</b> Introduction to Arrays, Declaring and Mutating Arrays, Array Methods and Properties, Replication with Array Methods, Multi-dimensional Arrays.</p>
V	<p><b>JavaScript Loops:</b> Introduction to Loops, Loops in JavaScript, While and Do/While Loops, For Loops, Break and Continue in Loops, Iterating Arrays, Iterating Objects.</p> <p><b>JavaScript Functions:</b> Introduction to Functions, Functions in JavaScript, Nested Functions in JavaScript, Arrow Functions in JavaScript, Function as an Argument, Function as the Returned Object,</p> <p><b>JavaScript Scope:</b> Scope Introduction, Scope in JavaScript, Lexical Scope, Module Scope.</p> <p>Method of Adding Interactivity to a Web Page, Creating Dynamic Web Pages; Concept of Java Scripting the Forms.</p> <p>Java Scripting the Forms, Basic Script Construction, Talking to the Form Objects, Organizing the Objects and Scripts, Field-Level Validation, Check Required Fields like Validating Zip Code, Automated Formatting, Format Phone, Format Money, Automatic Calculation, Calculate Expiration Date, Calculate Amount etc.</p>

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Add-on

VI

**Phases of Website Design and Development** - Gathering information, Planning, Designing, Development, Testing, Website maintenance.

**Basic Elements of good Web Design** – Content, Usability, Aesthetics(solid layout, effective typography, the right colour scheme, appropriate design elements), Visibility, Interaction.

**Parameters for a good website design** – website design goal, well designed and functional, simple content & easy to navigate, connectivity & compatibility, limit use of fonts, customize the content according to the target audience, fluidity in use across platforms, readily accessible contact and location, optimized for search and the social web.

**Qualities of a good Web Designer** – Great Communication, Creativity, Able to Meet Deadlines, Problem-Solving Skills, Passion, Self-Discipline, Software for Design, An Expansive Portfolio, Solid Design skills, self-learning, ability to work collaboratively, presentation skills.

**Web Publishing** -Web Hosting Basics, Types of Hosting Packages, Registering domains, Defining Name Servers, Using Cpanel, Creating Emails in Cpanel, Using FTP Client, Maintaining a Website.

### Suggestive List of Practicals

1. Design a home page which displays information about your college department using headings, HTML entities and paragraphs.
  2. Implement different type of list tags in the college department homepage.
  3. Create a webpage for any clinic using marquee and HTML formatting tags.
  4. Create 3 Hyperlinks in home page connecting it to 3 different pages.
  5. Create 3 hyperlinks in a page, which jumps to 3 different headings on same page.
  6. Insert image(s) and iframe in a webpage.
  7. Design a page with image of block diagram of computer, mapping each component as area with specific co-ordinates which when clicked may give their detail.
  8. Create a web page having two frames, Frame 1 containing links and another with contents of the link. When link is clicked appropriate contents should be displayed on Frame 2.
  9. Design a timetable and display it in tabular format.
  10. Demonstrate difference between "get" and "post" method of form tag in a form with name and password text fields.
  11. Design an admission form for any course in your college with text, password fields, drop-down list, check-boxes, radio buttons, submit and reset button etc.
  12. Create a website for online book store with Home, Login, Catalogue, Registration page with links to all these pages in a menu on top of every page. Embed heading, paragraph, images, video, iframe, form controls, table, list in this website.
  13. Write a CSS style specification rule that would make all unordered lists (<ul> tags) have square bullets and a purple background.
  14. Create a HTML form with the use of cascading style sheets.
  15. Design a web page of your Home town with a attractive background color, text color, an image, font face by using Inline CSS formatting.
  16. Create a catalog for an online shopping company that sells music records using style sheets.
  17. Create a sample code to illustrate the Inline style sheet for your web page.
  18. Create a sample code to illustrate the External style sheet for your web page
  19. Design a web page by using different CSS border styles.
  20. Demonstrate the use of CSS Box Model.
  21. Change the color of all elements with the class "colortext" to "Blue".
- Set different margins for all four sides of a paragraph.

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1. Write a JavaScript program to display the current day and time .
2. Write a JavaScript program to remove a character at the specified position of a given string and return the new string.
3. Write a JavaScript program to get the current date.
4. Write a JavaScript program to find the area of a triangle.
5. Write a JavaScript program to determine whether a given year is a leap year.
6. Write a JavaScript program to calculate multiplication and division of two numbers.
7. Write a JavaScript program to convert temperatures to and from Celsius, Fahrenheit.
8. Write a JavaScript program to check whether a given positive number is a multiple of 3.
9. Write a JavaScript program to change the case of a string.(i.e upper case to lower case and vice-versa).
10. Write a JavaScript program to compute the sum of elements of given array of integers.
11. Develop and demonstrate a HTML file that includes JavaScript script for taking a number n as input using prompt and display first n Fibonacci numbers in a paragraph.
12. Develop and demonstrate a HTML file that includes JavaScript script for taking full name in a text field and display first, middle, last name in 3 different labels. Middle and last name may be optional, thus message like "NA" should be displayed in corresponding labels. If input contains 2 words, then they should be considered as first and last name.
13. Develop and demonstrate a HTML file that includes JavaScript script for switching an image source for a image on click of "change" and "original" button.
14. Design HTML form for keeping student record, apply JavaScript validation in it for restriction of mandatory fields, numeric field, email-address field, specific value in a field etc.

