

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Computer Science and Engineering (CS)

Course Name : APPLICATION DEVELOPMENT USING PYTHON

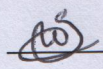
(18CS55)

Class : Semester 5 A & B

Ms Shilpa,
Assistant Professor,
2020-21



Faculty Details

Name	:	Ms Shilpa
Qualification	:	B.E, M.Tech
Department	:	CSE
Permanent Address	:	D/o Hav Y Gowda, Bilgunda(Vill), Shankarnahally (P), Hassan, 573201, India
Phone Number	:	9008873670
Email ID	:	shilpa@aiet.org.in
Specimen Signature	:	 _____



ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

A Unit of Alva's Education Foundation (R)

(Affiliated to Visvesvaraya Technological University, Belagavi

Approved by AICTE, New Delhi & Recognised by Government of Karnataka)

Shobhavana Campus, Mijar, Moodbidri - 574 225, Mangalore, D.K., Karnataka State.

Phone : 08258-262724 (O), 262725 (P), Telefax:08258-262726

Email : principalaiet08@gmail.com, Web:www.aiet.org.in

Date: 20/06/2018

Department of Computer Science & Engineering

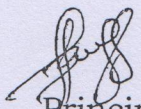
Program Specific Outcomes (PSOs):

A graduate of the Computer Science and Engineering Program will exhibit:

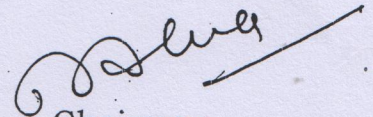
PSO1: Professional Skills: The ability to understand & implement the computer programs in the areas of Computer Architecture, System Software, Database Management Systems, Web Design, Multimedia and Computer Networking.

PSO2: Problem-Solving Skills: The ability to solve real-world problems by suitable mathematical model with strong technological concepts in rapidly growing arena of computer technology.

PSO3: Successful Career and Entrepreneurship: Knowledge in diverse areas of Software Engineering and Management & Entrepreneurship for IT Industry, conducive in cultivating skills for successful career development.


Principal
PRINCIPAL

Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K


Chairman
CHAIRMAN

ALVA'S EDUCATION FOUNDATION (R)
MOODBIDRI - 574 227 (D.K.)



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Date: 20/06/2018

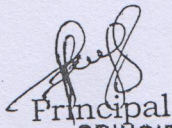
Department of Computer Science & Engineering

Vision Statement:

"Engendering competent, excellent professionals by transforming the knowledge and computing skills to individuals through modern innovative tools and techniques"

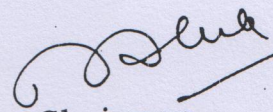
Mission Statements:

- M1. To produce skilled, creative software developers through rigorous training.
- M2. To conduct specific technical courses to keep abreast to the latest technological developments and transformations in the domain.
- M3. To implement the ideas of research and innovations in interdisciplinary domains.
- M4. To establish Industry-Institute Interaction programs to enhance the skills of employability and entrepreneurship.



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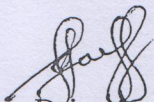
Date: 20/06/2018

Department of Computer Science & Engineering

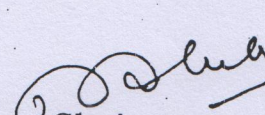
Program Educational Objectives (PEOs):

The graduates of Computer Science & Engineering will able to

- PEO1: Exhibit fundamental strength in core courses of Computer Engineering to solve the problems of computing world.
- PEO2: Adapt and contribute towards the emerging technological changes.
- PEO3: Employed in computing profession or engaged in learning to pursue higher studies.


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Email : principalaiet08@gmail.com, Web:www.aiet.org.in

Date: 10/04/2018

Vision Statement of the Institute:

Transformative education by pursuing excellence in Engineering and Management through enhancing skills to meet the evolving needs of the community.

Mission Statements of the Institute:

- M1. To bestow quality technical education to imbibe knowledge, creativity and ethos to students community.
- M2. To inculcate the best engineering practices through transformative education.
- M3. To develop a knowledgeable individual for a dynamic industrial scenario.
- M4. To inculcate research, entrepreneurial skills and human values in order to cater the needs of the society.

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Chairman
CHAIRMAN

ALVA'S EDUCATION FOUNDATION (R)
MOODBIDRI - 574 227 (D.K.)

Time Table
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COMPUTER SCIENCE AND ENGINEERING										
Academic Year		Scheme		Semester		Section		Class Coordinator		Room No
2020-21		2018		V		A		Ms. Shilpa		101
Time Day	9.00 To 9.55	9.55 To 10.50	10.50 To 11.10	11.10 To 12.05	12.05 To 1.00	1.00 To 2.00	2.00 To 3.00	3.00 To 4.00	4.00 To 5.00	
MON	ADP	ES	B R E A K	DBMS	CNS	L U N C H	CN LAB B-1/DBMS LAB B-2			
TUE	CNS	ATC		DBMS	ME		UP	ACTIVITIES		
WED	ME	UP		ATC	DBMS		ATC	CNS	DBMS	
THU	UP	CNS		DBMS	ATC		ME	ACTIVITIES		
FRI	ADP	CN LAB B-2/DBMS LAB B-1			ADP		ACTIVITIES			
SAT	ADP	CNS		ME	UP					

Allocation of Subjects

Subjects			Staffs		Staff Code
18CS51	ME	Management, Entrepreneurship for IT Industry	Mr. Konanki Surendra		KSU
18CS52	CNS	Computer Networks and Security	Ms. Ankitha Shetty		AS
18CS53	DBMS	Database Management System	Mr. Hemanth Kumar N.P.		HNP
18CS54	ATC	Automata Theory and Computability	Mr. Harish Kunder		HK
18CS55	ADP	Application Development using Python	Ms. Shilpa		SH
18CS56	UP	Unix Programming	Mr. Abdul Khader		AK
18CSL57	CN Lab	Computer Network Laboratory	Ms. Ankitha Shetty Ms. Shruthi Shetty J. Ms. Megha D. Hegde		AS SSJ MDH
18CSL58	DBMS Lab	DBMS Laboratory with mini project	Ms. Pranitha Mr. Konanki Surendra		PR KSU
18CIV59	ES	Environmental Studies	Ms. Kavya Salian		KS

Time Table Coordinator

Dept. Of Computer Science & Engineering
Alva's Institute of Engineering & Technology
Mijar, MOODBIDRI - 574 225

H.O.D

Principal
Alva's Institute of Engineering & Technology
Mijar, MOODBIDRI - 574 225, D.K

Time Table
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Academic Year		Scheme		Semester		Section		Class Coordinator		Room No
2020-21		2018		V		B		Ms. Shilpa		311
Time Day	9.00 To 9.55	9.55 To 10.50	10.50 To 11.10	11.10 To 12.05	12.05 To 1.00	1.00 To 2.00	2.00 To 3.00	3.00 To 4.00	4.00 To 5.00	
MON	CNS	ATC		UP/ DAD	ADP/ OOMD	L U N C H	DBMS	ACTIVITIES		
TUE	DBMS	CN LAB B-1/DBMS LAB B-2					CNS	ATC	ME	
WED	DBMS	CNS	B R E A K	ADP/ OOMD	UP/ DAD		ME	ACTIVITIES		
THU	ME	ATC		UP/ DAD	ADP/ OOMD		CN LAB B-2/DBMS LAB B-1			
FRI	CNS	ES		ADP/ OOMD	UP/ DAD		DBMS	ACTIVITIES		
SAT	ME	ATC		DBMS	CNS					

Allocation of Subjects

Subjects			Staffs	Staff Code
18CS51/ 17CS51	ME	Management, Entrepreneurship for IT Industry	Mr.Konanki Surendra	KSU
18CS52/ 17CS52	CNS	Computer Networks and Security	Ms.Ankitha Shetty	AS
18CS53/ 17CS53	DBMS	Database Management System	Mr. Hemanth Kumar N.P.	HNP
18CS54/ 17CS54	ATC	Automata Theory and Computability	Mr. Harish Kunder	HK
18CS55/ 17CS551	ADP/ OOMD	Application Development using Python Object Oriented Modeling and Design	Ms. Shilpa Mr.Konanki Surendra	SH KSU
18CS56/ 17CS564	UP/ DAD	Unix Programming Dot Net Framework for Application Development	Mr. Abdul Khader Mr. Madhusudhan S.	AK MS
18CSL57/ 17CSL57	CN Lab	Computer Network Laboratory	Ms.Ankitha Shetty Ms. Shruthi Shetty J. Ms. Megha D. Hegde	AS SSJ MDH
18CSL58/ 17CSL58	DBMS Lab	DBMS Laboratory with mini project	Ms.Pranitha Mrs. Vidya	PR VD
18CIV59	ES	Environmental Studies	Ms. Tanvi Rai	TR

NOTE: OOMD/DAD: Room No-304

Time Table Coordinator

Dept. Of Computer Science & Engineering

Principal

Alva's Institute of Engineering & Technology

Individual Faculty Time Table
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Academic Year		2020-21	Faculty Name			Ms. Shilpa (SH)			
Semester		ODD	Designation			Assistant Professor			
Time Day	9.00 To 9.55	9.55 To 10.50	11.10 To 12.05	12.05 To 1.00	L U N C H B R E A K	2.00 To 3.00	3.00 To 4.00	4.00 To 5.00	
	MON	ADP (5A)				ADP (5B)		ACTIVITIES 5B	
TUE		C Programming Lab B-1 (Section: Che-2) (S)					ACTIVITIES 5A		
WED			ADP (5B)			C Programming Lab B-2 (Section: Che-4) P			
THU		C Programming Lab B-1 (Section: Che-4) (P)		ADP (5B)		C Programming Lab B-2 (Section: Che-1) (H)			
FRI	ADP (5A)		ADP (5B)	ADP (5B)		ADP (5A)			
SAT	ADP (5A)								
UNITS:		Theory:16		LAB: 11	Others: 05	TOTAL UNITS: 32			
Allocation of Subjects (Subjects with Subject Code)									
18CS55	Application Development using Python (ADP)								
18CSL37	Analog and Digital Electronics Lab (ADE Lab)								
18CPL17	C Programming Lab								
Responsibilities									
Class Coordinator- III year, Media/Website/E-News Letter & Magazine Coordinator, Impartus, VTU Non-Credit, NAAC-Criteria-1, NBA Criteria-7									

Time Table Coordinator

H.O.D.
Head of the Department
Dept. of Computer Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225



Alva's Institute of Engineering & Technology

Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ACADEMIC CALENDAR (2020-2021)-ODD

Sl.No	Departmental Activities	Dates
1.	Commencement of Online Classes	01 st Sep, 2020
2.	Final Year Project Synopsis Submission	30 th Sep, 2020
3.	FDP: FDP on "How to improve the Quality in Teaching Learning Process" (Online Mode)	2 nd & 3 rd Oct, 2020
4.	Submission of Assignment-1	Oct 2 nd Week 2020
5.	Final year Project Screening	19 th Oct, 2020
6.	Alva's Technothon 2020	23rd Oct 2020 to 12th Nov, 2020
7.	Final year Project Phase-I Evaluation	28 th to 31 st Dec, 2020
8.	Commencement of Offline Classes	17 th Nov, 2020
9.	I.A Test -1	17 th -19 th Nov, 2020
10.	Submission of Assignment-2	Nov 3 rd Week 2020
11.	Webinar on "How to crack Tech Giants "	20 th Nov, 2020
12.	Submission of VTU- Non Credit Activity Report	30 th Nov, 2020
13.	Webinar on "British Council IELTS for higher studies"	4 th Dec, 2020
14.	Webinar on "National Education Policy - Role of Teachers in Higher Education"	5 th Dec, 2020
15.	Forum Activity: C Kaliyona for 2 nd year Mechanical Students	2 nd week of Dec, 2020
16.	Forum Activity: Linux Awareness for 1 st year Chemistry Cycle	18 th and -19 th Dec, 2020
17.	I.A Test -2	21 st -23 rd Dec, 2020
18.	Forum Activity: C Kaliyona for 2 nd year Mechanical Students	Last week of Dec, 2020
19.	Forum Activity: Linux Awareness for 1 st year Physics Cycle	01 st and 02 nd Jan, 2021
20.	Submission of Assignment-3	Jan 2 nd week 2021
21.	Technical Talk on "How to prepare for the Industries"	4 th Jan, 2021
22.	Tech Club Activity: HTML Awareness for 1 st year	4 th & 6 th Jan, 2021
23.	Tech Club Activity: WarTecx Dept. Tech club event	8 th & 9 th Jan, 2021
24.	I.A Test -3 for 3 rd and final year students	13 th -16 th Jan, 2021
25.	I.A Test -3 for 2 nd year students	15 th - 17 th Feb, 2021

Approved by HOD CSE (IQAC Chairman)

H.O.D.
Dept. Of Computer Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

APPLICATION DEVELOPMENT USING PYTHON

[(Effective from the academic year 2018 -2019)

SEMESTER – V

Course Code	18CS55	IA Marks	40
Number of Lecture Hours/Week	03	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03

CREDITS – 03

Course Learning Objectives: This course (18CS55) will enable students to

- Learn the syntax and semantics of Python programming language.
- Illustrate the process of structuring the data using lists, tuples and dictionaries.
- Demonstrate the use of built-in functions to navigate the file system.
- Implement the Object Oriented Programming concepts in Python.
- Appraise the need for working with various documents like Excel, PDF, Word and Others.

Module – 1

Python Basics, Entering Expressions into the Interactive Shell, The Integer, Floating-Point, and String Data Types, String Concatenation and Replication, Storing Values in Variables, Your First Program, Dissecting Your Program, **Flow control**, Boolean Values, Comparison Operators, Boolean Operators, Mixing Boolean and Comparison Operators, Elements of Flow Control, Program Execution, Flow Control Statements, Importing Modules, Ending a Program Early with sys.exit(), **Functions**, def Statements with Parameters, Return Values and return Statements, The None Value, Keyword Arguments and print(), Local and Global Scope, The global Statement, Exception Handling, A Short Program: Guess the Number

Textbook 1: Chapters 1 – 3

RBT: L1, L2

Teaching Hours

08

Module – 2

Lists, The List Data Type, Working with Lists, Augmented Assignment Operators, Methods, Example Program: Magic 8 Ball with a List, List-like Types: Strings and Tuples, References, **Dictionaries and Structuring Data**, The Dictionary Data Type, Pretty Printing, Using Data Structures to Model Real-World Things, **Manipulating Strings**, Working with Strings, Useful String Methods, Project: Password Locker, Project: Adding Bullets to Wiki Markup

Textbook 1: Chapters 4 – 6

RBT: L1, L2, L3

08

Module – 3

Pattern Matching with Regular Expressions, Finding Patterns of Text Without Regular Expressions, Finding Patterns of Text with Regular Expressions, More Pattern Matching with Regular Expressions, Greedy and Nongreedy Matching, The findall() Method, Character Classes, Making Your Own Character Classes, The Caret and Dollar Sign Characters, The Wildcard Character, Review of Regex Symbols, Case-Insensitive Matching, Substituting Strings with the sub() Method, Managing Complex Regexes, Combining re.IGNORECASE, re.DOTALL, and re.VERBOSE, Project: Phone Number and Email Address Extractor, **Reading and Writing Files**, Files and File Paths, The os.path Module, The File Reading/Writing Process, Saving Variables with the shelve Module, Saving Variables with the pprint.pformat() Function, Project: Generating Random Quiz Files, Project: Multiclipboard, **Organizing Files**, The shutil Module, Walking a Directory Tree, Compressing Files with the zipfile Module, Project: Renaming Files with American-Style Dates to European-Style Dates, Project: Backing Up a Folder into a ZIP File, **Debugging**, Raising Exceptions, Getting the Traceback as a String, Assertions, Logging, IDLE's Debugger.

