



List of New Course(s) Introduced

| | | |
|-------------------------|---|------------------------|
| Department | : | Information Technology |
| Programme Name | : | B.Tech. |
| Academic Year : 2022-23 | | |

List of New Course(s) Introduced

| Sr. No. | Course Code | Name of the Course |
|---------|-------------|------------------------|
| 01. | IT205TPC03 | PYTHON PROGRAMMING |
| 02. | IT205PPC02 | PYTHON PROGRAMMING LAB |



Minutes of Meetings (MoM) of Board of Studies (BoS)

| | |
|-------------------------|--|
| Academic Year : 2022-23 | |
| School | : School of Studies - Engineering & Technology |
| Department | : Information Technology |
| Date and Time | : 15-06-2022, 11:00AM |
| Venue | : Smart Class Room - G-14 [Hybrid Modes] |

Sess. 2022-23

Minutes of Meeting Dated 15/06/2022

A Meeting of BoS in Information Technology was held today on 15/06/2022 at AM. The Following Members have attended the meeting.

1. Dr. Rohit Raja, BoS Chairman, Dept. of Information Technology, SoS-E&T, G
2. Prof. Apurva Desai, Professor, Veer Narmad South Gujarat University
3. Ms. Ashwini Jha, Software Developer, Persistent
4. Mr. Pankaj Chandra, Member, BoS, Dept. of IT, SoS-E&T, GGV.
5. Dr. Rajesh Mahule, Invited Member
6. Dr. Santosh Soni, Invited Member
7. Mr. Abhishek Jain, Invited Member
8. Mr. Agnivesh Pandey, Invited Member
9. Mr. Deepak Kant Netam, Invited Member
10. Mr. Amit Kumar Dewangan, Invited Member.

The Head of Department welcomed all members of BoS in the meeting and the following agenda was discussed in the meeting.

1. The Scheme and Syllabus of B.Tech. IT - 3rd Year 2022-23 (5th and 6th Sem) CBCS has been discussed and approved.
2. One lab subject (Advanced Data Structures lab) is replaced by Wireless Network Lab in M.Tech 1st Sem.

The following courses were revised in the of B. Tech. Third year (5th and 6th Semes

- ❖ DATABASE MANAGEMENT SYSTEMS (IT205TPC01)
- ❖ DATABASE MANAGEMENT SYSTEMS LAB (IT205PPC01)
- ❖ COMPUTER NETWORKS (IT206TPC02)
- ❖ COMPUTER NETWORKS LAB (IT206PPC01)
- ❖ MICROPROCESSOR & MICROCONTROLLER LAB (IT206PPE21)

The following new courses were introduced in Third year (5th and 6th Semes)



- ❖ PYTHON PROGRAMMING LAB (IT205PPC02)
- ❖ WIRELESS SENSOR NETWORK LAB (ITPALT2)

The meeting ended with a vote of thanks by Head of the Department.

Dr. Rohit Raja
BoS Chairman

(Consent Taken Through Mail)
Prof. Apurva Desai Professor
Veer Narmad South Gujrat
University

(Consent Taken Throu
Ms. Ashwini Jha
Software Developer
Persistent

Mr. Pankaj Chandra
Member, BoS

Dr. Rajesh Mahule
Invited Member

Dr. Santosh Soni
Invited Member

Mr. Agnivesh Pandey
Invited Member

Mr. Abhishek Jain
Invited Member

Mr. Deepak Kant Netaji
Invited Member

Mr. Amit Kumar Dewangan
Invited Member



Scheme and Syllabus

SCHEME FOR EXAMINATION
B.TECH (FOUR YEAR) DEGREE COURSE
THIRD YEAR, INFORMATION TECHNOLOGY
SEMESTER V
EFFECTIVE FROM SESSION 2022-23

| EFFECTIVE FROM SESSION 2022-23 | | | | | | | |
|---|--------------|--|---------------|---|---|------------|-----|
| SL. NO. | SUBJECT CODE | SUBJECTS | PERIODS/ WEEK | | | EVALUATION | |
| | | | L | T | P | IA | ESE |
| THEORY | | | | | | | |
| 1 | IT205TES07 | SIGNALS & SYSTEMS | 3 | 0 | 0 | 30 | 70 |
| 2 | IT205TPC01 | DATABASE MANAGEMENT SYSTEMS | 3 | 0 | 0 | 30 | 70 |
| 3 | IT205TPC02 | FORMAL LANGUAGE & AUTOMATA THEORY | 3 | 0 | 0 | 30 | 70 |
| 4 | IT205TPC03 | PYTHON PROGRAMMING | 3 | 1 | 0 | 30 | 70 |
| 5 | IT205TPE1X | ELECTIVE – I | 3 | 0 | 0 | 30 | 70 |
| PRACTICAL | | | | | | | |
| 1 | IT205PPC01 | DATABASE MANAGEMENT SYSTEMS LAB | 0 | 0 | 4 | 30 | 20 |
| 2 | IT205PPC02 | PYTHON PROGRAMMING LAB | 0 | 0 | 4 | 30 | 20 |
| 3 | IT205PMC01 | CONSTITUTION OF INDIA/ ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE | - | - | 2 | - | - |
| TOTAL CREDITS | | | | | | | |
| IA- INTERNAL ASSESSMENT, ESE-END SEMESTER EXAMINATION, L-LECTURE, T-TUTOR | | | | | | | |

LIST OF ELECTIVE-I

| | | |
|---|------------|----------------------|
| 1 | IT205TPE11 | SOFTWARE ENGINEERING |
| 2 | IT205TPE12 | REAL TIME SYSTEM |



| SUB CODE | L | T | P | DURATION | IA | ESE | CREDITS |
|------------|---|---|---|----------|----|-----|---------|
| IT2051PC03 | 3 | 1 | 0 | 4 HOURS | 30 | 70 | 4 |

Python Programming

Course Objectives:

1. Learn Syntax and Semantics and create Functions in Python.
2. Handle Strings and Files in Python.
3. Understand Lists, Dictionaries and Regular expressions in Python.
4. Implement Object Oriented Programming concepts in Python.
5. Build Web Services and introduction to Network and Database Programming in Python.