Write a JavaScript code that displays text "Bigger Text" with increasing font size in the interval of 10ms in red color, when the font size reaches 50pt it displays "Smaller Text" in green color. Then the font size should decrease to 5pt and then stop.

**Project/ Field trip :**

### Part C-Learning Resources

Text Books, Reference Books, Other resources

*Ahman*

*©Makhiani*

*Arde*

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*Ahman*

*Ahman*



### 1. Suggested Readings:

- Jon Duckett, HTML And CSS: Design And Build Websites, Wiley
- Jon Duckett, JavaScript And JQuery: Interactive Front-End Web Development, Wiley
- Jennifer Niederst Robbins, Learning Web Design: A Beginner's Guide To HTML, CSS, JavaScript, And Web Graphics, O'reilly
- Steven M. Schafer, Html, XHTML, And CSS Bible, Wiley
- Felke-Morris, Basics Of Web Design: Html5 & Css3, 5th Edition, Pearson Education, 2019.
- Felke-Morris, Web Development & Design Foundations With Html5, 10th Edition, Addison-Wesley, 2020.
- Ian Pouncey, Richard York, Beginning CSS: Cascading Style Sheets For Web Design, Wiley India.
- Thomas A Powell, The Complete Reference To Html
- Lee Anne Philips, Using Html, PHI
- C. Xavier, World Wide Web Design With Html,
- Xavier C, Web Technology And Design, New Age International
- Laura Lemay, Mastering Html, CSS & JavaScript Web Publishing
- Dt Editorial Services, Html 5 Black Book - Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and JQuery, DreamTech Press Publication

### 2. Suggestive digital platforms web links:

- <https://www.w3schools.com/>
- <https://spoken-tutorial.org/>
- <https://www.doc-developpement-durable.org/file/Projets-informatiques/cours-&-manuels-informatiques/htm-html-xml-cs/Sams%20Teach%20Yourself%20HTML,%20CSS,%20and%20JavaScript%20All%20in%20One.pdf> (PDF: 608 pages)
- <http://www.nematrian.com/Pages/HTMLCSSJSCombined.pdf> (PDF: 514 pages)
- [https://www.daoudisamir.com/references/vs\\_ebooks/html5\\_css3.pdf](https://www.daoudisamir.com/references/vs_ebooks/html5_css3.pdf) (PDF: 681 pages)

### Suggested equivalent online courses:

- <https://nptel.ac.in/courses/106/105/106105084/> (NPTEL Course: Internet Technology – Part of the Course)
- [https://onlinecourses.swayam2.ac.in/aic20\\_sp11/preview](https://onlinecourses.swayam2.ac.in/aic20_sp11/preview) (HTML and CSS)
- <https://www.coursera.org/learn/html-css-javascript-for-web-developers#syllabus> (HTML, CSS, and JavaScript for Web Developers)
- <https://www.classcentral.com/course/html-css-javascript-for-web-developers-4270> (HTML, CSS, and JavaScript for Web Developers)
- <https://www.classcentral.com/course/duke-programming-web-4256>
- <https://www.coursera.org/learn/duke-programming-web> (Programming Foundations with JavaScript, HTML and CSS)

Note if Any:

*Humayun* *Makigani* *Arde*  
*Verdip* *Humayun*

# Sri Sathya Sai College for Women, Bhopal

(An Autonomous College affiliated to Barkatullah University, Bhopal)

(NAAC Accredited 'A' Grade)



## SYLLABUS

### UG

### SESSION- 2021-22

Course Type: Certificate Course

# Python Programming

PRINCIPAL

Sri Sathya Sai College  
For Women, Bhopal (M.P.)



# Sri Sathya Sai College for Women, Bhopal

(An Autonomous College Affiliated to Barkatullah University Bhopal)