Textbook 1: Chapters 7 – 10

08

RBT: L1, L2, L3	
Module – 4	
Classes and objects , Programmer-defined types, Attributes, Rectangles, Instances as return values, Objects are mutable, Copying, Classes and functions , Time, Pure functions, Modifiers, Prototyping versus planning, Classes and methods , Object-oriented features, Printing objects, Another example, A more complicated example, The init method, The <code>__str__</code> method, Operator overloading, Type-based dispatch, Polymorphism, Interface and implementation, Inheritance , Card objects, Class attributes, Comparing cards, Decks, Printing the deck, Add, remove, shuffle and sort, Inheritance, Class diagrams, Data encapsulation Textbook 2: Chapters 15 – 18 RBT: L1, L2, L3	08
Module – 5	
Web Scraping , Project: MAPIT.PY with the webbrowser Module, Downloading Files from the Web with the requests Module, Saving Downloaded Files to the Hard Drive, HTML, Parsing HTML with the BeautifulSoup Module, Project: “I’m Feeling Lucky” Google Search, Project: Downloading All XKCD Comics, Controlling the Browser with the selenium Module, Working with Excel Spreadsheets , Excel Documents, Installing the openpyxl Module, Reading Excel Documents, Project: Reading Data from a Spreadsheet, Writing Excel Documents, Project: Updating a Spreadsheet, Setting the Font Style of Cells, Font Objects, Formulas, Adjusting Rows and Columns, Charts, Working with PDF and Word Documents , PDF Documents, Project: Combining Select Pages from Many PDFs, Word Documents, Working with CSV files and JSON data , The csv Module, Project: Removing the Header from CSV Files, JSON and APIs, The json Module, Project: Fetching Current Weather Data Textbook 1: Chapters 11 – 14 RBT: L1, L2, L3	08
Course Outcomes: After studying this course, students will be able to	
• Demonstrate proficiency in handling of loops and creation of functions. • Identify the methods to create and manipulate lists, tuples and dictionaries. • Discover the commonly used operations involving regular expressions and file system. • Interpret the concepts of Object-Oriented Programming as used in Python. • Determine the need for scraping websites and working with CSV, JSON and other file formats.	
Question paper pattern:	
• The question paper will have ten questions. • Each full Question consisting of 20 marks • There will be 2 full questions (with a maximum of four sub questions) from each module. • Each full question will have sub questions covering all the topics under a module. • The students will have to answer 5 full questions, selecting one full question from each module.	
Text Books:	
1. Al Sweigart, “Automate the Boring Stuff with Python”, 1st Edition, No Starch Press, 2015. (Available under CC-BY-NC-SA license at https://automatetheboringstuff.com/) (Chapters 1 to 18) 2. Allen B. Downey, “Think Python: How to Think Like a Computer Scientist”, 2nd Edition, Green Tea Press, 2015. (Available under CC-BY-NC license at http://greenteapress.com/thinkpython2/thinkpython2.pdf) (Chapters 13, 15, 16, 17, 18) (Download pdf/html files from the above links)	
Reference Books:	
1. Gowrishankar S, Veena A, “Introduction to Python Programming”, 1st Edition, CRC Press/Taylor & Francis, 2018. ISBN-13: 978-0815394372	

Department of Computer Science & Engineering

SEMESTER – 5

Course Code: **18CS55**

Course Name: **Application Development using Python**

Course Teacher: **Ms. Shilpa**

Course Outcomes: After studying this course, students will be able to,

CO Numbers	Course Outcomes	Blooms Level	Target Level
18CS55.1	Understand and implement the basic programming constructs with flow control statement, functions and Exception handling.	Understand (L2) Apply (L3)	2
18CS55.2	Understand and implement the data structures in python such as List, Tuples, Strings and Dictionaries techniques.	Understand (L2) Apply (L3)	2
18CS55.3	Understand and demonstrate pattern matching technique with RE, complete file system and debugging.	Understand (L2) Apply (L3)	2
18CS55.4	Interpret and apply OOP's the concepts such as classes and objects, class and methods, classes and functions and Inheritance in Python.	Understand (L2) Apply (L3)	2
18CS55.5	Comprehend and apply the processes of web scraping, working with Excel spread sheets, PDF, Word, CSV, JSON file formats.	Understand (L2) Apply (L3)	2

CO-PO/PSO Mapping Matrix:

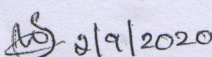
CO Numbers	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
18CS55.1	2	1	1									2	2	2	1
18CS55.2	2	1	1									2	2	2	1
18CS55.3	2	2	2	1	2							2	2	2	1
18CS55.4	2	2	2	1	2							2	2	2	1
18CS55.5	2	2	2	1	2							2	2	2	1
Average	2	1.6	1.2	1	2							2	2	2	1

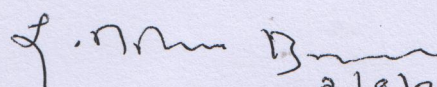
CO-PO/CO-PSO Mapping Matrix Justification: Students to have,

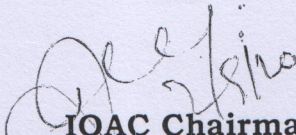
CO	POs	Level	Justification
18CS55.1	PO1	2	Basic programming construct with flow control contributes to the enrichment of fundamental knowledge in computer programming in moderate level.
	PO2	1	Concepts of flow control and modules contribute to enhancement of Problem solving skills in low level.
	PO3	1	Concepts of exception handling and packages contribute in designing the solution to problem in computer science engineering in low level
	PO12	2	Basic programming constructs like flow control operators in python contributes to the enhancement of life-long learning skill in moderate level
	PSO1	2	Basic programming construct contributes to the enrichment of Professional skills in computer programming in moderate level
	PSO2	2	Concepts of exception handling, function and modules contribute in the enhancement of Problem-solving skills in moderate level.

18CS55.2	PSO3	2	Basic concepts of Python programming contribute to cultivating skills for successful career development in low level.
	PO1	2	The data structure concepts like lists, string contributes to the enrichment of fundamental knowledge in computer programming in moderate level.
	PO2	1	Concepts like string, list and tuples will contribute to the enhancement of Problem solving skills in low level.
	PO3	1	Data structure concepts contribute to designing the solution to problem in low level
	PO12	2	Data structure concepts in python contributes to the enhancement of life-long learning skill in moderate level
	PSO1	2	List, tuples, dictionaries and structuring data contributes to the enrichment of Professional skills in computer programming in moderate level
	PSO2	2	Concepts of manipulating strings contribute to the enhancement of Problem-solving skills in moderate level.
	PSO3	1	Concepts like List, Tuples, Strings and Dictionary in Python programming contribute to cultivating skills for successful career development in low level.
18CS55.3	PO1	2	The concepts of Pattern matching with Regular expression contributes to the enrichment of fundamental knowledge in computer programming in moderate level.
	PO2	2	Handling and organizing the files in python will contribute to the enhancement of Problem solving skills in moderate level.
	PO3	2	Concepts of Regular expression and reading and writing the files in python contribute to designing the solution to problem in moderate level
	PO4	1	Pattern matching using greedy and non-greedy approaches contribute to conduct investigation of complex problem in low level.
	PO5	2	Implementation Regex symbol and Regular expression for matching the pattern and organizing the files in Python programs contribute to usage of modern tools in moderate level.
	PO12	2	The concepts of Pattern matching with Regular expression, Reading and writing the files in python contribute to the enhancement of life-long learning skill in moderate level.
	PSO1	2	Concepts of Regular expression, handling and organizing files will contributes to the enrichment of Professional skills in computer programming in moderate level.
	PSO2	2	Concepts of Debugging, exception raising in file system contributes to enhancement of Problem-solving skills in low level.
18CS55.4	PSO3	1	Working with regular expression for pattern matching and organizing the files in Python programming will contribute to cultivating skills for successful career development in low level.
	PO1	2	Basic programming construct with OOP in python, contributes to the enrichment of fundamental knowledge in computer programming in moderate level
	PO2	2	Concepts like programmer-defined types contributes to enhancement of fundamental knowledge of Object-oriented concepts in python in moderate level.
	PO3	2	OOP concepts like classes, object and methods in python contributes to designing the solution to problem in computer science engineering in moderate level
	PO4	1	Classes and object, Inheritance contribute to the conduct of investigating complex problems in the Python in low level.

	PO5	2	Implementation of the class and objects programs using python programming contributes to usage of modern tools in moderate level.
	PO12	2	Concepts of OOPs contribute to the enhancement of life-long learning skill in moderate level.
	PSO1	2	Basic programming construct of OOPs in python, contributes to the enrichment of Professional skills in computer programming in moderate level
	PSO2	2	Concepts likes classes, methods, inheritance will contribute to enhancement of Problem-solving skills in moderate level.
	PSO3	1	Implementation of the class and objects programs using python programming in Python programming contributes to cultivating skills for successful career development in low level.
18CS55.5	PO1	2	Basic concepts of web scraping, Working with PDF, CSV format in python, contribute to the enrichment of fundamental knowledge in computer programming in moderate level
	PO2	2	Working with spreadsheet, JSON in python contribute to enhancement of Problem solving skills in moderate level.
	PO3	2	Concepts like HTML Parsing, Downloading the web data using Module in python contribute to designing the solution to problem in moderate level
	PO4	1	Working with CSV, JSON and PDF concepts in python contribute in conducting investigation of complex problem in low level.
	PO5	2	Implementation of modules to read and download the CSV, JSON etc. in Python programs contribute to usage of modern tools in moderate level.
	PO12	2	The concepts of working with different file system in python contribute to the enhancement of life-long learning skill in moderate level.
	PSO1	2	Basic concepts of web scraping, Working with PDF, CSV format in python, contribute to the enrichment of Professional skills in computer programming in moderate level.
	PSO2	2	Working with spreadsheet, JSON in python contributes to enhancement of Problem-solving skills in low level.
	PSO3	1	Understanding how to work with PDF, JSON, CSV, Excel file format in Python programming will contributes tto cultivating skills for successful career development in low level.


Course Teacher
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IQAC Member
Signature with date


IQAC Chairman
Signature with date

Alva's Institute of Engineering & Technology
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Academic Year 2020-21

V SEM CSE 'A' SECTION

SL. NO	USN	NAME
1.	4AL18CS002	ABHISHEK S HARSOORKAR
2.	4AL18CS003	ADARSHA N Y
3.	4AL18CS005	AMBIKA V
4.	4AL18CS009	ANUSHA K
5.	4AL18CS011	ARCHANA J C
6.	4AL18CS014	BHAVYA S
7.	4AL18CS016	CHANDANA S
8.	4AL18CS017	C K CHETHAN
9.	4AL18CS019	CHURASHMA
10.	4AL18CS020	D RICHARD FRENKLIN
11.	4AL18CS021	FELINA SIMON MENEZES
12.	4AL18CS023	GUDUGUNTI ANIRUDH
13.	4AL18CS025	HYMHA N RAJ
14.	4AL18CS027	JAHNAVI P C
15.	4AL18CS030	JYOTHI B R
16.	4AL18CS032	K S PRAJWAL
17.	4AL18CS033	KARTHIK H B
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19.	4AL18CS035	KAVOOR LATIKA VINAYAK
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21.	4AL18CS041	LAVANYA D M
22.	4AL18CS043	LAXMAN PUNDALIK BUDHIHAL
23.	4AL18CS044	LAXMINARAYAN MISKIN
24.	4AL18CS045	M MAHAMMAD ASIF
25.	4AL18CS046	M R JEEVAN
26.	4AL18CS047	M VENKATARAMANACHARI
27.	4AL18CS050	NAIPUNYA
28.	4AL18CS051	NAVEEN M D
29.	4AL18CS053	NIVEDITHA MAGADUM

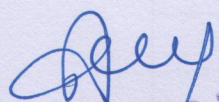
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Academic Year 2020-21

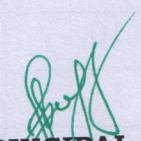
30.	4AL18CS054	P YUVARAJ
31.	4AL18CS056	POOJA D S
32.	4AL18CS058	PRAMOD P M
33.	4AL18CS059	PRAMOD R
34.	4AL18CS060	PRASHANT RAMA BHAT K
35.	4AL18CS061	PRATHUSHA K A
36.	4AL18CS062	PRATHIBHA SHETTI
37.	4AL18CS063	PRIYA NAGARI
38.	4AL18CS064	PUNITH S
39.	4AL18CS065	RACHANA B S
40.	4AL18CS068	RAMESH SHEKHAPPA BHAJANTRI
41.	4AL18CS069	RAVEENA C HULIKATTI
42.	4AL18CS070	RIYA C P
43.	4AL18CS071	S HARIN GOWDA
44.	4AL18CS072	S MOHAMMED TANZEEL
45.	4AL18CS074	SAMRUDDHI A BOGAR
46.	4AL18CS077	SHAILASHREE
47.	4AL18CS078	SHIZA AMREEN J
48.	4AL18CS082	SIDRAMESH
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50.	4AL18CS084	SNEHA G
51.	4AL18CS087	SPOORTHY V V
52.	4AL18CS088	SPOORTI S DAROJI
53.	4AL18CS091	SWATHI B C
54.	4AL18CS092	T K KOUSHIK CHINNAPPA
55.	4AL18CS096	VANISHREE BINJADAGI
56.	4AL19CS400	NIKHIL KUMAR
57.	4AL19CS404	SWAPNA M D
58.	4AL19CS403	RITIKA KULKARNI
59.	4AL19CS401	PRANEETA HANDRAL
60.	4AL19CS402	PRASANNA KUMAR

V SEM CSE 'B' SECTION

SL. NO	USN	NAME
1.	4AL16CS049	MANIBHUSHAN N
2.	4AL18CS001	ABHISHEK JOSHI
3.	4AL18CS004	AKASH S
4.	4AL18CS006	AMRUTHA G
5.	4AL18CS007	ANJALI MANOHAR PRABHU
6.	4AL18CS008	ANUSH RATNAKAR SHETTY
7.	4AL18CS010	ANVITHA H M
8.	4AL18CS012	ASHISH GRACION M
9.	4AL18CS013	B A SOHANKUMAR
10.	4AL18CS022	FELOMINA JANCY
11.	4AL18CS024	HANAN SALEEM BAJI
12.	4AL18CS026	IJAZ IBRAHIM
13.	4AL18CS028	JAISON JAIDEEP LOBO
14.	4AL18CS029	JASLINE SHARON TAURO
15.	4AL18CS031	K ISHA HEGDE
16.	4AL18CS037	KHATEEJA SAFREENA
17.	4AL18CS039	KRISHNITHA
18.	4AL18CS040	LANSON PEREIRA
19.	4AL18CS049	MOHEMMED MUKARRAM
20.	4AL18CS052	NIHAL RAFIQ
21.	4AL18CS055	PONICA J
22.	4AL18CS057	PRAJWAL
23.	4AL18CS075	SANJANA
24.	4AL18CS076	SHAIKH NUMAAN IMTIYAZ
25.	4AL18CS079	SHRADDHA ACHARYA
26.	4AL18CS080	SHREEKIRAN R BHAT

27.	4AL18CS081	SHRIKANTHA
28.	4AL18CS085	SNEHA H R
29.	4AL18CS089	SUJANA
30.	4AL18CS090	SUJAYA
31.	4AL18CS093	TUSHIT SHUKLA
32.	4AL18CS094	V ANJANA PAI
33.	4AL18CS095	VANDANA
34.	4AL18CS097	VIRESH
35.	4AL18CS098	SUDARSHAN SHETTY
36.	4AL18CS099	GULAM RABBANI


HOD-CSE
H.O.D.
Dept. Of Computer Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225


PRINCIPAL
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Mijar, MOODBIDRI - 574 225, D.K.



