



Malad Kandivli Education Society's
NAGINDAS KHANDWALA COLLEGE
 OF COMMERCE, ARTS & MANAGEMENT STUDIES
 AND SHANTABEN NAGINDAS KHANDWALA COLLEGE OF SCIENCE

(Re-accredited (3rd cycle) by NAAC with 'A' Grade)
 ISO 9001 : 2015 Certified

Autonomous (2016-17)

Educational Excellence Award By Indus Foundation, U.S.A.
 IMC Ramkrishna Bajaj National Quality Commendation Certificate

Providing Syllabus copy of the courses highlighting the focus on employability/
 entrepreneurship/ skill development along with their course outcomes.

Sr. No.	Courses	2016-17	2017-18	2018-19	2019-20	2020-21	Total
1	Bachelor of Commerce (B.COM)	✓	✓	✓	✓	✓	5
2	Bachelor of Arts (B.A)	✓	✓	✓	✓	✓	5
3	Bachelor in Management Studies- (BMS)	✓	✓	✓	✓	✓	5
4	Bachelor of Commerce (Accounts and Finance)- BAF	✓	✓	✓	✓	✓	5
5	Bachelor of Commerce (Banking and Insurance)-BBI	✓	✓	✓	✓	✓	5
6	Bachelor of Commerce (Financial Markets)- BFM	✓	✓	✓	✓	✓	5
7	Bachelor of Science - Information Technology (B.Sc IT)	✓	✓	✓	✓	✓	5
8	Bachelor of Science- Computer Science(B.Sc CS)	✓	✓	✓	✓	✓	5
9	Bachelor of Arts- Multimedia and Mass Communication (B.A.MMC)	✓	✓	✓	✓	✓	5
10	Bachelor of Management Studies- Sports Management (BMS-SM)	X	X	✓	✓	✓	3
11	B. Com. Honours in Actuarial Studies	X	X	X	✓	✓	2
12	B.A. Honours in Apparel Design and Construction	X	X	X	✓	✓	2
13	B. Com. Honours in International Accounting	X	X	X	✓	✓	2
14	Bachelor of Management Studies- E commerce operations	X	X	X	X	✓	1
15	B.Sc. (Honours) in Integrative Nutrition & Dietetics	X	X	X	X	✓	1
16	BBA in Tourism and Travel Management	X	X	X	X	✓	1
17	B.Sc. in Interior Design	X	X	X	X	✓	1
18	Master Of Commerce-(M.COM)- Accountancy	✓	✓	✓	✓	✓	5
19	Master Of Commerce-(M.COM)- Management	✓	✓	✓	✓	✓	5
20	Master of Arts (Economics)	✓	✓	✓	✓	✓	5
21	Master of Arts (Geography)	✓	✓	✓	✓	✓	5
22	Master of Arts (Psychology)	X	X	X	✓	✓	2
23	Master of Science (Information Technology) (M.Sc IT)	✓	✓	✓	✓	✓	5
24	Master's Degree - Sports Management (MSM)	X	X	✓	✓	✓	3
25	Master of Science (Geo-informatics) (M.Sc GeoInformatics)	X	X	X	X	✓	1
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Moushumi Datta

Prof. (Dr.) Moushumi Datta
 I/c. Principal

**Nagindas Khandwala College
(Autonomous)**



**Syllabus Of
Course
Of**

**Bachelor of Science Information Technology
(BSC IT) Programme**

First Year

Semester I

Under Academic Autonomy and Credit, Grading and Semester System

(To be implemented during Academic Year- 2017-2018)

PRINCIPAL

**NAGINDAS KHANDWALA COLLEGE OF COMMERCE
ARTS & MANAGEMENT STUDIES AND SHANTABEN
NAGINDAS KHANDWALA COLLEGE OF SCIENCE
(AUTONOMOUS)
MALAD (W), MUMBAI - 400 064**

Course Code	Course	Hrs. of Instruction/ week	Exam Duration (Hours)	Maximum Marks			Credits
				CIE	SEE	Total	
1711UITBC	Part 1: Business Communication	3	2 ½ hrs	25	75	100	3

Objectives:

1. To develop effective listening skills in learner so as to enable them to comprehend instructions and become a critical listener.
2. To develop effective oral skills so as to enable learner to speak confidently interpersonally as well as in large groups.
3. To develop effective writing skills so as to enable learner to write in clear, concise, persuasive and audience centred manner.
4. To demonstrate effective use of communication technology.