Certificate Course in Python Programming

Duration – 3 months

Session 2021-22 onwards

PART A: Introduction		
1.	Course Code	
2.	Course Title	Python Programming
3.	Course Type	Certificate Course
4.	Pre-Requisite (if any)	<b>Open for all</b>
5.	Course Learning Outcomes(CLO)	<p><b>After completing the course, student will be able to –</b></p> <p>Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements.</p> <ul style="list-style-type: none"> <li>• Express proficiency in the handling of strings, functions and file handling.</li> <li>• Determine the methods to create and manipulate Python programs by utilizing the data structures like lists, dictionaries, tuples and sets.</li> <li>• Articulate the Object-Oriented Programming concepts such as encapsulation, inheritance and polymorphism as used in Python with class, modules and packages .</li> <li>• Identify the commonly used operations involving database connectivity and use of tkinter for GUI programming.</li> </ul>
6.	Credit Value	<b>4(1Th. + 3Pr.)</b>
7.	Total Marks	Max. Marks: <b>40+60</b> Min. Passing Marks: <b>33</b>
PART B: Content of the Course		
Module	Topics	
I	<p><b>Python Basics :</b> Python interpreter, Python idle, dynamically typed and strongly typed features, basic data types, variables, expressions, statements, operators, flow of execution. Input and Output statements, Conditionals: Boolean values and operators, conditional (if), alternative (if-else), chained conditional (if-elif-else). Iteration: while, for, break, continue, pass, implementing 'for' through range(), 'in' and 'not in' operators for sequence traversal. Creating and executing .py scripts.</p>	
II	<p><b>Data Structures:</b> Lists- append, extend, insert, index, remove, pop, count, sort, reverse, slicing, list comprehension, Copying a list: deep copy, shallow copy. Tuples- index, count, usage, use of tuples as a swap function. Dictionaries-keys, values, tuples, nested dictionaries, dictionary comprehension. Strings- Single line and multi-line strings, formatter, isdigit, isalpha, isalnum, islower, istitle, isspace, title, lower, upper, strip, split, splitlines, join etc. Sets – union, intersection, subset, superset, difference, symmetric difference, copy, add, remove, discard etc.</p>	

*Akumar*

*Malhiyani*

*Arora*

*Akumar*

*Trivedi*

*Pragati*

*[Signature]*



III	<p><b>Functions &amp; File Handling:</b> Inbuilt Functions- id, len, chr, ord etc., defining and calling a function, arguments, global versus local variables, defining and using lambda functions, the map(), filter(), reduce() functions.</p> <p>Working with files : read, write and append modes: r, w, a, r+, w+, a+, reading-read(), readline(), readlines(), writing-write(), writelines(), seek(), tell(). Word count, copy file scripts through file handling concepts.</p>
IV	<p><b>Classes, modules and exceptional handling:</b> Classes: Introduction, Member variables and defining methods, constructor, destructor, data encapsulation, inheritance, multiple inheritance, diamond problem solving technique of python.</p> <p>Modules: inbuilt modules- sys, random, time etc. import, from..import, from..import *.</p> <p>Constructing packages, role of __init__.py</p> <p>Exceptional Handling: The <b>try-except-else-finally</b> block, the <b>raise</b> statement, the hierarchy of exceptions, adding exceptions.</p>
V	<p><b>Database &amp; GUI Programming:</b> importing sqlite, connecting to database, creating table, insert, select, update, delete, drop tables, accessing and modifying tables through python.</p> <p>Graphical user interfaces; event-driven programming paradigm; tkinter module, creating simple GUI; buttons, labels, entry fields, dialogs; widget attributes - sizes, fonts, colors layouts, nested frames.</p>

#### Suggestive List of Practicals

1. Find all numbers which are multiple of 17, but not the multiple of 5, between 2000 and 2500?
2. Print the first 2 and last 3 characters in a given string. Use the string slicing.
3. Write a program that eliminates duplicates in a list.
4. Implement shallow copy and deep copy of a list.
5. Find the largest of n numbers, using a user defined function largest()
6. Write a function that capitalizes all vowels in a string.
7. Read a line containing digits and letters. Write a program to give the count of digits and letters.
8. Write a function myReverse() which receives a string as an input and returns the reverse of the string.
9. Use the list comprehension methodology in python, to generate the squares of all odd numbers in a given list.
10. Generate a dictionary and print the same. The keys of the dictionary should be integers between 1 and 10 (both inclusive). The values should be the cubes of the corresponding keys.
11. Create a nested dictionary. The roll number of a student maps to a dictionary. This inner dictionary will have name, age, and place as keys. Read details of at least three students.
12. Enter a word. Create a dictionary with the letters of this word as keys, and the corresponding ASCII values as values.
13. Define a class with three methods: readString(), printString(), writeString(). The first method should read the contents of a file. The second method should print the contents to the console. The third method should write the contents to a new file.
14. Create a class account which has constructor to input account\_no, name, balance from user, print\_account() to display the account details, and deposit(), withdraw() which inputs amount and add/subtract them from the total amount of individual object.
15. Create a database table in sqlite and show the table data in python.
16. Implement DML commands in SQLite from python interface.
17. Implement tkinter methods in a python script.

*Akumar*

*Tejas*

*Makshani*

*Pragati*

*Ahmed*  
*Akumar*



**PART C: Learning Resources**

Textbooks, Reference Books, Other Resources

**Suggested Readings:**

- Taneja Sheetal & Kumar Naveen , “Python Programming: A modular approach”, Pearson
- Zed A. Shaw , “Learn Python the Hard Way”, Zed Shaw's Hard Way Series
- Liang Y. Daniel, “Introduction to Programming Using Python”, Pearson
- Charles Dierbach, “Introduction to Computer Science using Python”, Wiley
- Michael T. Goodrich, “Data Structures and Algorithms in Python”, Wiley

**PART D: Assessment and Evaluation**

Online MCQ Exam : 40 marks

Project Report & Viva : 60 Marks

Any remarks/suggestions: **Focus of the Course/Lab practicals should be on developing ability of the student in acquiring expertise through hands on practice.**

*Sharma*

*Omajyoti prajapati*

*Arora*

*Alumna*

*Kishor*

*[Signature]*