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
II-INTERNAL

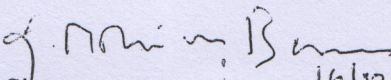
Semester: 5
Subject: APPLICATION DEVELOPMENT USING PYTHON (18CS55)
Max Marks: 30
Faculty: Ms. Shilpa

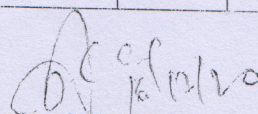
Date: 23-DEC-2020

Time: 09:30 AM-11:00 AM

Answer any 2 full questions					
Question#		Question	Marks	CO	BT/CL
		Module – 1			
1.	a	Define Regular Expression (RE)? Explain any 6 metacharacters used in RE.	7 (1+6)	CO3	L2
	b	Write a Python Program to copy the content of one file named example.txt into another file named original.txt in such a way that all comment lines in example.txt are skipped in the destination file original.txt.	8	CO3	L3
		OR			
2.	a	Write a python program to check the validity of a Password by considering the following aspects. • Minimum 8 characters. • The alphabets must be between [a-z] • At least one alphabet should be of Upper Case [A-Z] • At least 1 number or digit between [0-9]. • At least 1 character from [# or @ or \$].	7	CO3	L3
	b	What is a file? Explain the different modes of opening a file in python.	8 (1+7)	CO3	L2
		Module – 2			
3.	a	Write a Python program for i) To match a string which starts with 'a' and ends with 'b'. ii) To remove leading zeros from an IP address.	7 (3.5+3.5)	CO3	L3
	b	Explain the process of deleting, copying and moving the files and directories using file handling operations with example for each one.	8	CO3	L2
		OR			
4.	a	Explain the different Regular Expression methods used for pattern matching with an example program.	7	CO3	L2
	b	Write a python program for i) To merge the content of 2 text files and stores it into a single text file. ii) To create list of even numbers in the range 0-20 and copy the resultant list of elements into a file named listele.txt.	8 (4+4)	CO3	L3

 16/12/20
Signature of Faculty

 16/12/20
Signature of IQAC member

 16/12/20
Signature of IQAC chairman



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOOBBIDRI
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
II-INTERNAL SCHEME OF EVALUATION

Semester: 5

Subject: APPLICATION DEVELOPMENT USING PYTHON (18CS55)

Date: 23 DEC 2020

Max Marks: 30

Time: 09:30AM-11:00AM

Faculty: Ms. Shilpa

Question #	Question	Marks	CO	BT/CL
1 a	Define Regular Expression (RE)? Explain any 6 metacharacters used in RE.	7 (1+6)	CO3	L2
Solution	A RegEx, or Regular Expression, is a sequence of characters that forms a search pattern. RegEx can be used to check if a string contains the specified search pattern. Any 6 metacharacter explanation with example			
1 b	Write a Python Program to copy the content of one file named example.txt into another file named original.txt in such a way that all comment lines in example.txt are skipped in the destination file original.txt.	8	CO3	L3
Solution	<pre>f1=open("example.txt","r") f2=open("original.txt","w") while true: buf=f1.readline() if len(buf)!=0: if buf[0]=="#": continue else: f2.write(buf) else: break print("file content copied")</pre> Output file content copied			
	OR			
2 a	Write a python program to check the validity of a Password by considering the following aspects. • Minimum 8 characters. • The alphabets must be between [a-z] • At least one alphabet should be of Upper Case [A-Z] • At least 1 number or digit between [0-9]. • At least 1 character from [# or @ or \$].	7	CO3	L3
Solution	<pre>import re password = input("enter a password for validation") flag = 0</pre>			


```

while True:
    if (len(password)<8):
        flag = -1
        break
    elif not re.search("[a-z]", password):
        flag = -1
        break
    elif not re.search("[A-Z]", password):
        flag = -1
        break
    elif not re.search("[0-9]", password):
        flag = -1
        break
    elif not re.search("#@$]", password):
        flag = -1
        break
    elif re.search("\s", password):
        flag = -1
        break
    else:
        flag = 0
        print("Valid Password")
        break
if flag == -1:
    print("Not a Valid Password")

```

OUTPUT

enter a password for validation
Aiet@123
Valid Password

enter a password for validation
alvas%12
Not a Valid Password

2 b

What is a file? Explain the different modes of opening a file in python.

8
(1+7)

CO3

L2

Solution

File is a collection of data or information stored on the secondary devices like harddisk.

File mode	Description
R	Opens a file for reading only. The file pointer is placed at the beginning of the file. This is the default mode.
Rb	Opens a file for reading only in binary format. The file pointer is placed at the beginning of the file. This is the default mode.
r+	Opens a file for both reading and writing. The file pointer placed at the beginning of the file.
rb+	Opens a file for both reading and writing in binary format. The file pointer placed at the beginning of the file.
W	Opens a file for writing only. Overwrites the file if the file exists. If

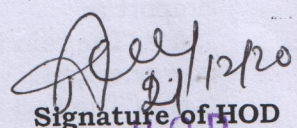
		the file does not exist, creates a new file for writing.			
	Wb	Opens a file for writing only in binary format. Overwrites the file if the file exists. If the file does not exist, creates a new file for writing.			
	w+	Opens a file for both writing and reading. Overwrites the existing file if the file exists. If the file does not exist, creates a new file for reading and writing.			
	wb+	Opens a file for both writing and reading in binary format. Overwrites the existing file if the file exists. If the file does not exist, creates a new file for reading and writing.			
	A	Opens a file for appending. The file pointer is at the end of the file if the file exists. That is, the file is in the append mode. If the file does not exist, it creates a new file for writing.			
	Ab	Opens a file for appending in binary format. The file pointer is at the end of the file if the file exists. That is, the file is in the append mode. If the file does not exist, it creates a new file for writing.			
	a+	Opens a file for both appending and reading. The file pointer is at the end of the file if the file exists. The file opens in the append mode. If the file does not exist, it creates a new file for reading and writing.			
	ab+	Opens a file for both appending and reading in binary format. The file pointer is at the end of the file if the file exists. The file opens in the append mode. If the file does not exist, it creates a new file for reading and writing.			
3 a	Write a Python program for i) To match a string which starts with 'a' and ends with 'b'. ii) To remove leading zeros from an IP address.		7 (3.5 each)	CO3	L3
Solution	i) To match a string which starts with 'a' and ends with 'b'. <pre>import re text=input("enter a string") patterns = 'a.*?b\$' if re.search(patterns, text): print('Found a match!') else: print('Not matched!')</pre> Output alvasb example Found a match apython program				

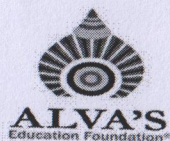
	Not matched ii) To remove leading zeros from an IP address. <pre>import re ip = "216.08.094.196" string = re.sub('\.[0]*', '.', ip) print(string)</pre> Output 216.8.94.196			
3 b	Explain the process of deleting, copying and moving the files and directories using file handling operations with example for each one.	8 (3+3+2)	CO3	L2
Solution	Delete files Delete a single file or a single empty folder with functions in the os module, whereas to delete a folder and all of its contents, you use the shutil module. - Calling os.unlink(path) will delete the file at path. Ex: <pre>import os os.unlink("/home/aiet/python/1.txt")</pre> This will permanently delete the file named 1.txt from the folder python. - Calling os.rmdir(path) will delete the folder at path. This folder must be empty of any files or folders. Ex: <pre>import os os.rmdir("/home/aiet/python/aa")</pre> This will permanently delete the directory named aa from the folder python if the aa directory is empty. - Calling shutil.rmtree(path) will remove the folder at path, and all files and folders it contains will also be deleted. Ex: <pre>import shutil shutil.rmtree("/home/aiet/python/abc")</pre> This will permanently delete the directory named abc from the folder python. Copying files The shutil module provides functions for copying files, as well as entire folders. Calling shutil.copy(source, destination) will copy the file at the path source to the folder at the path destination. If destination is a filename, it will be used as the new name of the copied file. This function returns a string or Path object of the copied file. Ex: <pre>import shutil shutil.copy("/home/aiet/python/ab.txt", "/home/aiet/python/exam.txt")</pre> Calling shutil.copytree(source, destination) will copy the folder at the path source, along with all of its files and subfolders, to the folder at the path destination. The source and destination parameters are both strings. The function returns a string of the path of the copied folder.			

	Ex: import shutil shutil.copytree("/home/aiet/python/ab", "/home/aiet/python/exam") Moving Files and directories Calling shutil.move(source, destination) will move the file or folder at the path source to the path destination and will return a string of the absolute path of the new location. If destination points to a folder, the source file gets moved into destination and keeps its current filename. import shutil shutil.move("/home/aiet/python/12.txt", "/home/aiet/python/example")			
	OR			
4 a	Explain the different Regular Expression methods used for pattern matching with an example program.	7 (2+1+2+2)	CO3	L2
Solution	Match() Function match() function of re in Python will search the regular expression pattern and return the first occurrence. The Python RegEx Match method checks for a match only at the beginning of the string. Ex: import re txt = "The rain in Spain" x = re.match("The", txt) print(x) findall() Function The findall() function returns a list containing all matches. If no matches are found, an empty list is returned. Ex: import re txt = "The rain in Spain" x = re.findall("ai", txt) print(x) Search() Function The search() function searches the string for a match, and returns a Match object if there is a match. If there is more than one match, only the first occurrence of the match will be returned: Ex: import re txt = "The rain in Spain" x = re.search("\s", txt) print("The first white-space character is located in position:", x.start()) sub() Function The sub() function replaces the matches with the text of your choice: Syntax: re.sub("pattern", "replace char", "string", count) Count is an optional parameter, which indicates number of times the pattern to be replaced. Ex import re			

	<pre>txt = "The rain in Spain" x = re.sub("\s", "9", txt, 2) print(x)</pre>			
4 b	Write a python program for i) To merge the content of 2 text files and stores it into a single text file. ii) To create list of even numbers in the range 0-20 and copy the resultant list of elements into a file named listele.txt.	8 (4 each)	CO3	L3
Solution	To merge the content of 2 text files and stores it into a single text file. <pre>f1=open("a.txt","r") f2=open("b.txt","r") f3=open("c.txt","w") data1=f1.read() data2=f2.read() data=data1+' '+data2 f3.write(data) print("finished")</pre> Output finished To create list of even numbers in the range 0-20 and copy the resultant list of elements into a file named listele.txt. <pre>import pprint l=[] for i in range(0,20): if(i%2==0): l.append(i) print(l) f=open("listele.txt","w") f.write(pprint.pformat(l)) print("data updated")</pre> Output [0, 2, 4, 6, 8, 10, 12, 14, 16, 18] data updated			


Signature of Faculty


Signature of HOD
H. O. D. & Engineer
Dept. Of Computer Science & Engineering
Alva's Institute of Technology
Mijar, MOODIDUR - 574 225



Alva's Institute of Engineering & Technology
Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Academic year 2020-2021

Students Group Assignment

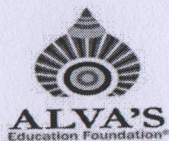
Subject name: Application Development using Python [18CS55]

Faculty incharge: Shilpa

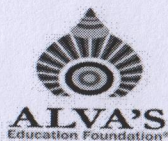
Note: Every week 2 to 3 groups have to give presentation on the Question assigned. Starts from 14/11/2020.

Section: V 'A'

Sl. No	USN	NAME	Groups	Questions
1	4AL18CS002	ABHISHEK S HARSOORKAR	Group 1	Design and Implement python code for Renaming Files with American-Style Dates to European-Style Dates
2	4AL18CS003	ADARSHA N Y		
3	4AL18CS005	AMBIKA V		
4	4AL18CS009	ANUSHA K		
5	4AL18CS011	ARCHANA J C		
6	4AL18CS014	BHAVYA S	Group 2	Design and Implement python code for Reading Data from a Spreadsheet, Writing Excel Documents
7	4AL18CS016	CHANDANA S		
8	4AL18CS017	C K CHETHAN		
9	4AL18CS019	CHURASHMA		
10	4AL18CS020	D RICHARD FRENKLIN		
11	4AL18CS021	FELINA SIMON MENEZES	Group 3	Design and Implement python code for Multiclipboard project.
12	4AL18CS023	GUDUGUNTI ANIRUDH		
13	4AL18CS025	HYMHA N RAJ		
14	4AL18CS027	JAHNAVI P C		
15	4AL18CS030	JYOTHI B R		
16	4AL18CS032	K S PRAJWAL	Group 4	Design and Implement python code for Generating Random Quiz Files
17	4AL18CS033	KARTHIK H B		
18	4AL18CS034	KARTHIK S		



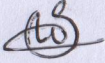
19	4AL18CS035	KAVOOR LATIKA VINAYAK	Group 5	Design and Implement python code for Controlling the Browser with the selenium Module
20	4AL18CS036	KEERTANA GANESH GANIGA		
21	4AL18CS041	LAVANYA D M		
22	4AL18CS043	LAXMAN PUNDALIK BUDHIHAL		
23	4AL18CS044	LAXMINARAYAN MISKIN		
24	4AL18CS045	M MAHAMMAD ASIF	Group 6	Design and Implement python code for Backing Up a Folder into a ZIP File
25	4AL18CS046	M R JEEVAN		
26	4AL18CS047	M VENKATARAMANACHARI		
27	4AL18CS050	NAIPUNYA		
28	4AL18CS051	NAVEEN M D		
29	4AL18CS053	NIVEDITHA MAGADUM	Group 7	Design and Implement python code for Downloading All XKCD Comics
30	4AL18CS054	P YUVARAJ		
31	4AL18CS056	POOJA D S		
32	4AL18CS058	PRAMOD P M		
33	4AL18CS059	PRAMOD R		
34	4AL18CS060	PRASHANT RAMA BHAT K	Group 8	Design and Implement python code for Removing the Header from CSV Files
35	4AL18CS061	PRATHUSHA K A		
36	4AL18CS062	PRATHIBHA SHETTI		
37	4AL18CS063	PRIYA NAGARI		
38	4AL18CS064	PUNITH S		
39	4AL18CS065	RACHANA B S	Group 9	Design and Implement python code for Fetching Current Weather Data
40	4AL18CS068	RAMESH SHEKHAPPA BHAJANTRI		
41	4AL18CS069	RAVEENA C HULIKATTI		
42	4AL18CS070	RIYA C P		
43	4AL18CS071	S HARIN GOWDA		
44	4AL18CS072	S MOHAMMED TANZEEL		

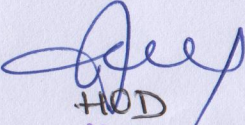


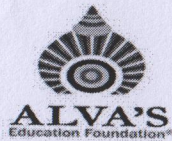
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Academic year 2020-2021

45	4AL18CS074	SAMRUDDHI A BOGAR	Group 10	Design and Implement python code for Tic Tac Toe.
46	4AL18CS077	SHAILASHREE		
47	4AL18CS078	SHIZA AMREEN J		
48	4AL18CS082	SIDRAMESH		
49	4AL18CS083	SINCHANA K N		
50	4AL18CS084	SNEHA G		
51	4AL18CS087	SPOORTHY V V	Group 11	Design and Implement python code for Phone Number and Email Address Extractor using Regular Expression
52	4AL18CS088	SPOORTI S DAROJI		
53	4AL18CS091	SWATHI B C		
54	4AL18CS092	T K KOUSHIK CHINNAPPA		
55	4AL18CS096	VANISHREE BINJADAGI		
56	4AL19CS400	NIKHIL KUMAR	Group 12	Design and Implement python code for Magic 8 Ball with a List
57	4AL19CS404	SWAPNA M D		
58	4AL19CS403	RITIKA KULKARNI		
59	4AL19CS401	PRANEETA HANDRAL		
60	4AL19CS402	PRASANNA KUMAR		


Course Teacher


H.O.D.
Dept. Of Computer Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225



Alva's Institute of Engineering & Technology
Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Academic year 2020-2021

Students Group Assignment

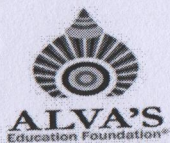
Subject name: Application Development using Python [18CS55]

Faculty incharge: Shilpa

Note: Every week 2 to 3 groups have to give presentation on the Question assigned. Starts from 14/11/2020.