Course Outcome:

On successful completion of the course, learner will be able to:

CO1: Understand the concept, channels, objectives, methods and modes of communication. (Understand)

CO2: Differentiate obstacles to communication in the business world. (Understand)

CO3: Sharpen the business correspondence, language and writing skills of the learner. (Understand)

CO4: Effectively use communication technology. (Apply)

CO5: Demonstrate effective presentation, visual communication and impress stage. (Apply)

Sr. No.	Modules / Units
1	UNIT 1 (Skill Development) The Seven Cs of Effective Communication: Completeness, Conciseness, Consideration, Concreteness, Clarity, Courtesy, Correctness Understanding Communication: Nature and Scope of Communication, Methods of communication, Cross-

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	culturalcommunication, Technology-enabledBusiness Communication
2	UNIT 2
	Writing Business Messages and Documents: Business Correspondence: Letter of inquiry, letter of order, letter of complaints, sales letter, business reports, resume writing
3	UNIT 3
	Developing Oral Communication Skills: Effective Listening, Business Presentations and Public Speaking, Conversations, Interviews, meetings and conferences, group discussions
4	UNIT 4
	Business ethics: Importance of business ethics, personal integrity at work place, computer ethics, corporate social responsibility
5	UNIT 5
	Business Presentation: Principles of effective presentation, brain storming and graphic/visual aids, use of graphics in presentation, effective use of presentation tools.



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Reference Books

Business Communication

Reference book:

1. Meenakshi Raman and Prakash Singh, Business Communication, Oxford University Press, 2nd Ed.
2. Aruna Koneru, Professional Communication, Tata McGraw Hill
3. M. S. Rao, Strategies for Improving Your Business Communication, Shroff Publishers and Distributors

Practical (1711UITPR)

(Skill Development)

Communication Origami, Guessing Game, Guessing the emotion
Body Language, Follow All Instructions, Effective Feedback Skills
The Name Game, Square Talk (Effective Communication), Room
101 (Influential and persuasive skills)

Back to Back Communication, Paper Shapes (Importance of two-
way communication), Memory Test(Presentation Skills)

Exercises on Communication Principles

Exercises on communication icebreakers

Communication exercises

For the following practicals, Microsoft Office, Open Office, Libre Office or any
other software suite can be used.

Use of word processing tools for communication

Use of spreadsheet tools for communication

Use of presentation tools for communication



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**Syllabus Of
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First Year

Semester II

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Course Code	Course	Hrs. of Instruction/Week	Exam Duration (Hours)	Maximum Marks			Credits
				CIE	SEE	Total	
1723UITWP	Core 1: Web Programming	4	2 1/2 Hours	25	75	100	3

Course Objective:

By the end of the course, learners will be able to:

1. To Learn basics of web page design
2. To create web application with CSS
3. To use CSS to implement a variety of presentation effects to the web application.
4. Build dynamic web pages using JavaScript
5. To develop web applications with php and mysql.

Course Outcome:

On completion of the course, learners will be able to:

CO1: Apply a structured approach to identifying needs, interests, and functionality of a website. (Apply)

CO2: Design dynamic websites that meet specified needs and interests.(Create)

CO3: Design appropriate HTML, CSS, and JavaScript code from public repositories of open-source and free scripts that enhances the experience of site visitors.(Create)

CO4: Analyze the existing HTML, CSS, and JavaScript code to extend and alter its functionality, and to correct errors and cases of poor practice. (Analyse)

CO5: Create a website which is functional with all the basics and advanced HTML,CSS, Javascript alongwith jQuery and Bootstrap.(Apply)



