

**Vivekanand College, Kolhapur (Autonomous)**  
Department of Computer Science


Date: 17/07/2023

**IMPORTANT NOTICE**

All the students from B.Sc. II taking admission to B.Sc. III (*Year Down/Newly admitted from other college to Vivekanand College, Kolhapur*) are hereby informed that it is mandatory to complete a bridge course so as to accommodate concern student in autonomous curricula.

The commencement of the said bridge course will be from 7<sup>th</sup> August 2023 to 12<sup>th</sup> August 2023.



  
**Dr. V. B. Waghmare**  
Head of Department  
**HEAD**  
DEPARTMENT OF COMPUTER SCIENCE  
VIVEKANAND COLLEGE, KOLHAPUR  
(AUTONOMOUS)

**Vivekanand College (Autonomous), Kolhapur**  
**Department of Computer Science**  
**Syllabus of Bridge Course for B. Sc. II students**

[15 Hours]

<b>Unit I</b>	<p><b>Conditional Statements:</b> if, if-else, nested if –else</p> <p><b>Looping:</b> for, while, nested loops, else clause with while and for loop</p> <p><b>Control statements:</b> Terminating loops, skipping specific conditions( break, continue, pass),<b>Numeric Functions,String Manipulation</b></p> <p><b>Lists:</b> Creating a list, Displaying list(print()), Basic Operation Iteration (for var in list), Slicing, Updating(=) and deleting(del) element of a list. Compare (cmp()), Maximum(max()) and minimum (min()), List Methods</p> <p><b>Tuples (sequence of immutable objects) :</b> Creating tuples(using () brackets) and Deleting tuple(del), empty tuple, Displaying( print()), Basic Operation</p>	5H
<b>Unit II</b>	<p><b>Dictionaries –</b> Concept of dictionary, Creating Dictionary ( {Key:Value,...} ), Values are mutable objects but keys are immutable object, Properties of Dictionary keys, Basic Operation( Length (len()), Compare (cmp() ) , Dictionary Methods</p> <p><b>Functions:</b> Defining Functions(def, name, arguments, :, function suite, return statement), calling a function</p> <p><b>Algorithm, Searching and Sorting –</b> Searching(Linear, Binary) and sorting techniques ( Bubble, Insertion, Merge ), Efficiency of algorithms</p> <p><b>Python File Input-Output:</b> Opening and closing file, Various types of file modes, reading and writing to files</p>	5H
<b>Unit III</b>	<p><b>ER to The Relational Model ,Introduction to Functional Dependencies and Normalization –</b>1NF, 2NF, 3NF, BCNF</p> <p><b>Relational Algebra:</b> operations (selection, projection, set operations union, intersection, difference, cross product, division, Joins –conditional, equi join and natural joins),<b>MySQL Joining Tables –</b> inner join, outer join (left outer, right outer, full outer),<b>Database Protection:</b> Security Issues, Threats to Databases, Security Mechanisms, Role of DBA, Discretionary Access Control</p> <p><b>MySQL –</b> Stored functions, procedures, cursor, trigger, views (creating, altering dropping, renaming and manipulating views)</p>	5H
<p><b>Text books:</b></p> <ol style="list-style-type: none"> <li>1) Charles Dierbach, <i>Introduction to Computer Science using Python</i>, Wiley, 2013</li> <li>2) James Payne , <i>Beginning Python: Using Python 2.6 and Python 3</i>, Wiley India, 2010</li> <li>3) Paul Gries , Jennifer Campbell, Jason Montojo, <i>Practical Programming: An Introduction to Computer Science Using Python 3</i>, Pragmatic Bookshelf, 2/E 2014</li> </ol> <p><b>Additional References:</b></p> <ol style="list-style-type: none"> <li>1. Paul Gries , Jennifer Campbell, Jason Montojo, <i>Practical Programming: An Introduction to computer Science Using Python 3</i>, Pragmatic Bookshelf, 2/E 2014</li> <li>2. Adesh Pandey, <i>Programming Languages – Principles and Paradigms</i>, Narosa, 2008</li> <li>3. A. Lukaszewski, <i>MySQL for Python: Database Access Made Easy</i>, Pact Publisher, 2010</li> </ol>		





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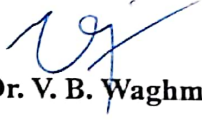
Department of Computer Science

Bridge Course Attendance

Name of Student	Day-1 07-08-2023	Day-2 08-08-2023	Day-3 09-08-2023	Day-4 10-08-2023	Day-5 11-08-2023	Day-6 12-08-2023
PATOLE NISHA SADASHIV	Prs.	Prs.	Prs.	Prs.	Prs.	Prs.

  
Dr. R. Y. Patil

  
Dr. I. K. Mujawar

  
Dr. V. B. Waghmare

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