Section: V 'B'

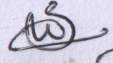
SL. NO	USN	NAME	Groups	Question
1.	4AL16CS049	MANIBHUSHAN N	Group 1	Design and develop a python code for Guess the Number. Make use of Exception handling concept also.
2.	4AL18CS001	ABHISHEK JOSHI		
3.	4AL18CS004	AKASH S		
4.	4AL18CS006	AMRUTHA G		
5.	4AL18CS007	ANJALI MANOHAR PRABHU		
6.	4AL18CS008	ANUSH RATNAKAR SHETTY	Group 2	Design and implement Bellman ford algorithm using python.
7.	4AL18CS010	ANVITHA H M		
8.	4AL18CS012	ASHISH GRACION M		
9.	4AL18CS013	B A SOHANKUMAR		
10.	4AL18CS022	FELOMINA JANCY		
11.	4AL18CS024	HANAN SALEEM BAJI	Group 3	Design and Implement the python program for Adding Bullets to Wiki Markup
12.	4AL18CS026	IJAZ IBRAHIM		
13.	4AL18CS028	JAISON JAIDEEP LOBO		
14.	4AL18CS029	JASLINE SHARON TAURO		
15.	4AL18CS031	K ISHA HEGDE		
16.	4AL18CS037	KHATEEJA SAFREENA	Group 4	Design and Implement python code for RSA algorithm.
17.	4AL18CS039	KRISHNITHA		

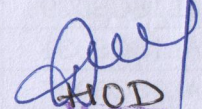


Alva's Institute of Engineering & Technology
Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Academic year 2020-2021

18.	4AL18CS040	LANSON PEREIRA		
19.	4AL18CS049	MOHEMMED MUKARRAM		
20.	4AL18CS052	NIHAL RAFIQ	Group 5	Design and Implement python code for Travelling salesman problem.
21.	4AL18CS055	PONICA J		
22.	4AL18CS057	PRAJWAL		
23.	4AL18CS075	SANJANA		
24.	4AL18CS076	SHAIKH NUMAAN IMTIYAZ		
25.	4AL18CS079	SHRADDHA ACHARYA		
26.	4AL18CS080	SHREEKIRAN R BHAT	Group 6	Design and Implement python code for Updating a Spreadsheet, Setting the Font Style of Cells, Font Objects, Formulas, Adjusting Rows and Columns, Charts,
27.	4AL18CS081	SHRIKANTHA		
28.	4AL18CS085	SNEHA H R		
29.	4AL18CS089	SUJANA		
30.	4AL18CS090	SUJAYA		
31.	4AL18CS093	TUSHIT SHUKLA		
32.	4AL18CS094	V ANJANA PAI	Group 7	Design and Implement python code for Combining Select Pages from Many PDFs, Word Documents,
33.	4AL18CS095	VANDANA		
34.	4AL18CS097	VIRESH		
35.	4AL18CS098	SUDARSHAN SHETTY		
36.	4AL18CS099	GULAM RABBANI		


Course Teacher


H.O.D.
Dept. Of Computer Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODSIDRI - 574 225



Alva's Institute of Engineering & Technology

Shobhavana Campus, Mijar, Moodbidri, D.K – 574225

Phone: 08258-262725, Fax: 08258-262726

Department of Computer Science and Engineering

Academic Year 2020-2021

Subject Name: Application Development Using Python (18CS55)

Rubrics to be followed for Assignment Evaluation

Parameters	Not Submitted	Incomplete Assignment	Correctness of the Program and Presentation	Timely submitted with correctness of the Problem/Program
Marks Allocation	0	1-4	5-9	10


Faculty



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOOBBIDRI
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
I-INTERNAL

Semester: 5

Subject: APPLICATION DEVELOPMENT USING PYTHON (18CS55)

Max Marks: 30

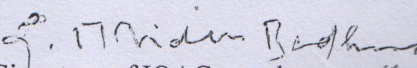
Faculty: Ms. Shilpa

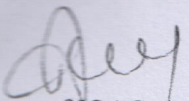
Date: 19 NOV 2020

Time: 09:30 AM-11:00 AM

Answer any 2 full questions				
Question#	Question		Marks	CO BT/CL
	<u>Module – 1</u>			
1.	a	List and explain the salient features of Python.	8	CO1 L1
	b	Write a Python Program i) To find the biggest of 3 numbers by getting inputs from the keyboard. ii) To Print all Prime numbers between an interval of 1-25	7	CO1 L3
	OR			
2.	a	What is an exception? Explain the different exception handling mechanisms in python with suitable example.	8	CO1 L3
	b	What is a module? Write a python program that takes decimal value as input and print the equivalent binary number using user defined function binary().	7	CO1 L3
	<u>Module – 2</u>			
3.	a	Define Tuple? Explain how to implement CRUD operations on tuples with examples.	8	CO2 L3
	b	Write a python program to accept 'N' numbers from user using list and find sum of all even numbers and product of all odd numbers from the list.	7	CO2 L3
	OR			
4.	a	Define String and explain any 7 string handling functions with examples.	8	CO2 L2
	b	Define Dictionary and differentiate it from list. Develop a python program to get a sentence from user and build a dictionary of keys as LETTER, DIGITS, LOWERCASE and UPPERCASE from it to store the respective count.	7	CO2 L3


Signature of Faculty


Signature of IQAC member


Signature of IQAC chairman

CO Numbers	Course Outcomes	Blooms Level
18CS55.1	Understand and implement the basic programming constructs with flow control statement, functions and Exception handling.	Understand (L2) Apply (L3)
18CS55.2	Understand and implement the data structures in python such as List, Tuples, Strings and Dictionaries techniques.	Understand (L2) Apply (L3)
18CS55.3	Understand and demonstrate pattern matching technique with RE, complete file system and debugging.	Understand (L2) Apply (L3)
18CS55.4	Interpret and apply OOP's the concepts such as classes and objects, class and methods, classes and functions and Inheritance in Python.	Understand (L2) Apply (L3)
18CS55.5	Comprehend and apply the processes of web scraping, working with Excel spread sheets, PDF, Word, CSV, JSON file formats.	Understand (L2) Apply (L3)



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
I-INTERNAL SCHEME OF EVALUATION

Semester: 5

Subject: APPLICATION DEVELOPMENT USING PYTHON (18CS55)

Max Marks: 30

Faculty: Ms. Shilpa

Date: 19 NOV 2020

Time: 09:30AM-11:00AM

Question#	Question	Marks	CO	BT/CL
1 a	List and explain the salient features of Python.	8 (1+ 1 each)	CO1	L1
Solution	Python provides many useful features which make it popular and valuable from the other programming languages. Some of them are 1) Easy to Learn and Use Python is easy to learn as compared to other programming languages. Its syntax is straightforward and much the same as the English language. 2) Expressive Language Python can perform complex tasks using a few lines of code. It will take only one line to execute, while Java or C takes multiple lines. 3) Interpreted Language Python is an interpreted language; it means the Python program is executed one line at a time. The advantage of being interpreted language, it makes debugging easy and portable. 4) Cross-platform Language Python can run equally on different platforms such as Windows, Linux, UNIX, and Macintosh, etc. It enables programmers to develop the software for several competing platforms by writing a program only once. 5) Free and Open Source Python is freely available for everyone. It has a large community across the world that is dedicatedly working towards make new python modules and functions. The open-source means, "Anyone can download its source code without paying any penny." 6) Object-Oriented Language Python supports object-oriented language and concepts of classes and objects come into existence. It supports inheritance, polymorphism, and encapsulation, etc. 7) Extensible It implies that other languages such as C/C++ can be used to compile the code and thus it can be used further in our Python code. It converts the program into byte code, and any platform can use that byte code. 8) Large Standard Library It provides a vast range of libraries for the various fields such as machine learning, web developer, and also for the scripting. There are various machine learning libraries, such as Tensor flow, Pandas, Numpy, Keras, and Pytorch, etc.			

1 b	Write a Python Program i) To find the biggest of 3 numbers by getting inputs from the keyboard. ii) To Print all Prime numbers between an interval of 1-25	7 (3.5+3.5)	CO1	L3
Solution	Biggest of the 3 numbers <pre>num1 = float(input("Enter first number: ")) num2 = float(input("Enter second number: ")) num3 = float(input("Enter third number: ")) if (num1 > num2) and (num1 > num3): largest = num1 elif (num2 > num1) and (num2 > num3): largest = num2 else: largest = num3 print("The largest number is",largest)</pre> Output: Enter first number: 10 Enter second number: 12 Enter third number: 14 The largest number is 14.0 Prime Number <pre>print("Prime numbers between 1 and 25 are:") for num in range(1, 25): if num > 1: for i in range(2, num): if (num % i) == 0: break else: print(num, end=" ")</pre> Output Prime numbers between 1 and 25 are: 2 3 5 7 11 13 17 19 23			
	OR			
2 a	What is an exception? Explain the different exception handling mechanism in python with suitable example.	8 (1+7)	CO1	L3
Solution	An exception is an event, which occurs during the execution of a program that disrupts the normal flow of the program's instructions. Python uses try, except, else and finally keywords to handle exceptions. All keywords are followed by indented blocks. Else and finally lock are optional. Syntax: <pre>try: #statements in try block except: #executed when error in try block</pre>			

else:

#executed if try block is error-free

finally:

#executed irrespective of exception occurred or not

The **try:** block contains one or more statements which are likely to encounter an exception. If the statements in this block are executed without an exception, the subsequent **except:** block is skipped.

If the exception does occur, the program flow is transferred to the except: block. The statements in the except: block are meant to handle the cause of the exception appropriately.

Keywords **else and finally** can also be used along with the try and except clauses. While the except block is executed if the exception occurs inside the try block, the else block gets processed if the try block is found to be exception free.

The finally block consists of statements which should be processed regardless of an exception occurring in the try block or not.

Example:

try:

```
print("try block")
```

```
x=int(input('Enter a number: '))
```

```
y=int(input('Enter another number: '))
```

```
z=x/y
```

except ZeroDivisionError:

```
print("except ZeroDivisionError block")
```

```
print("Division by 0 not accepted")
```

else:

```
print("else block")
```

```
print("Division = ", z)
```

finally:

```
print("finally block")
```

```
x=0
```

```
y=0
```

```
print ("Out of try, except, else and finally blocks." )
```

Python also provides the **raise keyword** to be used in the context of exception handling. It causes an exception to be generated explicitly. Built-in errors are raised implicitly.

try:

```
x=int(input('Enter a number upto 100: '))
```

```
if x > 100:
```

```
    raise ValueError(x)
```

except ValueError:

```
    print(x, "is out of allowed range")
```

else:

```
    print(x, "is within the allowed range")
```

2 b

What is a module? Write a python program that takes decimal value as input and print the equivalent binary number using user defined function binary().

7
(2+5)

CO1

L3

Solution	Modules refer to a file containing Python statements and definitions. A file containing Python code, is called a module. Modules are used to break down large programs into small manageable and organized files. Modules also provide reusability of code. We can define our most used functions in a module and import it, instead of copying their definitions into different programs. Program <pre>binary(num): if num > 1: binary(num // 2) print(num % 2, end=" ") number = int(input("Enter any decimal number: ")) binary(number)</pre> Output Enter any decimal number: 10 1010			
3 a	Define Tuple? Explain how to implement CRUD operations on tuples with examples.	8 (1+2 each)	CO2	L3
Solution	Tuples are kind of data structures in which elements are stored in orderly fashion. Tuples are immutable. All the elements of the tuples will be enclosed within parentheses (). Creating a Tuple A tuple is created by placing all the items (elements) inside parentheses (), separated by commas. Example: <pre># Empty tuple my_tuple = () print(my_tuple) # Tuple having integers my_tuple = (1, 2, 3) print(my_tuple)</pre> Updating, Removing and Inserting element into to tuple is not possible directly so we have to follow the following steps in-order to perform all these operations • Convert the tuple into list using list() method • Perform the required operation on the list • Convert the list back to tuple using tuple() method. Update Remove/delete Insert			


```
t= (1,2,3,6,5)
l = list(t)
l[3] = 4
t = tuple(l)
print(t)

# (1,2,3,4,5)
```

```
t= (1,2,3,6,5)
l = list(t)
l.remove(6)
t = tuple(l)
print(t)

# (1,2,3,5)

t= (1,2,3,6,5)
l = list(t)
del l[3]
t = tuple(l)
print(t)

# (1,2,3,5)
```

```
t= (1,2,3,5,6)
l = list(t)
l.insert(3,4)
t = tuple(l)
print(t)

#(1,2,3,4,5,6)
```

Using Slicing

Insert an element : To insert an element at a specific index in the existing tuple we need to create a new tuple by slicing the existing tuple and copying contents from it.

```
tupleObj = (12 , 34, 45, 22, 33 )
n = 2
tupleObj = tupleObj[ : n ] + (19 ,) + tupleObj[n : ] # Insert 19 in tuple at index 2
# (12,34,19,45,22,33)
```

Update an element : To replace the element at index n in tuple we can use the same slicing logic as insert, but slice the tuple from from (0 to n-1) and (n+1 to end

```
tupleObj = (12, 34, 19, 45, 22, 33, 19)
n = 2
tupleObj = tupleObj[ : n ] + ('test' ,) + tupleObj[n + 1 : ] # Replace the element at index 2 to 'Test'
# (12, 34, 'test', 45, 22, 33, 19)
```

Delete/ Remove an element : To delete the element at index n in tuple we can use the same slicing logic as insert, but slice the tuple from from (0 to n-1) and (n+1 to end)

```
tupleObj =(12, 34, 'test', 45, 22, 33, 19)
n = 2
tupleObj = tupleObj[ : n ] + tupleObj[n+1 : ] # Delete the element at index 2
# (12, 34, 45, 22, 33, 19)
```

3 b

Write a python program to accept 'N' numbers from user using list and find sum of all even numbers and product of all odd numbers from the list.

7

CO2

L3

Solution

```
max = int(input(" Please Enter the Maximum Value : "))
even = 0
odd= 0
l=[]
for i in range(1, max+ 1):
    l.append(i)
    if(i % 2 == 0):
        even = even + i
    else:
        odd = odd * i
```


	<pre>print("The Sum of Even Numbers from 1 to {0} = {1}".format(i, even)) print("The Sum of Odd Numbers from 1 to {0} = {1}".format(i, odd))</pre> Output Please Enter the Maximum Value : 10 The Sum of Even Numbers from 1 to 10 = 30 The Sum of Odd Numbers from 1 to 10 = 945			
	OR			
4 a	Define String and explain any 7 string handling functions with examples.	8 (1+ 1 each)	CO2	L2
Solution	A string is a sequence of characters. In Python, a string is a sequence of Unicode characters. Strings can be created by enclosing characters inside a single quote or double-quotes. String Manipulation functions are: count(str[, beg [, end]]) – Returns the number of times substring ‘str’ occurs in the range [beg, end] if beg and end index are given else the search continues in full String Search is case-sensitive. <pre>var='PythonProgram' str='P' print (var.count(str)) # 2</pre> swapcase() – Swaps the case of every character in the String means that lowercase characters got converted to uppercase and vice-versa. <pre>var = 'PythonProgram' print (var.swapcase()) # pYTHONpROGRAM</pre> isdigit() – Returns ‘True’ for any char for which isdecimal() would return ‘True’ and some characters in the ‘No’ category. If there are any characters other than these, it will return False’. <pre>print ('2'.isdigit()) # True</pre> rjust(width[,fillchar]) – Returns string filled with input char while pushing the original content on the right side. By default, the padding uses a space. Otherwise, ‘fillchar’ specifies the filler character. <pre>var='Python' print (var.rjust(10,'-')) # ----Python</pre> center(width[,fillchar]) – Returns string filled with the input char while pushing the original content into the center. By default, the padding uses a space. Otherwise, ‘fillchar’ specifies the filler character. <pre>var='Python' print (var.center(20,'*')) # *****Python*****</pre> find(str, beg, end)– Checks if str is present in the string. If found it returns the position at which str occurs, otherwise it returns -1. We can set the beginning and			