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Sr. No.	Modules / Units
1	<p data-bbox="373 421 469 450">UNIT 1</p> <p data-bbox="373 483 600 515">(Skill Development)</p> <p data-bbox="373 519 770 551">Internet and the World Wide Web:</p> <p data-bbox="373 584 1311 808">What is Internet? Introduction to internet and its applications, E-mail, telnet, FTP, e-commerce, video conferencing, e-business. Internet service providers, domain name server, internet address, World Wide Web (WWW): World Wide Web and its evolution, uniform resource locator (URL), browsers – internet explorer, Netscape navigator, opera, Firefox, chrome, Mozilla. search engine, web saver – apache, IIS, proxy server, HTTP protocol</p> <p data-bbox="373 842 464 873">HTML5:</p> <p data-bbox="373 907 1311 1010">Introduction, Why HTML5? Formatting text by using tags, using lists and backgrounds, Creating hyperlinks and anchors. Style sheets, CSS formatting text using style sheets, formatting paragraphs using style sheets.</p>
2	<p data-bbox="373 1030 469 1059">UNIT 2</p> <p data-bbox="373 1093 778 1124">HTML5 Page layout and navigation:</p> <p data-bbox="373 1128 1311 1285">Creating navigational aids: planning site organization, creating text based navigation bar, creating graphics based navigation bar, creating graphical navigation bar, creating image map, redirecting to another URL, creating division based layouts: HTML5 semantic tags, creating divisions, creating HTML5 semantic layout, positioning and formatting divisions.</p> <p data-bbox="373 1290 938 1321">HTML5 Tables, Forms and Media: Creating tables:</p> <p data-bbox="373 1326 1311 1585">creating simple table, specifying the size of the table, specifying the width of the column, merging table cells, using tables for page layout, formatting tables: applying table borders, applying background and foreground fills, changing cell padding, spacing and alignment, creating user forms: creating basic form, using check boxes and option buttons, creating lists, additional input types in HTML5, Incorporating sound and video: audio and video in HTML5, HTML multimedia basics, embedding video clips, incorporating audio on web page.</p>



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3	UNIT 3
	<p>Java Script:</p> <p>Introduction, Client-Side JavaScript, Server-Side JavaScript, JavaScript Objects, JavaScript Security,</p> <p>Operators:</p> <p>Assignment Operators, Comparison Operators, Arithmetic Operators, % (Modulus), ++(Increment), --(Decrement), -(Unary Negation), Logical Operators, Short-Circuit Evaluation, String Operators, Special Operators, ?: (Conditional operator), , (Comma operator), delete, new, this, void</p> <p>Statements:</p> <p>Break, comment, continue, delete, do...while, export, for, for...in, function, if...else, import, labelled, return, switch, var, while, with,</p> <p>Core JavaScript (Properties and Methods of Each) : Array, Boolean, Date, Function, Math, Number, Object, String, RegExp Document and its associated objects: document, Link, Area, Anchor, Image, Applet, Layer</p> <p>Events and Event Handlers : General Information about Events, Defining Event Handlers, event, onAbort, onBlur, onChange, onClick, onDbClick, onDragDrop, onError, onFocus, onKeyDown, onKeyPress, onKeyUp, onLoad, onMouseDown, onMouseMove, onMouseOut, onMouseOver, onMouseUp, onMove, onReset, onResize, onSelect, onSubmit, onUnload</p>
4	UNIT 4
	<p>PHP:</p> <p>Why PHP and MySQL? Server-side scripting, PHP syntax and variables, comments, types, control structures, branching, looping, termination, functions, passing information with PHP, GET, POST, formatting form variables, superglobal arrays, strings and string functions, regular expressions, arrays, number handling, basic PHP errors/problems</p>
5	UNIT 5
	<p>Advanced PHP and MySQL :</p> <p>PHP/MySQL Functions, Integrating web forms and databases, Displaying queries in tables, Building Forms from queries, String and Regular Expressions, Sessions, Cookies and HTTP, E-Mail</p> <p>Introduction to Bootstrap (elementary level) – Introduction to JQuery</p>

Reference Books

Web Programming

References:

1. Thomas Powell, Web Design: The Complete Reference, Tata McGraw Hill
2. Faithe Wempen, HTML5 Step by Step, Microsoft Press, 2011
3. Ivan Bayross, Sharanam Sha, PHP 5.1 for Beginners, SPD, 2013
4. Sharanam Shah, Vaishali Shah, , PHP Project for Beginners, SPD, 2015
5. Steve Suehring, Tim Converse, Joyce Park, PHP 6 and MySQL Bible, Wiley, 2009
6. Eric Freeman, Head First HTML 5 Programming, O'Reilly, 2013
7. Thomas Powell and Fritz Schneider, JavaScript 2.0: The Complete Reference, Tata McGraw Hill, 2nd Ed.

