GOVT. POLYTECHNIC, HAMIRPUR (H.P.)
Lesson Planning

Branch: Computer Engineering **Semester: 6th**

Subject: Scripting Language **Course Code:** COPC302

Laboratory: Yes **Session**: Jan 2025

Teacher: Indu Bala

Sr. No.	No of Lectures	Chapter/Unit Description	Detailed contents	Reference Resources	Remarks
1	12 Hours	Introduction to Python 3	**Unit 1:** Features of Python; Application areas of Python; Execution modes of Python - interactive mode and script mode; Code indentation; Comments; Python statements - simple and compound; Python tokens - identifiers, keywords, operators, delimiters, and literals; Variables naming conventions; Need of input and output statements, reading from standard input using the input() function; Writing to standard output using the print() function; Escape sequences.	R1,R2,R3	
2	12 Hours	Data Types	**Unit 2:** Data Types: Numbers - integer, floating point and complex; Sequences - strings, lists and tuples; Sets; Mappings - dictionaries; Mutable and Immutable data types; Type conversion - Explicit and implicit conversion.	R1,R2,R3	
3	12 Hours	Operators	**Unit 3:** Arithmetic operators; Relational operators; Assignment Operators; Logical Operators; Bitwise operators; Identity operators and membership operators; Precedence and associativity of operators; Arithmetic expressions.	R1,R2,R3	
4	12 Hours	String, List, Tuple, Set and Dictionary Methods	**Unit 4:** Operations on sequences - concatenation, repetition, membership testing, indexing, slicing. String Course Code : COPC302 Course Title : Scripting Language Number of Credits : 2 (L: 2, DCS: 3, P: 0) Prerequisites : - Course Category : PC (Program Core) Computer Engg N-2022	R1,R2,R3	

			Page| 30 methods - capitalize(), lower(), upper(), title(), count(), find(), replace(); List methods - count(), index(), append(), insert(), remove(), pop(), reverse(), sort(), clear(); Tuple methods - count(), index(); Set methods - add(), clear(), remove(), discard(), intersection(), difference(), union(), pop(); Dictionary methods - keys(), values(), items(), clear(), pop().		
5	12 Hours	Control Statements	**Unit 5:** Conditional statements - The if statement and its variants - if, if...else, if...elif...else; Comparison chaining; loop statements - while, for; use of else in loops; Jump statements - break, continue, pass; The range() function; Comprehension - list comprehension, set comprehension and dictionary comprehension	R1,R2,R3	
6	4 Hours	Modules, Packages and Exception Handling	**Unit 6 :** Python modules and packages; Exception handling in Python	R1,R2,R3	
7	12 Hours	Functions	**Unit 7:** Advantages of functions; User defined functions - function definition, function call, return values; Parameter passing; Keyword and default arguments; Variable scope and lifetime - local and global variables; Lambda functions	R1,R2,R3	
8	4 Hours	File Handling in Python	**Unit 8:** File opening modes; Python methods for reading, writing and moving within a file - read(), readline(), readlines(), write(), writelines(), truncate(), flush(), seek(), tell(); Use of with keyword	R1,R2,R3	

Reference Books:

1. Introduction to Computer Science using Python by Charles Dierbach, Wiley Publishers

2. Let's Python by Yashavant Kanetkar, BPB publication.

3.https://www.w3schools.com/python

Signature of Teacher with Date **Signature of HOD**

GOVT. POLYTECHNIC, HAMIRPUR (H.P.)
Practical Planning

Branch: Computer Engineering **Semester: 6th**

Subject: Scripting Language Lab **Course Code :**COPC304 **Session**: Jan 2025

Teacher: Indu Bala **Laboratory**: OS Lab

Sr. No.	No of Practical hours planned	Aim of the Practical	Reference for Procedure/ Writeup	Remarks
1	4	To install, configure Python 3 and IDLE on Windows/ Linux platforms, and to practice various arithmetic expressions, the eval() function on the Python interactive she	R1, R2	
2	4	To create variables of various data types, check their id using id() function and to verify their data types using the type() function.	R1, R2	
3	4	To swap values of two variables with and without a third variable. (use input() to accept values from user and print() to display values before and after swapping)	R1, R2	
4	6	To accept two numbers from the user and apply various Python operators on them	R1, R2	
5	6	To apply concatenation, repetition, membership testing, indexing and slicing on sequences (strings, lists and tuples).	R1, R2	
6	4	To practice various methods and the len() function on string and list.	R1, R2	
7	4	To practice various methods and the len() function on tuple, set and dictionary	R1, R2	
8	8	To calculate the division obtained by a student using the if...elif...else construct as per following rules: Input percentage is above or equal to 60 - First division Input percentage is between 50 and 59 - Second division Input percentage is between 40 and 49 - Third division Input percentage is less than 40 - Fai	R1, R2	
9	4	Using while loop 1. To find whether the number entered by a user is prime or not. 2. To convert a decimal number entered by the user to its binary equivalent. 3. To print all the fibonacci numbers less	R1, R2	

		than 200 separated by a space		
10	4	Using for loop 1. To find the factorial of a given number. 2. To print all the even numbers (except 50), between 0 and 100, separated by a TAB, using the range() function and the continue statement. 3. To display all the prime numbers less than 100, separated by single space, using the range() function and the break statement	R1, R2	
11	4	Using a while/for loop 1. To traverse a string. 2. To traverse a list. 3. To traverse a dictionary	R1, R2	
12	4	To demonstrate the exception handling mechanism of Python	R1, R2	
13	4	To find the sum of two integers using : 1. a function that accepts nothing and returns nothing. 2. a function that accepts nothing but returns the sum of two integers. 3. a function that accepts two integers but returns nothing. 4. a function that accepts two integers and returns the sum of two integers	R1, R2	
14	2	To demonstrate lambda function.	R1, R2	
15	2	To copy the contents of one file into another.	R1, R2	