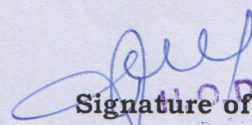
	ending of the string to search. <pre> var="Python program example" str="exam " print (var.find(str)) # 15 var="Python program example" str="exam " print (var.find(str,0,8)) #-1 </pre> replace(old,new[,count]) – Replaces all the occurrences of substring ‘old’ with ‘new’ in the String. If the count is available, then only ‘count’ number of occurrences of ‘old’ will be replaced with the ‘new’ var. <pre> var='This is a good example' str='was' print (var.replace('is',str)) # Thwas was a good example </pre> split(delim)– Returns a list of substring obtained after splitting the String with ‘sep’ as a delimiter. <pre> var = "This is a good example" print (var.split()) # ['This', 'is', 'a', 'good', 'example'] </pre>			
4 b	Define Dictionary and differentiate it from list. Develop a python program to get a sentence from user and build a dictionary of keys as LETTER, DIGITS, LOWERCASE and UPPERCASE from it to store the respective count.	7 (1+2+4)	CO2	L2
Solution	Dictionaries are a kind of data structure in which elements are stored in key values pairs. Each key value pairs are separated by a colon(:) and consecutive items are separated by commas. Always elements of the dictionaries are enclosed within the braces {}. Difference • List is a collection of index values pairs where as Dictionary is a hashed structure of key and value pairs. • List is created by placing elements in [] seperated by commas “, “ where as Dictionary is created by placing elements in { } as “key”:”value”, each key value pair is seperated by commas “, ” • The elements are accessed via indices where as in dictionaries elements are accessed via key-values. Program <pre> Str = 'VTU@123.e-Learning' cletter = 0 cdigit = 0 clower = 0 cupper = 0 d = {} for c in Str: </pre>			


```
if c.isalpha():
    cletter = cletter + 1
if c.isdigit():
    cdigit = cdigit + 1
if c.islower():
    clower = clower + 1
if c.isupper():
    cupper = cupper + 1

d['Letter'] = cletter
d['Lower'] = clower
d['Upper'] = cupper
d['Digit'] = cdigit
print (d)

Output
{'Letter': 12, 'Lower': 8, 'Upper': 4, 'Digit': 3}
```


Signature of Faculty


Signature of HOD
Dept. Of Computer Science & Engineering
Alva's Institute
Mijar, M... - 574 225



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
III-INTERNAL

Semester: 5
Subject: APPLICATION DEVELOPMENT USING PYTHON (18CS55)
Max Marks: 30
Faculty: Ms. Shilpa

Date: 16-JAN-2021

Time: 09:30 AM-11:00 AM

Answer any 2 full questions

Question#	Question	Marks	CO	BT/CL
Module - 4				
1.	a Define class? How do we define a class in python? How to instantiate the class and how class members are accessed?	8	CO4	L2
	b Write a python program that has Point class with attributes as x and y for coordinates. Create two objects of this class and find the midpoint of both the points. Also, add a method reflex_x to class to a class Point, which returns the new point which is the reflection of the point about the x-axis. (For example, midpoint(3,5) and reflex_x(3,-5))	7	CO4	L3
OR				
2.	a Explain operator overloading for the given class Class Time: hour min sec def __add__(self):	8	CO4	L2
	b Write a python program that uses date time module within a class, takes a birthday as input and prints user's age and the number of days, hours, minutes and seconds until their next birthday.	7	CO4	L3
Module - 4.5				
3.	a What is a pure function? Write a python program to find the duration of the event if start and end are given by defining class TIME.	8	CO4	L3
	b Explain the process of downloading files from the Web with the requests module and also saving downloaded files to the hard drive with suitable example program.	7	CO5	L3
OR				
4.	a Define objects in Python. Create a class called Employee and initialize it with employee id and name. Design methods to: i) setAge_to assign age to employee. ii) setSalary_to assign salary to the employee. iii) Display_to display all information of the employee.	8	CO4	L3
	b What is JSON? Briefly explain the json module of Python. Demonstrate with a Python program.	7	CO5	L2

Signature of Faculty
09/01/21

Signature of IQAC member
9/1/21

Signature of IQAC chairman
9/1/21



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
III-INTERNAL SCHEME OF EVALUATION

Semester: 5

Subject: APPLICATION DEVELOPMENT USING PYTHON (18CS55)

Date: 16 JAN 2021

Max Marks: 30

Time: 09:30AM-11:00AM

Faculty: Ms. Shilpa

Question #	Question	Marks	CO	BT/CL
1 a	Define class? How do we define a class in python? How to instantiate the class and how class members are accessed?	8 (1+3+2+2)	CO4	L2
Solution	A class is a code template for creating objects. Defining the class: Class classname: variable=value def methodname(self): #method definition or body of the method. The above case show how to define a class in python. A class can have variable declaration and method definition an also constructor definition of the class. Declaring the members of the class is optional. Ex: class Point: x=0 y=0 def print_point(self): print("value of x is:",self.x) print("value of y is:",self.y) Instantiate class To create instances of a class, you call the class using class name and pass in whatever arguments its __init__ method accepts. Ex: class Point: def __init__(self): self.x=10 self.y=20 def print_point(self): print("value of x is:",self.x) print("value of y is:",self.y) p=Point() p.print_point() Accessing the class members Accessing the class attributes can be done using the dot operator with object. And also the class variables can be accessed using class name. Ex: class Point: def print_point(self):			

	<pre> print("value of x is:",self.x) print("value of y is:",self.y) p=Point() p.x=10 p.y=20 p.print_point() </pre>			
1 b	Write a python program that has Point class with attributes as x and y for coordinates. Create two objects of this class and find the midpoint of both the points. Also, add a method reflex_x to class to a class Point, which returns the new point which is the reflection of the point about the x-axis. (For example, midpoint(3,5) and reflex_x(3,-5))	7	CO4	L3
Solution	<pre> class point: x=0 y=0 def reflex_x(self): # to find reflex of midpoint x = self.x y = -self.y return "reflex_x point is: (%d,%d)" %(x,y) p1=point() p2=point() p1.x=10 p1.y=12 p2.x=8 p2.y=6 p3 = point() def midp(p1,p2): #to find midpoint p3.x=(p1.x+p2.x)/2 p3.y=(p1.y+p2.y)/2 return p3 z=midp(p1,p2) print("mid point of p1 and p2 is :(%d,%d)" %(z.x,z.y)) print(p3.reflex_x()) OUTPUT mid point of p1 and p2 is (9,9) reflex_x point is: (9,-9) </pre>			
	OR			
2 a	Explain operator overloading for the given Class Time: <pre> hour min sec def __add__(self): </pre>	8 (3+5)	CO4	L2
Solution	Changing the usual behavior of an operator so that it works with user or programmer-defined types is called operator overloading. By defining special methods, you can specify the new behavior for operators that works on programmer-defined types.			


```

class Time:
    """Represents the time of day. attributes: hour, minute, second"""

    def __init__(self, hour=0, minute=0, second=0):
        self.hour = hour
        self.minute = minute
        self.second = second

    def __str__(self):
        return '%.2d:%.2d:%.2d' % (self.hour, self.minute, self.second)

    def __add__(self, other):
        sum = Time()
        sum.hour = self.hour + other.hour
        sum.minute = self.minute + other.minute
        sum.second = self.second + other.second

        if sum.second >= 60:
            sum.second -= 60
            sum.minute += 1

        if sum.minute >= 60:
            sum.minute -= 60
            sum.hour += 1

        return sum

start = Time(9, 45)
duration = Time(1, 35, 20)
print(start + duration)

```

OUTPUT

11:20:20

2 b

Write a python program that uses date time module within a class, takes a birthday as input and prints user's age and the number of days, hours, minutes and seconds until their next birthday.

7

CO4

L3

Solution

```

import datetime

class Time:
    now = datetime.datetime.now()

    def __init__(self, year=1, month=1, day=1, hour=0, minute=0, second=0):
        self.date = datetime.datetime(year, month, day, hour, minute, second)

today = Time().now
birthday = Time(2018, 1, 26).date

def birthday_stats(birthday):

```


	<pre> age = today.year - birthday.year if (birthday.month == today.month) and (birthday.day <= today.day): pass elif birthday.month < today.month: pass else: age -= 1 birthday_ = Time(today.year, birthday.month, birthday.day).date till_birthday = str(birthday_ - today).split() if len(till_birthday) > 1: days = int(till_birthday[0]) time = till_birthday[2].split(":") else: days = 365 time = till_birthday[0].split(":") hours = time[0] mins = time[1] secs = time[2][:2] if (days < 0) and (days != 365): days = 365 + days elif (days == 365): days = 0 else: days = abs(days) print ("You are %s years old; %sd:%sh:%sm:%ss until your next birthday." % (age, days, hours, mins, secs)) birthday_stats(birthday) OUTPUT You are 2 years old; 11d:16h:58m:20s until your next birthday. </pre>			
3 a	What is a pure function? Write a python program to find the duration of the event if start and end are given by defining class TIME.	8 (1+7)	CO4	L3
Solution	A function is called pure function if it always returns the same result for same argument values and it has no side effects like modifying an argument (or global variable) or outputting something. <pre> import sys class Time: """Represents the time of day. attributes: hour, minute, second""" def duration(self,other): t=Time() if(other.sec<self.sec): other.sec=other.sec+60 </pre>			

	<pre> other.min=other.min-1 t.sec=other.sec-self.sec else: t.sec=self.sec-other.sec if(other.min<self.min): other.min=other.min+60 other.hour=other.hour-1 t.min=other.min-self.min else: t.min=self.min-other.min if(other.hour<self.hour): print("invalid") exit() else: t.hour=self.hour-other.hour return (t) start = Time() start.hour=9 start.min=30 start.sec=30 end = Time() end.hour=11 end.min=30 end.sec=31 td=duration(start,end) print('%0.2d:%0.2d:%0.2d' % (td.hour, td.min, td.sec)) </pre>			
3 b	Explain the process of downloading files from the Web with the requests module and also saving downloaded files to the hard drive with suitable example program.	7 (3.5+3.5)	CO5	L3
Solution	Downloading files from the Web with the requests module. The requests module lets user to easily download files from the web without having to worry about complicated issues such as network errors, connection problems, and data compression. The requests module doesn't come with Python, so we have to install it first. From the command line, run <code>pip install --user requests</code>. <pre> import requests res = requests.get('https://automatetheboringstuff.com/files/rj.txt') print(res.text[:250]) </pre> The <code>requests.get()</code> function takes a string of a URL to download. By calling <code>type()</code> on <code>requests.get()</code>'s return value, you can see that it returns a Response object, which contains the response that the web server gave for your request. Saving downloaded files to the hard drive Saving the web page to a file on your hard drive with the standard <code>open()</code> function and <code>write()</code> method. Even if the page is in plaintext, we need to write binary data instead of text data in order to maintain the Unicode encoding of the text. To write the web page to a file, you can use a for loop with the Response object's <code>iter_content()</code> method. <pre> import requests res = requests.get('https://automatetheboringstuff.com/files/rj.txt') res.raise_for_status() </pre>			

	<pre>playFile = open('sample.txt', 'wb') for chunk in res.iter_content(100000): playFile.write(chunk) playFile.close()</pre> The iter_content() method returns "chunks" of the content on each iteration through the loop. Each chunk is of the bytes data type, and you get to specify how many bytes each chunk will contain.			
	OR			
4 a	Define objects in Python. Create a class called Employee and initialize it with employee id and name. Design methods to: i) setAge_to assign age to employee. ii) setSalary_to assign salary to the employee. iii) Display_to display all information of the employee.	8 (1+7)	CO4	L3
Solution	An object is an instant of the class. An object is simply a collection of data (variables) and methods (functions) that act on those data. <pre>class Employee: def __init__(self,name,empid): self.name = name self.empid= empid def setAge(self,age): self.age=age def setsalary(self,salary): self.salary = salary def display(self): print("name=%s,employee_id=%d,Age=%d,salary=%.3f" %(self.name,self.empid,self.age,self.salary)) id=int(input("enter the empid")) name1=input("enter the name") e=Employee(name1,id) ag=int(input("enter the age")) e.setAge(ag) sa=int(input("enter the salary")) e.setsalary(sa) e.display()</pre> OUTPUT enter the empid 10 enter the name Likhil enter the age 20 enter the salary 30000 name= Likhil ,employee_id=10 , Age=20, salary=30000.000			
4 b	What is JSON? Briefly explain the json module of Python. Demonstrate with a Python program.	7 (1+3 each)	CO5	L2
Solution	JSON (JavaScript Object Notation) is a popular data format used for representing structured data. It's common to transmit and receive data between a server and web application in JSON format. Explanation Reading the JSON Data Example:			


```
stringOfJson = '{"name": "Zophie", "isCat": true, "miceCaught": 0,  
"felineIQ": null}'
```

```
import json
```

```
jsonData = json.loads(stringOfJson)
```

```
print(jsonData)
```

OUTPUT

```
{'isCat': True, 'miceCaught': 0, 'name': 'Zophie', 'felineIQ': None}
```

Writing the JSON Data

Example:

```
pythonValue = {'isCat': True, 'miceCaught': 0, 'name': 'Zophie',  
'felineIQ': None}
```

```
import json
```

```
stringOfJson = json.dumps(pythonValue)
```

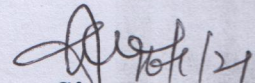
```
print(stringOfJson)
```

OUTPUT

```
'{"isCat": true, "felineIQ": null, "miceCaught": 0, "name": "Zophie" }'
```



Signature of Faculty



Signature of HOD

H.O.D.

**Dept. Of Computer Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225**

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ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
I-INTERNAL

Semester: 5

Subject: APPLICATION DEVELOPMENT USING PYTHON (18CS55)

Max Marks: 30

Faculty: Ms. Shilpa

Date: 28 NOV 2020

Time: 09:30 AM-11:00 AM

Answer any 2 full questions					
Question#		Question	Marks	CO	BT/CL
<u>Module – 1</u>					
1.	a	List and explain the salient features of Python.	8	CO1	L1
	b	Write a Python Program i) To find the factorial of a given number. ii) To read a number from keyboard and check whether it is a palindrome?	7	CO1	L3
OR					
2.	a	What are functions? Write a program using functions to compute permutation $P(n, r)$ and combination $C(n, r)$.	8	CO1	L3
	b	What is an exception? Explain the different exception handling mechanism in python with suitable example.	7	CO1	L3
<u>Module – 2</u>					
3.	a	Define List? Explain the following functions with example for each i) Append() ii) Insert() iii) Remove() iv) Pop()	8	CO2	L3
	b	Write a python program to accept 'N' numbers from user using list and find sum of all even numbers and product of all odd numbers from the list.	7	CO2	L3
OR					
4.	a	Define String. Explain any 4 built in string functions. Write a python program to reverse a given string without using built in function.	8	CO2	L3
	b	Define Dictionary and differentiate it from list. Develop a python program to get a sentence from user and build a dictionary of each character of string as key's and its respective count as values.	7	CO2	L3

CO Numbers	Course Outcomes	Blooms Level
18CS55.1	Understand and implement the basic programming constructs with flow control statement, functions and Exception handling.	Understand (L2) Apply (L3)
18CS55.2	Understand and implement the data structures in python such as List, Tuples, Strings and Dictionaries techniques.	Understand (L2) Apply (L3)
18CS55.3	Understand and demonstrate pattern matching technique with RE, complete file system and debugging.	Understand (L2) Apply (L3)
18CS55.4	Interpret and apply OOP's the concepts such as classes and objects, class and methods, classes and functions and Inheritance in Python.	Understand (L2) Apply (L3)
18CS55.5	Comprehend and apply the processes of web scraping, working with Excel spread sheets, PDF, Word, CSV, JSON file formats.	Understand (L2) Apply (L3)



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
I-INTERNAL SCHEME OF EVALUATION