Practical (1723UITPR) (Skill Development)

1. Use of Basic Tags
 - a) Design a web page using different text formatting tags.
 - b) Design a web page with links to different pages and allow navigation between web pages
 - c) Design a web page demonstrating all Style sheet types
2. Use of Table tags, attributes and style properties
 - a) Design a simple table using border & border collapse property
 - b) Design a table with merge cells
 - c) Design a table illustrating cell padding, cell spacing & different border styles
 - d) Design a table illustrating text alignments
3. Image maps, Forms and Media
 - a) Design a web page with Imagemaps.
 - b) Design a web page demonstrating different semantics
 - c) Design a web page with different tables. Design a webpages using table so that the content appears well placed
 - d) Design a web page with a form that uses all types of controls.
 - e) Design a web page embedding with multimedia features
4. Java Script
 - a) Using JavaScript design, a web page that prints factorial/Fibonacci series/any given series
 - b) Design a form and validate all the controls placed on the form using Java Script.
 - c) Write a JavaScript program to display all the prime numbers between 1 and 100.
 - d) Write a JavaScript program to accept a number from the user and display the sum of its digits.
 - e) Write a program in JavaScript to accept a sentence from the user and display the number of words in it. (Do not use split () function).
 - f) Write a java script program to design simple calculator.
5. Control and looping statements and Java Script references
 - a) Design a web page demonstrating different conditional statements.
 - b) Design a web page demonstrating different looping statements..



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c) Design a web page demonstrating different Core JavaScript references (Array, Boolean, Date, Function, Math, Number, Object, String, regExp).

6. Basic PHP I

- a) Write a PHP Program to accept a number from the user and print its factorial
- b) Write a PHP program to accept a number from the user and print whether it is prime or not

7. Basic PHP II

Write a PHP code to find the greater of 2 numbers. Accept the no. from the user.

Write a PHP program to display the following Binary

Pyramid: 1

```
0 1
1 0 1
0 1 0 1
```

8. String Functions and arrays

Write a PHP program to demonstrate different string functions.

Write a PHP program to create one dimensional array.

9. PHP and Database

Write a PHP code to create:

Create a database College

Create a table Department (Dname, Dno, Number_Of_faculty)

Write a PHP program to create a database named "College". Create a table named "Student" with following fields (sno, sname, percentage). Insert 3 records of your choice. Display the names of the students whose percentage is between 35 to 75 in a tabular format.

Design a PHP page for authenticating a user.

Email, Sessions and Cookies

Write a program to send email with attachment.

Write a program to demonstrate use of sessions and cookies.



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**Nagindas Khandwala College
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**Syllabus Of
Course
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**Bachelor of Science Information Technology
(BSC IT) Programme**

Second Year

Semester III

Under Academic Autonomy and Credit, Grading and Semester System

(To be implemented during Academic Year- 2017-2018)

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ARTS & MANAGEMENT STUDIES AND SHANTABEN
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MALAD (W), MUMBAI - 400 064**

Course Code	Course	Hrs. of Instruction/ week	Exam Duration (Hours)	Maximum Marks			Credits
				CIE	SEE	Total	
1731UITPP	Skill Enhancement Python Programming	4	2 ½ hrs	25	75	100	3

Course Objectives –

By the end of the course, learners will be able to:

1. Understand why python is a useful scripting language for developers.
2. Learn how to design UI and program python applications.
3. Connect with the database and perform SQL commands.
4. Learn how to use different data type and its methods/functions in Python
5. Learn how to read and write files and file operations.
6. Write functions and work with String.
7. Learn how to build python modules for reusability.
8. Learn exception handling and object oriented programming

Course Outcome –

After completing this course, learner will be able to:

CO1: Write basic programs with use of Python Data Types and Statements(understand)

CO2: Design UI Applications using Python's TKinter(create)

CO3: Implement Database Connection with Python Application(apply)

CO4: Understanding File Operations(understand)

CO5: Construct python modules for reusability.(create)

CO6: Carry out exception handling and object oriented programming(apply)


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Sr. No.	Modules / Units
1	<p data-bbox="432 344 517 371">UNIT 1</p> <p data-bbox="424 412 668 443">(Skill Development)</p> <p data-bbox="424 450 1361 591">Introduction: The Python Programming Language, History, features, Installing Python, Running Python program, Debugging : Syntax Errors, Runtime Errors, Semantic Errors, Experimental Debugging, Formal and Natural Languages, The Difference Between Brackets, Braces, and Parentheses,</p> <p data-bbox="424 598 1361 701">Variables and Expressions Values and Types, Variables, Variable Names and Keywords, Type conversion, Operators and Operands, Expressions, Interactive Mode and Script Mode, Order of Operations.</p> <p data-bbox="424 707 1023 739">Conditional Statements: if, if-else, nested if –else</p> <p data-bbox="424 745 820 777">Looping: for, while, nested loops</p> <p data-bbox="424 784 1238 815">Control statements: Terminating loops, skipping specific conditions</p>
2	<p data-bbox="432 819 517 846">UNIT 2</p> <p data-bbox="424 887 1361 1102">Functions: Function Calls, Type Conversion Functions, Math Functions, Composition, Adding New Functions, Definitions and Uses, Flow of Execution, Parameters and Arguments, Variables and Parameters Are Local, Stack Diagrams, Fruitful Functions and Void Functions, Why Functions? Importing with from, Return Values, Incremental Development, Composition, Boolean Functions, More Recursion, Leap of Faith, Checking Types</p> <p data-bbox="424 1108 1361 1211">Strings: A String Is a Sequence, Traversal with a for Loop, String Slices, Strings Are Immutable, Searching, Looping and Counting, String Methods, The in Operator, String Comparison, String Operations.</p>
3	<p data-bbox="432 1258 517 1285">UNIT 3</p> <p data-bbox="424 1326 1361 1429">Lists: Values and Accessing Elements, Lists are mutable, traversing a List, Deleting elements from List, Built-in List Operators, Concatenation, Repetition, In Operator, Built-in List functions and methods</p> <p data-bbox="424 1435 1361 1576">Tuples and Dictionaries: Tuples, Accessing values in Tuples, Tuple Assignment, Tuples as return values, Variable-length argument tuples, Basic tuples operations, Concatenation, Repetition, in Operator, Iteration, Built-in Tuple Functions</p> <p data-bbox="424 1583 1361 1686">Creating a Dictionary, Accessing Values in a dictionary, Updating Dictionary, Deleting Elements from Dictionary, Properties of Dictionary keys, Operations in Dictionary, Built-In Dictionary Functions, Built-in Dictionary Methods</p> <p data-bbox="424 1693 1075 1724">Files: Text Files, The File Object Attributes, Directories</p>



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	Exceptions: Built-in Exceptions, Handling Exceptions, Exception with Arguments, User-defined Exceptions
4	UNIT 4
	<p>Regular Expressions – Concept of regular expression, various types of regular expressions, using match function.</p> <p>Classes and Objects: Overview of OOP (Object Oriented Programming), Class Definition, Creating Objects, Instances as Arguments, Instances as return values, Built-in Class Attributes, Inheritance, Method Overriding, Data Encapsulation, Data Hiding</p> <p>Multithreaded Programming: Thread Module, creating a thread, synchronizing threads, multithreaded priority queue</p> <p>Modules: Importing module, Creating and exploring modules, Math module, Random module, Time module</p>
5	UNIT 5
	<p>Creating the GUI Form and Adding Widgets:</p> <p>Widgets: Button, Canvas, Checkbutton, Entry, Frame, Label, Listbox, Menubutton, Menu, Message, Radiobutton, Scale, Scrollbar, text, Toplevel, Spinbox, PanedWindow, LabelFrame, tkMessageBox.</p> <p>Handling Standard attributes and Properties of Widgets.</p> <p>Layout Management: Designing GUI applications with proper Layout Management features.</p> <p>Look and Feel Customization: Enhancing Look and Feel of GUI using different appearances of widgets.</p> <p>Storing Data in Our MySQL Database via Our GUI : Connecting to a MySQL database from Python, Configuring the MySQL connection, Designing the Python GUI database, Using the INSERT command, Using the UPDATE command, Using the DELETE command, Storing and retrieving data from MySQL database.</p>