UNIT - I Python Basics, Objects- Python Objects, Standard Types, Other Built-in Types, Internal Types, Standard Type Operators, Standard Type Built-in Functions, Categorizing the Standard Types, Unsupported Types Numbers - Introduction to Numbers, Integers, Floating Point Real Numbers, Complex Numbers, Operators, Built-in Functions, Related Modules Sequences - Strings, Lists, and Tuples, Mapping and Set Types.

UNIT - II FILES: File Objects, File Built-in Function [open()], File Built-in Methods, File Built-in Attributes, Standard Files, Command-line Arguments, File System, File Execution, Persistent Storage Modules, Related Modules Exceptions: Exceptions in Python, Detecting and Handling Exceptions, Context Management, *Exceptions as Strings, Raising Exceptions, Assertions, Standard Exceptions, *Creating Exceptions, Why Exceptions (Now)?, Why Exceptions at All?, Exceptions and the sys Module, Related Modules Modules: Modules and Files, Namespaces, Importing Modules, Importing Module Attributes, Module Built-in Functions, Packages, Other Features of Modules.

UNIT - III Regular Expressions: Introduction, Special Symbols and Characters, Res and Python Multithreaded Programming: Introduction, Threads and Processes, Python, Threads, and the Global Interpreter Lock, Thread Module, Threading Module, Related Modules.

UNIT - IV GUI Programming: Introduction, Tkinter and Python Programming, Brief Tour of Other GUIs, Related Modules and Other GUIs WEB Programming: Introduction, Web Surfing with Python, Creating Simple Web Clients, Advanced Web Clients, CGI-Helping Servers Process Client Data, Building CGI Application Advanced CGI, Web (HTTP) Servers.

UNIT - V Database Programming: Introduction, Python Database Application Programmer's Interface (DB-API), Object Relational Managers (ORMs), Related Modules.

TEXT BOOKS:

1. Core Python Programming, Wesley J. Chun, Second Edition, Pearson.

REFERENCES BOOKS:

1. Think Python, Allen Downey, Green Tea Press.
2. Introduction to Python, Kenneth A. Lambert, Cengage.



3. Python Programming: A Modern Approach, Vamsi Kurama, Pearson.
4. Learning Python, Mark Lutz, O'Really.

Course Outcomes:

1. Examine Python syntax and semantics and be fluent in the use of Python flow control and functions.
2. Demonstrate proficiency in handling Strings and File Systems.
3. Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions.
4. Interpret the concepts of Object-Oriented Programming as used in Python.
5. Implement exemplary applications related to Network Programming, Web Services and Databases in Python.



| SUB CODE | L | T | P | DURATION | IA | ESE | CREDITS |
|-------------------|----------|----------|----------|----------------|-----------|-----------|----------|
| IT205PPC02 | 0 | 0 | 4 | 4 HOURS | 30 | 20 | 2 |

Python Programming Lab

Course Objectives:

This course is designed to enable the students to:

1. To be able to introduce core programming basics and program design with functions using Python programming language.
2. To understand a range of Object-Oriented Programming, as well as in-depth data and information processing techniques.
3. To understand the high-performance programs designed to strengthen the practical expertise.

| S.No. | Experiments |
|-------|--|
| 1 | Write a program to demonstrate different number data types in Python. |
| 2 | Write a program to perform different Arithmetic Operations on numbers in Python. |
| 3 | Write a program to create, concatenate and print a string and accessing sub-string from a given string. |
| 4 | Write a python script to print the current date in the following format "Sun May 29 02:26:23 IST 2017". |
| 5 | Write a program to create, append, and remove lists in python. |
| 6 | Write a program to demonstrate working with tuples in python. |
| 7 | Write a program to demonstrate working with dictionaries in python. |
| 8 | Write a python program to find largest of three numbers. |
| 9 | Write a Python program to convert temperatures to and from Celsius, Fahrenheit. [Formula : $c/5 = f-32/9$] |
| 10 | Write a Python script that prints prime numbers less than 20. |
| 11 | Write a python program to find factorial of a number using Recursion. |
| 12 | Write a program that accepts the lengths of three sides of a triangle as inputs. The program output should indicate whether or not the triangle is a right triangle (Recall from the Pythagorean Theorem that in a right triangle, the square of one side equals the sum of the squares of the other two sides). |
| 13 | Write a program that inputs a text file. The program should print all of the unique words in the file in alphabetical order. |
| 14 | Write a python program to define a module to find Fibonacci Numbers and import the module to another program. |
| 15 | Write a python program to define a module and import a specific function in that module to another program. |
| 16 | Write a Python class to convert an integer to a roman numeral. |
| 17 | Write a Python class to implement pow(x, n). |
| 18 | Write a Python class to reverse a string word by word. |

TEXT BOOKS:

1. Core Python Programming, Wesley J. Chun, Second Edition, Pearson.

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Course Outcomes:

At the end of this course the student can answer how to:

1. Student should be able to understand the basic concepts scripting and the contributions of scripting language.
2. Ability to explore python especially the object-oriented concepts, and the built in objects of Python.
3. Ability to create practical and contemporary applications such as TCP/IP network programming, Web applications, discrete event simulations.