Semester: 5

Subject: **APPLICATION DEVELOPMENT USING PYTHON (18CS55)**

Date: **28 NOV 2020**

Max Marks: **30**

Time: **09:30AM-11:00AM**

Faculty: **Ms. Shilpa**

Question #	Question	Marks	CO	BT/CL
1 a	List and explain the salient features of Python.	8 (1+ 1 each)	CO1	L1
Solution	Python provides many useful features which make it popular and valuable from the other programming languages. Some of them are 1) Easy to Learn and Use Python is easy to learn as compared to other programming languages. Its syntax is straightforward and much the same as the English language. 2) Expressive Language Python can perform complex tasks using a few lines of code. It will take only one line to execute, while Java or C takes multiple lines. 3) Interpreted Language Python is an interpreted language; it means the Python program is executed one line at a time. The advantage of being interpreted language, it makes debugging easy and portable. 4) Cross-platform Language Python can run equally on different platforms such as Windows, Linux, UNIX, and Macintosh, etc. It enables programmers to develop the software for several competing platforms by writing a program only once. 5) Free and Open Source Python is freely available for everyone. It has a large community across the world that is dedicatedly working towards make new python modules and functions. The open-source means, "Anyone can download its source code without paying any penny." 6) Object-Oriented Language Python supports object-oriented language and concepts of classes and objects come into existence. It supports inheritance, polymorphism, and encapsulation, etc. 7) Extensible It implies that other languages such as C/C++ can be used to compile the code and thus it can be used further in our Python code. It converts the program into byte code, and any platform can use that byte code. 8) Large Standard Library It provides a vast range of libraries for the various fields such as machine learning, web developer, and also for the scripting. There are various machine learning libraries, such			

	as Tensor flow, Pandas, Numpy, Keras, and Pytorch, etc.			
1 b	Write a Python Program i) To find the factorial of a given number. ii) To read a number from keyboard and check whether it is a palindrome?	7 (3.5+3.5)	CO1	L3
Solution	Factorial of a number <pre>num = int(input("Enter a number: ")) factorial = 1 if num >= 0: for i in range(1,num + 1): factorial = factorial*i print("The factorial of",num,"is",factorial)</pre> Output Enter a number: 7 The factorial of 7 is 5040 Palindrome <pre>num=int(input("Enter a number:")) temp=num rev=0 while(num>0): dig=num%10 rev=rev*10+dig num=num//10 if(temp==rev): print("The number is palindrome!") else: print("Not a palindrome!")</pre> Output Enter a number:121 The number is palindrome!			
	OR			
2 a	What are functions? Write a program using functions to compute permutation P(n, r) and combination C(n, r).	8 (1+7)	CO1	L3
Solution	A function is a group of related statements that performs a specific task. Functions help break our program into smaller and modular chunks. #function definition for nCr <pre>def find_ncr(a, b): return (factorial(a)/(factorial(b)*factorial(a-b)))</pre> #function definition for nPr <pre>def find_npr(a,b): return (factorial(a)/factorial(a-b))</pre> #factorial of a number			


```
def factorial(c):
    if(c == 1 or c == 0):
        return 1
    else:
        return c*factorial(c-1)

n= int(input("enter n value"))
r= int(input("enter r value"))
npr = find_npr(n, r);
ncr = find_ncr(n, r);
print("NCR of",n,"and",r,"=",ncr)
print("NPR of",n,"and",r,"=",npr)
```

Output

```
enter n value7
enter r value4
NCR of 7 and 4 = 35.0
NPR of 7 and 4 = 840.0
```

2 b

What is an exception? Explain the different exception handling mechanism in python with suitable example.

7
(1+6)

CO1

L3

Solution

An exception is an event, which occurs during the execution of a program that disrupts the normal flow of the program's instructions.

Python uses try, except, else and finally keywords to handle exceptions. All keywords are followed by indented blocks. Else and finally block are optional.

Syntax:

```
try:
    #statements in try block
except:
    #executed when error in try block
else:
    #executed if try block is error-free
finally:
    #executed irrespective of exception occurred or not
```

The **try**: block contains one or more statements which are likely to encounter an exception. If the statements in this block are executed without an exception, the subsequent **except**: block is skipped.

If the exception does occur, the program flow is transferred to the except: block. The statements in the except: block are meant to handle the cause of the exception appropriately.

Keywords **else** and **finally** can also be used along with the try and except clauses. While the except block is executed if the exception occurs inside the try block, the else block gets processed if the try block is found to be exception free.

The finally block consists of statements which should be processed regardless of an exception occurring in the try block or not.

Example:

	<pre> try: print("try block") x=int(input('Enter a number: ')) y=int(input('Enter another number: ')) z=x/y except ZeroDivisionError: print("except ZeroDivisionError block") print("Division by 0 not accepted") else: print("else block") print("Division = ", z) finally: print("finally block") x=0 y=0 print ("Out of try, except, else and finally blocks.") </pre> Python also provides the raise keyword to be used in the context of exception handling. It causes an exception to be generated explicitly. Built-in errors are raised implicitly. <pre> try: x=int(input('Enter a number upto 100: ')) if x > 100: raise ValueError(x) except ValueError: print(x, "is out of allowed range") else: print(x, "is within the allowed range") </pre>			
3 a	Define List? Explain the following functions with example for each i) Append() ii) Insert() iii) Remove() iv) Pop()	8 (1+2 each)	CO2	L3
Solution	List are kind of data structures in which elements are stored in orderly fashion. List are mutable. All the elements of the List will be enclosed within brackets []. append(): Appends an element to the end of the list. If no elements or empty list then element gets added to the starting position of the list. The general syntax of the append() method is list.append(element/object) Example: <pre> months = ['January', 'February', 'March'] months.append('April') print(months) </pre> Insert(): insert() method inserts an element to the list at the specified index. The general syntax is List.insert(pos, element) Example: <pre> vowel = ['a', 'e', 'i', 'u'] vowel.insert(3, 'o') print('Updated List:', vowel) </pre>			

	Remove(): Remove() method removes or deletes the object from the list. If element is not found then ValueError is generated. If multiple copies of the obj exists in the list then the first value is deleted. list.remove(element\object) Example <pre>months = ['January', 'February', 'March', 'April'] months.remove('April') print(months)</pre> Pop(): pop() method remove the element at the specified index from the list. Index is an optional parameter. If no index is specified, then removes the last object from the list. List.pop(index) Example <pre>months = ['January', 'February', 'March', 'April'] months.pop(1) print(months)</pre>			
3 b	Write a python program to accept 'N' numbers from user using list and find sum of all even numbers and product of all odd numbers from the list.	7	CO2	L3
Solution	<pre>max = int(input(" Please Enter the Maximum Value : ")) even = 0 odd= 0 l=[] for i in range(1, max+ 1): l.append(i) if(i % 2 == 0): even = even + i else: odd = odd * i print("The Sum of Even Numbers from 1 to {0} = {1}".format(i, even)) print("The Sum of Odd Numbers from 1 to {0} = {1}".format(i, odd))</pre> Output Please Enter the Maximum Value : 10 The Sum of Even Numbers from 1 to 10 = 30 The Sum of Odd Numbers from 1 to 10 = 945			
	OR			
4 a	Define String. Explain any 4 built in string functions. Write a python program to reverse a given string without using built in function.	8 (1+ 4 each+3)	CO2	L3
Solution	A string is a sequence of characters. In Python, a string is a sequence of Unicode characters. Strings can be created by enclosing characters inside a single quote or double-quotes. String Manipulation functions are: count(str[, beg [, end]]) – Returns the number of times substring 'str' occurs in the range [beg, end] if beg and end index are given else the search continues in full String Search is case-sensitive.			


```
var='PythonProgram'
str='P'
print (var.count(str)) # 2
```

swapcase() – Swaps the case of every character in the String means that lowercase characters got converted to uppercase and vice-versa.

```
var = 'PythonProgram'
print (var.swapcase()) # pYTHONpROGRAM
```

isdigit() – Returns 'True' for any char for which isdecimal() would return 'True' and some characters in the 'No' category. If there are any characters other than these, it will return 'False'.

```
print ('2'.isdigit())
# True
```

rjust(width[,fillchar]) – Returns string filled with input char while pushing the original content on the right side. By default, the padding uses a space. Otherwise, 'fillchar' specifies the filler character.

```
var='Python'
print (var.rjust(10,'-'))
# ----Python
```

Program

```
s = input('enter a string')
print ("The original string is :",end="")
print (s)
str = ""
for i in s:
    str= i + str
print ("The reversed string is :",end="")
print(str)
```

Output

```
enter a string python
The original string is : python
The reversed string is :nohtyp
```

4 b

Define Dictionary and differentiate it from list. Develop a python program to get a sentence from user and build a dictionary of each character of string as key's and its respective count as values.

7
(1+2+4)

CO2

L3

Solution

Dictionaries are a kind of data structure in which elements are stored in key values pairs. Each key value pairs are separated by a colon(:) and consecutive items are separated by commas. Always elements of the dictionaries are enclosed within the braces {}.

Difference

- List is a collection of index values pairs whereas Dictionary is a hashed structure of key and value pairs.
- List is created by placing elements in [] separated by commas “,” whereas Dictionary is created by placing elements in { } as “key”:”value”, each key value pair is separated

by commas “, ”

- The elements are accessed via indices where as in dictionaries elements are accessed via key-values.

Program

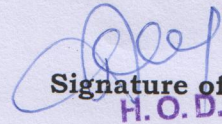
```
s = input("enter the string:")
d={}
for char in s:
    d[char]=s.count(char)
print(d)
```

Output

```
enter the string: python program
{'p': 2, 'y': 1, 't': 1, 'h': 1, 'o': 2, 'n': 1, ' ': 1, 'r': 2, 'g': 1, 'a': 1, 'm': 1}
```



Signature of Faculty



Signature of HOD
H. O. D.

Dept. Of Computer Science & Engineering
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

Model Question Paper-1 with effect from 2018-19 (CBCS Scheme)

USN

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Fifth Semester B.E. Degree Examination Application Development using Python

TIME: 03 Hours

Max. Marks: 100

Note: Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module – 1

Q.1	(a)	Explain the math operators in Python from highest to lowest Precedence with an example for each. Write the steps how Python is evaluating the expression $(5 - 1) * ((7 + 1) / (3 - 1))$ and reduces it to a single value.	(6 Marks)
	(b)	Define a Python function with suitable parameters to generate prime numbers between two integer values. Write a Python program which accepts two integer values m and n (note: $m > 0$, $n > 0$ and $m < n$) as inputs and pass these values to the function. Suitable error messages should be displayed if the conditions for input values are not followed.	(8 Marks)
	(c)	Explain Local and Global Scope in Python programs. What are local and global variables? How can you force a variable in a function to refer to the global variable?	(6 Marks)

OR

Q.2	(a)	What are Comparison and Boolean operators? List all the Comparison and Boolean operators in Python and explain the use of these operators with suitable examples.	(6 Marks)
	(b)	Define a Python function with suitable parameters to generate first N Fibonacci numbers. The first two Fibonacci numbers are 0 and 1 and the Fibonacci sequence is defined as a function F as $F_n = F_{n-1} + F_{n-2}$. Write a Python program which accepts a value for N (where $N > 0$) as input and pass this value to the function. Display suitable error message if the condition for input value is not followed.	(8 Marks)
	(c)	What is Exception Handling? How exceptions are handled in Python? Write a Python program with exception handling code to solve divide-by-zero error situation.	(6 Marks)

Module – 2

Q.3	(a)	What is Dictionary in Python? How is it different from List data type? Explain how a for loop can be used to traverse the keys of the Dictionary with an example.	(6 Marks)
	(b)	Explain the methods of List data type in Python for the following operations with suitable code snippets for each. (i) Adding values to a list ii) Removing values from a list (iii) Finding a value in a list iv) Sorting the values in a list	(8 Marks)
	(c)	Write a Python program that accepts a sentence and find the number of words, digits, uppercase letters and lowercase letters.	(6 Marks)

OR

Q.4	(a)	What is the difference between <code>copy.copy()</code> and <code>copy.deepcopy()</code> functions applicable to a List or Dictionary in Python? Give suitable examples for each.	(6 Marks)
	(b)	Discuss the following Dictionary methods in Python with examples. (i) <code>get()</code> (ii) <code>items()</code> (iii) <code>keys()</code> (iv) <code>values()</code>	(8 Marks)
	(c)	Explain the various string methods for the following operations with examples. (i) Removing whitespace characters from the beginning, end or both sides of a string. (ii) To right-justify, left-justify, and center a string.	(6 Marks)

Module – 3			
Q.5	(a)	Write a Python Program to find an American phone number (example: 415-555-4242) in a given string using Regular Expressions.	(6 Marks)
	(b)	Describe the difference between Python os and os.path modules. Also, discuss the following methods of os module a) chdir() b) rmdir() c) walk() d) listdir() e) getcwd()	(7 Marks)
	(c)	Demonstrate the copy, move, rename and delete functions of shutil module with Python code snippet.	(7 Marks)
OR			
Q.6	(a)	Describe the following with suitable Python code snippet. (i) Greedy and Non Greedy Pattern Matching (ii) findall() method of Regex object.	(7 Marks)
	(b)	Explain the file Reading/Writing process with suitable Python Program.	(6 Marks)
	(c)	Define assertions. What does an assert statement in python consists of? Explain how assertions can be used in traffic light simulation with Python code snippet.	(7 Marks)
Module – 4			
Q.7	(a)	Define classes and objects in Python. Create a class called Employee and initialize it with employee id and name. Design methods to: (i) setAge_ to assign age to employee. (ii) setSalary_ to assign salary to the employee. (iii) Display_ to display all information of the employee.	(8marks)
	(b)	Illustrate the concept of modifier with Python code.	(5 Marks)
	(c)	Explain init and __str__ method with an example Python Program.	(7 Marks)
OR			
Q.8	(a)	Define polymorphism? Demonstrate polymorphism with function to find histogram to count the number of times each letter appears in a word and in a sentence.	(7 Marks)
	(b)	Illustrate the concept of pure function with Python code.	(6 Marks)
	(c)	Define Class Diagram. Discuss the need for representing class relationships using Class Diagram with suitable example.	(7 Marks)
Module – 5			
Q.9	(a)	Explain the process of downloading files from the Web with the requests module and also saving downloaded files to the hard drive with suitable example program.	(8 Marks)
	(b)	Write a note on the following by demonstrating with code snippet. (i) Opening Excel documents with openpyxl . (ii) Getting Sheets from the Workbook. (iii) Getting Cells, Rows and Columns from the Sheets.	(7 Marks)
	(c)	Describe the getText() function used for getting full text from a .docx file with example code.	(5 Marks)
OR			
Q.10	(a)	Explain how to retrieve a web page element from a BeautifulSoup Object by calling the select method and passing a string of a CSS selector for the element you are looking for with an example program.	(8 Marks)
	(b)	What is JSON? Briefly explain the json module of Python. Demonstrate with a Python program.	(6 Marks)
	(c)	Discuss the Creation, Encryption and Decryption of a PDF.	(6 Marks)

Model Question Paper-1 with effect from 2020-21 (CBCS Scheme)

USN

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Fifth Semester B.E. Degree Examination APPLICATION DEVELOPMENT USING PYTHON

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.
02.
03.