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Reference Books

Python Programming

Reference book:

1. Think python, Allen Downey, O'Reilly 1st edition ,2012
2. An Introduction to Computer Science using Python 3 , JasonMontejo, Jennifer Campbell, Paul Gries , SPD, 1st edition , 2014.
3. Python GUI Programming Cookbook , Burkhard A. Meier , Packt, 2015
4. Introduction to Problem Solving with Python , E. Balagurusamy , TMH, 1st edition , 2016
5. Murach's Python programming , Joel Murach, Michael Urban , SPD 1st edition 2017.
6. Object-oriented Programming in Python , Michael H. Goldwasser, David Letscher , Pearson Prentice Hall , 1st edition 2008.
7. Exploring Python , Budd, TMH, 1st 2016.



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Practical (1731UITPR)

(Skill Development)

1. Write the program for the following:

- a. Create a program that asks the user to enter their name and their age. Print out a message addressed to them that tells them the year that they will turn 100 years old.
- b. Enter the number from the user and depending on whether the number is even or odd, print out an appropriate message to the user.
- c. Write a program to generate the Fibonacci series.
- d. Write a function that reverses the user defined value.
- e. Write a function to check the input value is Armstrong and also write the function for Palindrome.
- f. Write a recursive function to print the factorial for a given number.

2. Write the program for the following:

- a. Write a function that takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.
- b. Define a function that computes the *length* of a given list or string.
- c. Define a *procedure* histogram() that takes a list of integers and prints a histogram to the screen. For example, histogram([4, 9, 7]) should print the following:

```
****
*****
*****
```

3. Write the program for the following:

- a. A *pangram* is a sentence that contains all the letters of the English alphabet at least once, for example: *The quick brown fox jumps over the lazy dog*. Your task here is to write a function to check a sentence to see if it is a pangram or not.
- b. Take a list, say for example this one:
a=[1,1,2,3,5,8,13,21,34,55,89]
and write a program that prints out all the elements of the list that are less than 5.

4. Write the program for the following:

- a. Write a program that takes two lists and returns True if they have at least one common member.
 - b. Write a Python program to print a specified list after removing the 0th, 2nd, 4th and 5th elements.
 - c. Write a Python program to clone or copy a list
5. Write the program for the following:
- a. Write a Python script to sort (ascending and descending) a dictionary by value.
 - b. Write a Python script to concatenate following dictionaries to create a new one. Sample Dictionary : dic1={1:10, 2:20} dic2={3:30, 4:40} dic3={5:50,6:60}

Expected Result : {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}



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c. Write a Python program to sum all the items in a dictionary.

6. Write the program for the following:

a. Write a Python program to read last n lines of a file.

7. Write the program for the following:

a. Design a class that store the information of student and display the same

b. Implement the concept of inheritance using python

c. Create a class called Numbers, which has a single class attribute called MULTIPLIER, and a constructor which takes the parameters x and y (these should all be numbers).

i. Write a method called add which returns the sum of the attributes x and y.

ii. Write a class method called multiply, which takes a single number parameter a and returns the product of a and MULTIPLIER.

iii. Write a static method called subtract, which takes two number parameters, b and c, and returns b - c.

iv. Write a method called value which returns a tuple containing the values of x and y. Make this method into a property, and write a setter and a deleter for manipulating the values of x and y.

8. Write the program for the following:

a. Open a new file in IDLE ("New Window" in the "File" menu) and save it as geometry.py in the directory where you keep the files you create for this course. Then copy the functions you wrote for calculating volumes and areas in the "Control Flow and Functions" exercise into this file and save it.