Module – 1

Q.1	(a)	Write a python program to find the area of square, rectangle and circle. Print the results. Take input from user	6
	(b)	List and explain the syntax of all flow control statements with example.	8
	(c)	Illustrate the use of break and continue with a code snippet.	6

OR

Q.2	(a)	What are userdefined functions? How can we pass parameters in user defined functions? Explain with suitable example.	7
	(b)	Explain global statement with example.	8
	(c)	Write a function that computes and returns addition ,subtraction, multiplication , division of two integers.Take input from user.	5

Module – 2

Q.3	(a)	What is list?Explain the concept of list slicing with example.	6
	(b)	Explain references with example.	7
	(c)	What is dictionary?How it is different from list?Write a program to count the number of occurances of character in a string.	7

OR

Q.4	(a)	You are creating a fantasy video game. The data structure to model the player's inventory will be a dictionary where the keys are string values describing the item in the inventory and the value is an integer value detailing how many of that item the player has. For example, the dictionary value {'rope': 1, 'torch': 6, 'gold coin': 42, 'dagger': 1, 'arrow': 12} means the player has 1 rope, 6 torches, 42 gold coins, and so on. Write a function named displayInventory() that would take any possible "inventory" and display it like the following: <pre>Inventory: 12 arrow 42 gold coin 1 rope 6 torch 1 dagger Total number of items: 63</pre>	7
	(b)	List any six methods associated with string and explain each of them with example.	8

	(c)	Write a Python program to swap cases of a given string. Input: Java Output: jAVA	5
Module – 3			
Q.5	(a)	List and explain Shorthand code for common character classes .Illustrate how do you define your own character class?	7
	(b)	Explain the usage of Caret and dollar sign characters in regular expression.	6
	(c)	Write a python program to extract phone numbers and email addresses using regex	7
OR			
Q.6	(a)	How do we specify and handle absolute ,relative paths?	10
	(b)	Explain saving of variables using shelve module.	4
	(c)	With code snippet, explain reading, extracting and creating ZIP files	6
Module – 4			
Q.7	(a)	What is class? How do we define a class in python? How to instantiate the class and how class members are accessed?	8
	(b)	Write a python program that uses datetime module within a class , takes a birthday as input and prints user's age and the number of days, hours ,minutes and seconds until their next birthday.	7
	(c)	Explain __init__ and __str__ methods.	5
OR			
Q.8	(a)	Explain operator overloading with example.	7
	(b)	What are polymorphic functions? Explain with code snippet	7
	(c)	Illustrate the concept of inheritance with example	6
Module – 5			
Q.9	(a)	How do we download a file and save it to harddrive using request module?	6
	(b)	Write a python program to give search keyword from command line arguments and open the browser tab for each result page.	6
	(c)	Explain selenium's webdriver methods for finding elements	8
OR			
Q.10	(a)	Write a program that takes a number N from command line and creates an NxN multiplication table in excel spread sheet.	8
	(b)	Write short notes on i)Creating,copying and rotating pages with respect to pdf	6
	(c)	Write a program that find all the CSV files in the current working directory,read in the full contents of each file,write out the contents, skipping the first line, to a new CSV file.	6

CBCS SCHEME

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15CS664

Sixth Semester B.E. Degree Examination, Dec.2018/Jan.2019

Python Application Programming

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

1. a. Explain the following :
 - i) Skills necessary for a programmer
 - ii) Interactive mode
 - iii) Short circuit evaluation of expression
 - iv) Modulus operator

(04 Marks)
- b. Mention three types of errors encountered in python programs. Explain the basic building block of python with an example python program to display format number ($F_n = 2^{2n} + 1$) for a 'n' value promoted by the users.

(08 Marks)
- c. Describe python language support for arithmetic operators. Write a python programs to calculate student result based on 2 exam, 1 sport event and 3 activities conducted in a college with weightage of the activity = 20% and sports = 20% for 50 marks.

(04 Marks)

OR

2. a. List and give syntax of all python supported conditional statements along with its usage with an example program to check whether given number is positive or negative or zero.

(08 Marks)
- b. Differentiate between argument and parameter. Illustrate the flow of execution of a python function with an example program to convert given Celsius to Fahrenheit temperature.

(08 Marks)

Module-2

3. a. Explain while and for loop write a program to generate Fibonacci series up to the given limit by defining FIBONACCI (n) function.

(08 Marks)
- b. Mention the advantages of continue statement. Write a program to compute only even numbers sum within the given natural number using continue statement.

(08 Marks)

OR

4. a. Define a string. How it can be traversed though using looping statement? Write a python program to display presence of given substring in main string.

(08 Marks)
- b. How computational fault or computational errors are handled in python? Show it with an example python program to copy all lines beginning with vowels from FROM.txt file to VOWELTEXT.txt file retaining other lines.

(08 Marks)

Module-3

5. a. Describe any two list operations and list methods. Write a python program to accept 'n' numbers from user, find sum all even numbers and product of all odd numbers in entered list.

(08 Marks)
- b. List merits of dictionary over list. Write a python program to accept USN and marks obtained, find maximum, minimum and students USN who have scored in the range 100-85, 85-75, 75-60 and below 60 marks separately.

(08 Marks)

1 of 2

15CS664

OR

- 6 a. Compare and contrast tuples with lists. Explain the following operations in tuples
- i) Sum of two tuples
 - ii) Slicing operators
 - iii) Compression of two tuples
 - iv) Assignments to variables. (08 Marks)
- b. Explain extracting data using regular expressions. Implement a python program to find for lines having '@' sign between characters in a read text file. (08 Marks)

Module-4

- 7 a. How class can be instantiated in python? Write a python program to express instances as return values to define a class RECTANGLE with members width, height, corner_x, corner_y and member function : to find centre, area and perimeter of a rectangle. (08 Marks)
- b. Explain init and str method with an example python program. (08 Marks)

OR

- 8 a. Define polymorphism. Demonstrate polymorphism with function to find histogram to count the numbers of times each letters appears in a word and in sentence. (08 Marks)
- b. What is a pure function? Write a python program to find duration of event if start and end time is given by defining class TIME. (08 Marks)

Module-5

- 9 a. Explain any 2 socket functions. Explain support for parsing HTML using regular expression with an example program. (08 Marks)
- b. Describe a support of security mechanism employed in Internet application with support of API usage with an example program to get four strings and put them in "hidden.PY". (08 Marks)

OR

- 10 a. Write a note on XML. Design python program to retrieve a node present in XML tree. (08 Marks)
- b. Brief on structured Query language, with suitable python program explain functions involved in creation of database table in python. (08 Marks)

CBCS SCHEME

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15CS664

Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020

Python Application Programming

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1.
 - a. Explain the salient features of python. (05 Marks)
 - b. Write a python program to calculate the area of square, rectangle and circle. Print the results. Take input from user. (05 Marks)
 - c. What are user defined functions? How can we pass parameters in user defined functions? Explain with suitable example. (06 Marks)

OR

2.
 - a. Explain the concept of conditional execution alternate execution and chained conditions with suitable examples. (06 Marks)
 - b. Write a python program to create a user defined function to find maximum and minimum letter in string. Also find the length of the string without using inbuilt function. (05 Marks)
 - c. Explain the concept of type conversion functions and math functions in python with examples. (05 Marks)

Module-2

3.
 - a. Explain the working of while loop in python with suitable example. (05 Marks)
 - b. Write a python program to demonstrate counting, summing and average of elements using loops. (05 Marks)
 - c. What is a string? Write a python program to demonstrate traversal through a string with a loop. Also explain the concept of string slicing. (06 Marks)

OR

4.
 - a. With syntax and example code, explain the working of definite loop in python. (05 Marks)
 - b. Write a python program to concatenate and compare two strings. Read the strings from user. (05 Marks)
 - c. Explain fileopen, fileclose, fileread and filewrite concepts in python with example. (06 Marks)

Module-3

5.
 - a. What is a list? Explain the concept of list slicing and list traversing with example. (05 Marks)
 - b. Explain the concept of comparing tuples. Describe the working of sort function with python code. (06 Marks)
 - c. Write a python program to search for lines that start with 'F' followed by 2 characters, followed by 'm'. (05 Marks)

OR

6.
 - a. What is dictionary? How is it different from list? Write a python program to count occurrence of characters in a string and print the count. (06 Marks)
 - b. With an example program, illustrate how to pass function arguments to list. (05 Marks)
 - c. Write a python program to search lines that start with 'X' followed by any non whitespace characters, followed by ':' ending with number. Display the sum of all these number. (05 Marks)

1 of 2

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg-42+8=50, will be treated as malpractice.

15CS664

Module-4

- 7 a. Define class and object? What are programmer defined types? Explain with example. (05 Marks)
b. Illustrate the concept of pure function with python code. (05 Marks)
c. What is the difference between method and function? Explain the working of init method with suitable code. (06 Marks)

OR

- 8 a. Define attribute? With the help of python code, explain how functions return instance values. (06 Marks)
b. Explain the concept of modifier with python code. (05 Marks)
c. What is type based dispatch? Illustrate with python example. (05 Marks)

Module-5

- 9 a. Define socket? Write a python program that makes a connection to a webserver and follows the rules of HTTP protocol to request a plain text document and display what server sends back. (06 Marks)
b. What is XML? How is it used in python? Explain parsing of XML with example. (05 Marks)
c. Define cursor? Explain connect, execute and close command of databases with suitable example. (05 Marks)

OR

- 10 a. Write a python code to read the file from web using urllib and retrieve the data of the file. Also compute the frequency of each word in the file. (06 Marks)
b. What is JSON? Illustrate the concept of parsing JSON python code. (05 Marks)
c. Explain the concept of using JOIN to retrieve data in python. (05 Marks)

CBCS SCHEME

USN

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15CS664

Sixth Semester B.E. Degree Examination, June/July 2019

Python Application Programming

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. List the features of Python Programming Language (at least FIVE). (05 Marks)
- b. What is the role of a programmer? List two skills required to be a programmer. (05 Marks)
- c. Explain the chained and nested conditional execution statements along with syntax and flow chart. (06 Marks)

OR

- 2 a. What are Python words and sentences? Explain with an example for each. (04 Marks)
- b. Differentiate compiler and interpreter. (04 Marks)
- c. Write python programs to i) Find largest of three numbers (08 Marks)
- ii) Check whether the given year is leap year or not with functions.

Module-2

- 3 a. With syntax, explain the finite and infinite looping constructs in python. What is the need for break and continue statements. (08 Marks)
- b. Write a Python program to generate and print prime numbers between 2 to 50. (04 Marks)
- c. What are String slices? Explain the slicing operator in Python with examples. (04 Marks)

OR

- 4 a. Write a Python program to count the number of occurrences of a given word in a file. (06 Marks)
- b. Write a Python function that takes decimal number as input and convert that to binary equivalent and return the same. (04 Marks)
- c. List any six methods associated with strings and explain each of them with an example. (06 Marks)

Module-3

- 5 a. What are the ways of traversing a list? Explain with an example for each. (04 Marks)
- b. Differentiate Pop and Remove methods on lists. How to delete more than one element from a list. (06 Marks)
- c. Write a Python program that accepts a sentences and build dictionary with LETTERS, DIGITS, UPPER CASE, LOWER CASE as key values and their count in the sentences as values. Ex : Sentence = "VTU@123.e-Learning"
d = {"LETTERS": 12, "DIGITS": 3, "UPPER CASE": 4, "LOWER CASE": 8}. (06 Marks)

OR

- 6 a. Compare and contrast lists and tuples. (04 Marks)
- b. Write a program to check the validity of a password read by users. The following criteria should be used to check the validity. Password should have atleast
i) One lower case letter ii) One digit iii) One upper case letter
iv) One special character from [\$ # @ !] v) Six character.
Your program should accept a Password and check the validity using above criteria and print "valid" or "invalid" as the case may be. (08 Marks)

1 of 2

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8=50, will be treated as malpractice.

15CS664

- c. Demonstrate i) how a dictionary items can be represented as a list of tuples.
ii) How tuples can be used as keys in dictionaries?

(04 Marks)

Module-4

- 7 a. What is a Class? How to define a class in Python? How to instantiate a class and how the class members are accessed? (04 Marks)
b. Differentiate class variables and instance variables. (02 Marks)
c. Write a Python program that uses datetime module within a class, takes a birthday as input and prints the age and the number of days, hours, minutes and seconds until the next birthday. (10 Marks)

OR

- 8 a. Write a program that has a class Point with attributes as X and Y co-ordinates. Create two objects of this class and find the midpoint of both the points. Add a method reflex_x to class point, which returns a new point. Which is the reflection of the point about the x-axis.
Ex : point (5, 10) $\Rightarrow$ reflex_x returns point (5, -10). (06 Marks)
b. Differentiate between simple, multiple and multi-level inheritance. (06 Marks)
c. Write a program that has a class Person, Inherit a class Student from Person which also has a class MarksAttendance. Assume the attributes for Person class as : USN, Name, dob, gender. Attributes for Student class as : Class, branch, year, MA.
Attributes for MarksAttendance : Marks, Attendance.
Create a student S = Student ("1AB16CS005", "XYZ", "18-1-90", "M", 85, 98) and display the details of the student. (04 Marks)

Module-5

- 9 a. Demonstrate with the help of Python construct i) how to retrieve an image over HTTP.
ii) how to retrieve web pages with urllib. (08 Marks)
b. Compare and contrast the JavaScript object Notation (JSON) and XML. (04 Marks)
c. What is Service-Oriented Architecture? List the advantages of the same. (04 Marks)

OR

- 10 a. Write a Python program that retrieve an user's Twitter friends, Parse the returned JSON and extract some of the information about the friends. (08 Marks)
b. Create a simple spidering program that will go through Twitter accounts and build a database of them. (08 Marks)



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

(A Unit of Alva's Education Foundation)

Shobhavana Campus, Mijar-574225, Moodbidri, D.K

Phone: 08258-262725, Fax: 08258-262726

Affiliated to VTU Belagavi and Approved by AICTE, New Delhi, Recognized by Govt. of Karnataka

ATTENDANCE BOOK

Academic Year : 2020 - 2021

Semester : V Section 'A'

Period of the Semester : From 01-Sep-2020 to 16-Jan-2021

Subject with Code : Application Development Using Python [18CS55]

Name of the Faculty : Ms. Shilpa

Department : Computer Science And Engineering

VISION OF THE INSTITUTE

"Transformative education by pursuing excellence in Engineering and Management through enhancing skills to meet the evolving needs of the community"

MISSION OF THE INSTITUTE

- To bestow quality technical education to imbibe knowledge, creativity and ethos to students community.
- To inculcate the best engineering practices through transformative education.
- To develop a knowledgeable individual for a dynamic industrial scenario.
- To inculcate research, entrepreneurial skills and human values in order to cater the needs of the society.

VISION OF THE DEPARTMENT

"Engendering competent, excellent professionals by transforming the knowledge and computing skills to individuals through modern innovative tools and techniques"

MISSION OF THE DEPARTMENT

1. To produce skilled, creative software developers through rigorous training.
2. To conduct specific technical courses to keep abreast to the latest technological developments and transformations in domains
3. To implement the ideas of research and innovations in interdisciplinary domains
4. To establish Industry-Institute Interaction program to enhance the skills of employability and entrepreneurship.