Now open a new file and save it in the same directory. You should now be able to import your own module like this:

```
import geometry
```

Try and add `print dir(geometry)` to the file and run it.

Now write a function `pointyShapeVolume(x, y, squareBase)` that calculates the volume of a square pyramid if `squareBase` is True and of a right circular cone if `squareBase` is False. `x` is the length of an edge on a square if `squareBase` is True and the radius of a circle when `squareBase` is False. `y` is the height of the object. First use `squareBase` to distinguish the cases. Use the `circleArea` and `squareArea` from the `geometry` module to calculate the base areas.

b. Write a program to implement exception handling.

9. Write the program for the following:

a. Try to configure the widget with various options like: `bg="red"`, `family="times"`, `size=18`

b. Try to change the widget type and configuration options to experiment with other widget types like Message, Button, Entry, Checkbutton, Radiobutton, Scale etc.

10. Design the database applications for the following:

a. Design a simple database application that stores the records and retrieve the same.

b. Design a database application to search the specified record from the database.

c. Design a database application to that allows the user to add, delete and modify the records.



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MALAD (W), MUMBAI - 400 084

Nagindas Khandwala College
(Autonomous)



Syllabus Of
Course
Of

Bachelor of Science Information Technology
(BSC IT) Programme

Second Year

Semester IV

Under Academic Autonomy and Credit, Grading and Semester System

(To be implemented during Academic Year- 2017-2018)

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Course Code	Course	Hrs. of Instruction/ week	Exam Duration (Hours)	Maximum Marks			Credits
				CIE	SEE	Total	
1741UITCJ	Skill Enhancement: Core Java	3	2 ½ hrs	25	75	100	3

Course Objectives:

By the end of the course, learners will be able to:

1. Understand the importance of Object Oriented paradigm in Application development.
2. Study Java language Basics.
3. Implement Object oriented concepts using Java.
4. Understand concepts of packages and Multithreading in Java.
5. Explore the importance of Exception handling in program design.
6. To develop GUI Applications using AWT.

Course Outcome:

After successful completion of this course, learners will be able to:

- CO1: Acquire knowledge about Java language.(Understand)
- CO2: Apply Object Oriented paradigm in Application development.(Apply)
- CO3: Develop user defined packages.(Understand)
- CO4: Implement Single threaded and Multithreaded programs in Java language.(Apply)
- CO5: Create programs using Exception Handling.(Understand)
- CO6: Integrate important concepts of OOP to develop GUI applications.(Create)


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Sr. No.	Modules / Units
1	UNIT 1 (Skill Development) Introduction: History, architecture and its components, Java Class File, Java Runtime Environment, The Java Virtual Machine, JVM Components, The Java API, java platform, java development kit, Lambda Expressions, Methods References, Type Annotations, Method Parameter Reflection, setting the path environment variable, Java Compiler And Interpreter, java programs, java applications, main(), public, static, void, string[] args, statements, white space, case sensitivity, identifiers, keywords, comments, braces and code blocks, variables, variable name Data types: primitive data types, Object Reference Types, Strings, Auto boxing, operators and properties of operators, Arithmetic operators, assignment operators, increment and decrement operator, relational operator, logical operator, bitwise operator, conditional operator.
2	UNIT 2 Control Flow Statements: The If...Else If...Else Statement, The Switch...Case Statement Iterations: The While Loop, The Do ... While Loop, The For Loop, The Foreach Loop, Labeled Statements, The Break And Continue Statements, The Return Statement Classes: Types of Classes, Scope Rules, Access Modifier, Instantiating Objects From A Class, Initializing The Class Object And Its Attributes, Class Methods, Accessing A Method, Method Returning A Value, Method's Arguments, Method Overloading, Variable Arguments [Varargs], Constructors, this Instance, super Instance, Characteristics Of Members Of A Class, constants, this instance, static fields of a class, static methods of a class, garbage collection.
3	UNIT 3 Inheritance: Derived Class Objects, Inheritance and Access Control, Default Base Class Constructors, this and super keywords. Abstract Classes And Interfaces, Abstract Classes, Abstract Methods, Interfaces, What Is An Interface? How Is An Interface Different From An Abstract Class?, Multiple Inheritance, Default Implementation, Adding New Functionality, Method Implementation, Classes V/s Interfaces, Defining An

Comment [1]: Focusses on skill development



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	<p>Interface, Implementing Interfaces.</p> <p>Packages: Creating Packages, Default Package, Importing Packages, Using A Package.</p>
4	<p>UNIT 4</p> <p>Enumerations, Arrays: Two Dimensional Arrays, Multi-Dimensional Arrays, Vectors, Adding Elements To A Vector, Accessing Vector Elements, Searching For Elements In A Vector, Working With The Size of The Vector.</p> <p>Multithreading: the thread control methods, thread life cycle, the main thread, creating a thread, extending the thread class.</p> <p>Exceptions: Catching Java Exceptions, Catching Run-Time Exceptions, Handling Multiple Exceptions, The finally Clause, The throws Clause</p> <p>Byte streams: reading console input, writing console output, reading file, writing file, writing binary data, reading binary data, getting started with character streams, writing file, reading file</p>
5	<p>UNIT 5</p> <p>Event Handling: Delegation Event Model, Events, Event classes, Event listener interfaces, Using delegation event model, adapter classes and inner classes. Abstract Window Toolkit: Window Fundamentals, Component, Container, Panel, Window, Frame, Canvas. Components – Labels, Buttons, Check Boxes, Radio Buttons, Choice Menus, Text Fields, Text, Scrolling List, Scrollbars, Panels, Frames</p> <p>Layouts: Flow Layout, Grid Layout, Border Layout, Card Layout.</p>

Reference Books	
Core Java	
Reference book:	<ol style="list-style-type: none"> 1. Core Java 8 for Beginners , Vaishali Shah, Sharnam Shah SPD 1st edition 2015. 2. Java: The Complete Reference Herbert Schildt McGraw Hill 9th edition 2014 3. Murach's beginning Java with Net Beans Joel Murach , Michael Urban SPD 1st edition 20116 4. Core Java, Volume I: Fundamentals Hortsman Pearson 9th edition 2013. 5. Core Java, Volume II: Advanced Features Gary Cornell and Hortsman Pearson 8th edition 2008 6. Core Java: An Integrated Approach R. Nageswara Rao Dreamtech 1st edition 2008


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Practical (1741UITPR) (Skill Development)

1. Java Basics

- Write a Java program that takes a number as input and prints its multiplication table upto 10.
- Write a Java program to display the following pattern:

```
*****
****
***
**
*
```

- Write a Java program to print the area and perimeter of a circle.

2. Use of Operators

- Write a Java program to add two binary numbers.
- Write a Java program to convert a decimal number to binary number and vice versa.
- Write a Java program to reverse a string.

3. Java Data Types

- Write a Java program to count the letters, spaces, numbers and other characters of an input string.
- Implement a Java function that calculates the sum of digits for a given char array consisting of the digits '0' to '9'. The function should return the digit sum as a long value.
- Find the smallest and largest element from the array

4. Methods and Constructors

- Designed a class SortData that contains the method asc() and desc().
- Designed a class that demonstrates the use of constructor and destructor.
- Write a java program to demonstrate the implementation of abstract class.

5. Inheritance

- Write a java program to implement single level inheritance.
- Write a java program to implement method overriding
- Write a java program to implement multiple inheritance.

6. Packages and Arrays

- Create a package, Add the necessary classes and import the package in java class.
- Write a java program to add two matrices and print the resultant matrix.
- Write a java program for multiplying two matrices and print the product for the same.

7. Vectors and Multithreading

- Write a java program to implement the vectors.
- Write a java program to implement thread life cycle.
- Write a java program to implement multithreading.

8. File Handling

- Write a java program to open a file and display the contents in the console window.
- Write a java program to copy the contents from one file to other file.
- Write a java program to read the student data from user and store it in the file.

9. GUI and Exception Handling

- Design a AWT program to print the factorial for an input value.
- Design an AWT program to perform various string operations like reverse string, string concatenation etc.
- Write a java program to implement exception handling.

10. GUI Programming.

Design an AWT application that contains the interface to add student information and display the same., b. Design a calculator/marksheet based on AWT application


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