COURSE OUTCOMES	
C01	Understand and implement the basic programming constructs with flow control statements, functions and Exception handling.
C02	Understand and implement the data structures in python such as List, Tuples, Strings and Dictionaries techniques.
C03	Understand and demonstrate pattern matching technique with RE, complete file system and debugging
C04	Interpret and apply OOP's the concepts such as classes and objects, class and methods, classes and functions and Inheritance in Python
C05	Comprehend and apply the processes of web scraping, working with Excel spread sheet, PDF, Word, CSV, JSON file formats.
C06	

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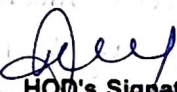
AIET	Lesson Plan & Execution			Format No.	ACD 08	
				Issue No.	01	
				Rev. No.	00	
Name of the faculty				Shilpa		
Semester and Section				V sem 'A' Sec		
Date of Commencement				01- Sep- 2020		
Last Working Day of the Semester				16- Jan - 2021		
Source Materials List						
1. Automate the boring stuff with python				Al Sweigart , 1 st edition, No Strach Press 2015		
2. Allen B Downey, Think python how to think like a computer				Allen B Downey, 2 nd edition, Green Tea Press 2015		
3. Introduction to python program				Gowrishankar S , Veena A , 1 st edition CRC Press/ Taylor & Francis 2018		
4.						
5.						
Subject Name Application Development Using Python [18CS55]						
Period	Plan			Execution		
	Date	Topics to be covered	Source Material needed	Topics Covered	Date	Source Material Referred
01	02/09/2020	Module - 01 Python basics, Entering expression into Interactive Shell, Integer, Floating point, and String data type	01	Module - 01 Python basics, Entering expression into Interactive Shell, Integer, Floating point data type	02/09/2020	01
02	03/09/2020	String Concatenation & replication, Storing values in variables, First program, dissecting your program	01	String data type String concatenation & replication Storing values in variables. First program.	03/09/2020	01
03	04/09/2020	Flow Control, Boolean values, Comparison Operator, Boolean operators, Mixing Boolean & Comparison operator.	01	Dissecting program Flow Control, Boolean values, Comparison Operator Boolean operator	04/09/2020	01
04	09/09/2020	Elements of flow control Program execution, flow control statements	01	Mixing Boolean & Comparison operator, Elements of flow control, program execution	9/09/2020	01

Period	Plan			Execution		
	Date	Topics to be covered	Source Material needed	Topics Covered	Date	Source Material Referred
05	10/09/2020	Importing Modules, Ending a program early with sys.exit()	01	Flow Control Statement, Importing modules, Ending a program with sys.exit()	10/09/2020	01
06	11/09/2020	Function: def stmt with parameter, return values & return statements, The None value	01	Function: def stmt with parameter, return values & return statements	11/09/2020	01
07	16/09/2020	Keyword Arguments & print(), local & global scope, Global statement	01	The None Value, Keyword argument and print()	16/09/2020	01
08	18/09/2020	Exception handling, A short program: Guess the number.	01	Local & global scope, Global stmt Exception handling	17/09/2020	01
09	23/09/2020	Module - 02: List data working with lists, augmented Assignment operators	01	Exception handling A short program	18/09/2020	01
10	24/09/2020	Methods, example programs: Magic 8 ball with a list	01	Short program and Guess the number	23/09/2020	01
11	25/09/2020	List like Type: String and Tuples, References	01	Module - 02 List data working with lists, augmented	24/09/2020	01
12	30/09/2020	Dictionary data type pretty printing.	01	Assignment operator Methods, example programs	25/09/2020	01
13	01/10/2020	Using Data Structure to model real-world things.	01	Magic 8 ball with a list. List like Type: String	30/09/2020	01
14	07/10/2020	Manipulating Strings Working with String	01	Tuples, References Dictionary data type	01/10/2020	01
15	08/10/2020	Useful String Method Project: Password locker	01	Pretty printing Using data Structure to model real	07/10/2020	01
16	09/10/2020	Project Adding bullet to Wiki Markup.	01	Manipulating Strings, Working with string	08/10/2020	01
17	14/10/2020	Module - 03: Pattern Matching with RE, finding pattern without RE finding pattern with RE	01	Working with String, Useful String methods	09/10/2020	01

Period	Plan			Execution		
	Date	Topics to be covered	Source Material needed	Topics Covered	Date	Source Material Referred
18	15/10/2020	More pattern matching with regular expression greedy & Non greedy matching findall(), [] class	01	Useful String methods with example	14/10/2020	01
19	16/10/2020	The Caret & Dollar sign, Wildcard character, Review of Regex Symbols	01	Project: Password locker Introduction to markup	15/10/2020	01
20	21/10/2020	Case insensitive matching sub() method. Combining IGNORECASE, DOTALL, VERBOSE	01	Project: Adding Bullet to wiki markup	16/10/2020	01
21	22/10/2020	Phone no & email extractor reading & writing files file paths. OS. path module	01	Module-03 Pattern matching with RE, finding pattern without RE	21/10/2020	01
22	23/10/2020	File reading/writing process saving variables with shelve module & pprint.pformat function	01	Finding pattern with RE. More pattern matching with regular expression	22/10/2020	01
23	28/10/2020	Organizing file, Shutil module, walking a directory tree, Compressing file with zipfile module.	01	Greedy and Non greedy matching findall()	23/10/2020	01
24	29/10/2020	Debugging, raising exception, Getting Traceback Assertions, Logging Debugger	01	Character class [] The caret & Dollar sign, Wildcard character	28/10/2020	01
25	04/11/2020	Module-04: classes & objects, Attributes, creating Instance as return value objects are mutable, Copying	02	Review of Regex Symbols, Case insensitive matching.	29/10/2020	01
26	05/11/2020	Classes & func: Time, pure func, modifiers, prototyping versus planning	02	Combining IGNORECASE, DOTALL, VERBOSE. Phone no, email extractor	4/11/2020	01
27	06/11/2020	Classes & methods, object use, project objects, example, more complicated example	02	Reading & writing files, file paths. OS. path module. File reading process	5/11/2020	01
28	11/11/2020	The init method, The __str__ method, Operator Overloading.	02	Saving variable with shelve module, pprint.pformat function. Organizing	6/11/2020	01
29	12/11/2020	Type based dispatch, polymorphism, Interface & Implementation	02	Shutil module, walking a directory, Compressing file with zipfile module.	11/11/2020	01
30	13/11/2020	Inheritance, class object class attribute, Comparing classes	02	Debugging, raising exception, Getting Traceback assertions Logging	12/11/2020	01

Period	Plan			Execution		
	Date	Topics to be covered	Source Material needed	Topics Covered	Date	Source Material Referred
31	20/11/2020	Decks, printing the deck, add, remove, Shuffle and sort	02	Module - 04 Classes & objects Attribute, rectangle instance as return value	23/11/2020	02
32	23/11/2020	Inheritance, class diagrams, Data encapsulation.	02	objects are mutable copying, classes & function - Time pure function	20/11/2020	02
33	27/11/2020	Module-05: Web Scraping Downloading files from web with request module. Saving file to hard drive	01	modifiers, prototyping vs planning, class & methods, prototy- pe versus planning	20/11/2020	02
34	28/11/2020	HTML parsing HTML with the beautiful Soup module.	01	OO features, exam- ple, more complica- -ted example	21/11/2020	02
35	04/12/2020	Working with excel Spread Sheet, Excel document, Installing openpyxl, rea- -ding excel documents	01	init - method, str method, Operator overloading, Type based dispatch	23/11/2020	02
36	05/12/2020	Project: Reading Data from Spreadsheet, Writing excel documents, Font objects, Formulas.	01	Polymorphism, Interface and implementation	27/11/2020	02
37	07/12/2020	Working with PDF & word document, PDF documents	01	Inheritance, card object, class attri- -bute, comparing cards	24/11/2020	02
38	11/12/2020	Working with csv file and JSON data, The csv Module, Header for csv file	01	Decks, printing the deck, add, remove	28/11/2020	02
39	12/12/2020	Project: Removing the header from csv file, JSON and APIs	01	Shuffle & sort, Inheritance, class	30/11/2020	02
40	14/12/2020	json module, Project Fetching current weather data	01	Class diagram, Data encapsulati- -on	4/12/2020	02
41				Module - 05 Web scraping, down- -loading files from web with request	4/12/2020	01
42				Saving file to hard drive, HTML pars- -ing with beautiful Soup	5/12/2020	01
43				HTML parsing with beautiful Soup module.	7/12/2020	01

Period	Plan			Execution		
	Date	Topics to be covered	Source Material needed	Topics Covered	Date	Source Material Referred
44				Working with excel Spread sheet, excel document, Installing openpyxl.	4/12/2020	01
45				Reading excel documents. Projects: reading data from spreadsheet	11/12/2020	01
46				Writing excel doc. Font objects, formulas.	12/12/2020	01
47				Working with PDF and word document,	15/12/2020	01
48				Working with JSON data, working with CSV module, CSV file	18/12/2020	01
49				Header CSV file. Removing header from CSV file JSON & API's	19/12/2020	01
50				JSON module, Projects: Fetching weather data	25/12/2020	01
51				Revision of module - 01	28/12/2020	01
52				Revision of module - 01	31/01/2021	01
53				Revision of module - 02	01/01/2021	01
54				Revision of module - 02	01/01/2021	01
55				Revision of module - 03	02/01/2021	01
56				Revision of module - 03	04/01/2021	01

Others	Planned	Actual	Remarks :
Special Classes	5	10	
Tutorials	5	09	
Assignments	03	01	
Seminars	01	01	
IA Tests	03	03	
Portions Covered in the entire Semester	100% [5 modules]		
Course Effectiveness			
Students Feedback	Good		
Students Response	Good		
Result	No. of Students AP	No. of Students Passed	% of Result
	60	59	98%
 Faculty in Charge  Signature of Principal (& Remarks if any) PRINCIPAL Alva's Institute of Engg. & Technology, Mijar, MOODIBIDRI - 574 225, D.K.  HOD's Signature H. O. D. Dept. Of Computer Science & Engineering Alva's Institute of Engg. & Technology Mijar, MOODIBIDRI - 574 225			

ALVA'S INSTITUTE OF ENGINEERING

MIJAR,

ND TECHNOLOGY

OODBIDRI - 574 225

Class : V SEM 'A' SEC

Subject : Application Development Using Python

No. of Classes held : 59

ATTENDANCE CUM INTERNAL

Subject : ADP

Sl. No.	U.S.N.	Name	Date / Month														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	4AL18CS001	Abhishek S Harsoor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	4AL18CS003	Adarsha NY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3	4AL18CS005	Ambika V	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4	4AL18CS009	Anusha JK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
5	4AL18CS011	Archana JC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
6	4AL18CS014	Bhavya S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
7	4AL18CS016	Chandana S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
8	4AL18CS017	C K Chethan	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
9	4AL18CS019	Churashma	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10	4AL18CS020	D Richard Franklin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11	4AL18CS021	Felina Simon Menezes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
12	4AL18CS023	Gudugunte Anirudh	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
13	4AL18CS025	Hymha N Raj	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
14	4AL18CS027	Jahnavi PC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
15	4AL18CS030	Jyothi BR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	4AL18CS032	K S Prajwal	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
17	4AL18CS035	Karthik HB	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
18	4AL18CS034	Karthik S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
19	4AL18CS035	Kavoor Latika Vinayak	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
20	4AL18CS036	Keertana Ganesh Ganiga	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
21	4AL18CS041	Lavanya DM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
22	4AL18CS043	Laxman Pundalik B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
23	4AL18CS044	Laxminarayan Miskin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
24	4AL18CS045	M Mahammad Asif	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
25	4AL18CS046	MR Jeevan	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
26	4AL18CS047	M Venkataramanachari	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
27	4AL18CS050	Naipunya	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
28	4AL18CS051	Naveen MD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
29	4AL18CS053	Niveditha Magadam	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
30	4AL18CS054	P Yuvaraj	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Staff Initials			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Sl. No.	U.S.N.	Name	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	4AL18CS001	Abhishek S Harsoor	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2	4AL18CS003	Adarsha NY	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
3	4AL18CS005	Ambika V	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
4	4AL18CS009	Anusha JK	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
5	4AL18CS011	Archana JC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6	4AL18CS014	Bhavya S	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
7	4AL18CS016	Chandana S	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
8	4AL18CS017	C K Chethan	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
9	4AL18CS019	Churashma	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
10	4AL18CS020	D Richard Franklin	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
11	4AL18CS021	Felina Simon Menezes	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
12	4AL18CS023	Gudugunte Anirudh	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
13	4AL18CS025	Hymha N Raj	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
14	4AL18CS027	Jahnavi PC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
15	4AL18CS030	Jyothi BR	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
16	4AL18CS032	K S Prajwal	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
17	4AL18CS035	Karthik HB	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
18	4AL18CS034	Karthik S	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
19	4AL18CS035	Kavoor Latika Vinayak	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
20	4AL18CS036	Keertana Ganesh Ganiga	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
21	4AL18CS041	Lavanya DM	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
22	4AL18CS043	Laxman Pundalik B	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
23	4AL18CS044	Laxminarayan Miskin	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
24	4AL18CS045	M Mahammad Asif	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
25	4AL18CS046	MR Jeevan	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
26	4AL18CS047	M Venkataramanachari	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
27	4AL18CS050	Naipunya	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
28	4AL18CS051	Naveen MD	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
29	4AL18CS053	Niveditha Magadam	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
30	4AL18CS054	P Yuvaraj	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Staff Initials			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Students Attendance		No. of Class Attended	% of Attendance	Internal Assessment (25)			Average Marks	Assignment	Total							
Inducted				I	II	III										
48	60															
		58	98%	26	25	28	27	10	37							
		53	90%	20	16	25	21	10	31							
		56	95%	23	30	30	28	10	38							
		53	90%	18	25	30	25	10	35							
		58	98%	28	30	30	30	10	40							
		51	85%	17	25	28	24	10	34							
		57	94%	29	29	30	30	10	40							
		53	90%	30	28	30	30	10	40							
		56	95%	28	26	30	28	10	38							
		57	94%	29	29	30	30	10	40							
		53	90%	24	28	30	28	10	38							
		57	94%	22	28	24	25	10	35							
		50	85%	20	20	24	22	10	32							
		55	93%	14	20	18	18	10	28							
		59	90%	23	21	28	26	10	36							
		58	94%	24	21	30	21	10	37							
		52	88%	19	25	30	25	10	35							
		51	86%	22	17	27	22	10	32							
		53	90%	30	25	21	26	10	36							
		59	90%	28	25	30	28	10	38							
		58	98%	25	28	25	26	10	36							
		57	94%	21	25	29	25	10	35							
		55	93%	22	25	24	24	10	34							
		59	90%	28	30	30	30	10	40							
		57	94%	24	26	30	27	10	37							
		52	88%	22	23	27	24	10	34							
		59	100%	26	25	28	27	10	37							
		50	85%	25	16	21	21	10	31							
		59	100%	23	22	30	25	10	35							
		57	94%	19	25	24	23	10	33							
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MIJARI

ODDIBIDRI - 574 225

ATTENDANCE CUM INTERNAL

Class : V SEM 'A' SEC

Subject : Application Development Using Python

No. of Classes held : 59

Object : ADP

Date / Month			1/1	2/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1	11/1
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Students Attendance		No. of Class Attended	% of Attendance	Internal Assessment (25)			Average Marks	Total	
48	60			I	II	III			
		52	98%	20	20	29	23	10	33
		52	98%	28	21	30	29	10	39
		50	85%	26	22	26	25	10	35
		54	92%	22	11	29	21	10	31
		56	95%	24	10	28	21	10	31
		55	93%	28	28	30	30	10	40
		57	94%	28	30	30	30	10	40
		59	100%	23	30	29	30	10	40
		64	92%	20	21	30	24	10	34
		50	85%	26	14	28	23	10	33
		55	93%	19	25	24	23	10	33
		56	95%	23	11	26	22	10	32
		50	85%	15	20	23	20	10	30
		61	86%	20	18	20	20	10	30
		53	90%	30	28	30	30	10	40
		54	92%	17	22	29	23	10	33
		58	98%	13	26	25	22	10	32
		57	97%	24	20	15	20	10	30
		58	98%	21	16	30	23	10	33
		56	95%	20	20	30	24	10	34
		55	93%	21	11	29	25	10	35
		53	90%	25	25	29	27	10	37
		50	85%	22	20	30	24	10	34
		54	92%	16	06	20	14	10	24
		58	98%	20	26	30	26	10	36
		58	98%	16	20	22	20	10	30
		58	98%	20	19	26	22	10	32
		62	88%	20	23	29	24	10	34
		58	98%	14	22	30	22	10	32
		50	85%	14	11	20	15	10	25
		50	85%	14	11	20	15	10	25

[illegible]

AIET	INTERNAL EXAM RESULT ANALYSIS						Format No.	ACD 12
							Issue No.	01
							Rev. No.	00
Department	Computer Science And Engineering						Semester	V 'A'
							Subject Code	18CS55
Total No. of Students	60						Academic Year	2020 - 2021
Test	Date	Number of Students				Signature		Remarks
		Attended	0-10	11-20	21-30	Faculty	HOD	
T ₁	19/11/20	60	0	22	38			
T ₂	23/12/20	60	2	19	39			
T ₃	16/1/21	60	0	5	55			
T ₄								
T ₅								

Signature of Staff in - charge

HOD's Signature

PROGRAM OUTCOMES (POs)	
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, Engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
PROGRAM SPECIFIC OUTCOMES (PSOs)	
PSO1	Professional Skills : The ability to understand and implement the computer programs in the areas of computer architecture, S/W software, DBMS, web design, multimedia and computer N/w
PSO2	Problem solving skills : The ability to solve real-world problems by the suitable mathematical model with strong technological concepts in the rapidly growing arena of computer technology
PSO3	Successful Career and Entrepreneurship : Knowledge in diverse areas of S/W engg and management & entrepreneurship for IT industry, conducive in cultivating skills for successful career development.
PSO4	
PROGRAM EDUCATIONAL OBJECTIVES (PEOs)	
PEO1	Exhibit fundamental Strengths of core courses of computer Engg to solve the problems of computing world.
PEO2	Adapt and contribute the emerging technological changes
PEO3	Get employed in computing profession or engaged in learning to pursue higher studies
PEO4	