References:

R1: Lab Manual

R2: https://www.w3schools.com/python

GOVT. POLYTECHNIC, HAMIRPUR (H.P.)
Lesson Planning

Branch: Computer Engineering **Semester: 6th**

Subject: Dataware house and Data mining **Session**: Jan 2025

Laboratory:No **Course Code:** IoTOE302

Teacher : Virender Thakur

Sr. No.	No of Lectures	Chapter/Unit Description	Detailed contents	Reference Resources	Remarks
1	14Hours	Introduction to Data Warehousing	**Unit 1:** .Data Warehouse, OLTP, OLAP, comparison of OLTP and OLAP systems, three-tier data warehouse	R1,R2,R3	

			architecture, Data Warehouse Models: Enterprise warehouse, Data mart, Virtual warehouse, Types of OLAP Servers: Relational OLAP (ROLAP), Multidimensional OLAP (MOLAP), Hybrid OLAP (HOLAP).		
2	10 Hours	Multidimensional Data Models	**Unit 2:** Multidimensional Data Models Multidimensional database, data cube, concept hierarchy, OLAP Operations: Roll-up, Drilldown, Slice and dice, Pivot (rotate), Schemas for multidimensional databases: Stars, Snowflakes, and Fact Constellations.Modelsd implicit conversion.	R1,R2,R3	
3	14 Hours	Data Mining & KDD Process	**Unit 3:** **Data Mining, Importance of data mining, KDD process: Data preprocessing, Data cleaning, Data integration, Data selection, Data transformation, Data mining, Pattern evaluation, Knowledge presentation. Classification of data mining systems, Technologies used in data mining, Major issues in Data Mining**	R1,R2,R3	
4	14 Hours	Building Data Warehouse	**Unit 4:** ETL process, Top-down approach, Bottom-up approach, Steps for Data warehouse design: choosing a business process to model, choosing the grain of the business process, choosing the dimensions, choosing the measures, Recommended approach for data warehouse development.	R1,R2,R4	
5	12 Hours	Applications & Trends in Data Mining	**Unit 5:** Data Mining Applications: Data Mining for Financial Data Analysis, Retails and Telecommunication Industries, Science and Engineering, Intrusion Detection and Protection, Recommendation System, Recent trends in data mining.	R1,R2,R4	

Reference Books:

1. “Data Mining & Warehousing”, by Ikvinderpal Singh, Khanna Book Publishing Ltd.
2. “Data Mining, Data Warehousing”, by Parteek Bhatia, Cambridge University Press.
3. “Data Warehousing, Data Mining & OLAP”, by Alex Berson and S. Smith, TMH
4. “Data Mining – Concepts & Techniques” by Jiawei Han and Micheline Kamber, Elsevier.

Signature of Teacher with Date **Signature of HOD**

Govt. Polytechnic Hamirpur (H.P.)
Lecture Planning (Theory)

Branch :**Computer Engg.** Semester: **6th**

Subject : **Basics ofManagement** Session: **Feb-2025**

Teacher : **Vikas Soni** Class Room: **LH04**

Sr. No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1.	1-13	**Introduction to Management**	Definitions and concept of Management, Functions of management- planning, organizing, staffing, coordinating and controlling, Various areas of management, Structure of an Organization.	**R1,R2**	
2.	14-26	**Self-Management and Development**	Life Long Learning Skills, Concept of Personality Development, Ethics and Moral values, Concept of Physical Development; Significance of health, hygiene, body gestures, Time Management Concept and its importance, Intellectual Development: Reading skills, speaking, listening skills, writing skills (Note taking, rough draft, revision, editing and final drafting), Concept of Critical Thinking and Problem Solving (approaches, steps and cases).	**R1,R2**	

3.	27-39	**Leadership and Motivation**	Meaning, importance , types of leadership and qualities of a good leader. Concept and importance of motivation-drives and incentives, types of motivation.	**R1,R2**	
4.	40-52	**Legal Environment and Business**	a) Various labour laws and its necessity. Salient features of Income Tax Act – computation of income tax on salary income, Sales and Excise Tax Act-VAT& Excise duty and Factory Act. 1948. b) Labour Welfare Schemes including wage payment-types, system of wage payment and incentives. c) Intellectual Property Rights(IPR)- Concepts, infringements and remediesrelated to patents, copy rights, trademarks and designs. d) Accident and Safety- Meaning and concept of accident and safety, causes,safety precautions and various measures after accidents	**R1,R2**	
5.	53-64	**Total Quality Management**	MySQL, Features of MySQL, Database Objects - Database, Table, View, Index, Alias; MySQL Object Naming, Keywords, User-defined Variables, Data Types - Numeric, Date and Time, String Types; Operators: Arithmetic, Logical, Relational, String; MySQL System Schema, MySQL Database Users and Roles, Database Privileges, Access Control and Account Management, MySQL Server and MySQL Client Meaning and concept of Total Quality Management, various factors/measures to achieve TQM in an organization. Standards and Codes-National & International.	**R1,R2**	

R1-Principles of Management by Philip Kotler TEE Publication
R2-Principles and Practice of Management by Shyamal Bannerjee: Oxford and IBM Publishing Co, New Delhi.

Signature of Teacher with Date Signature of H.O.D.

GOVT. POLYTECHNIC, HAMIRPUR (H.P.) Lesson Planning and Coverage

Branch: Computer Engineering Semester:6th

Subject: Indian Constitution Session: January 2025

Teacher: Mukesh Bhardwaj Laboratory: No

Sr. No.	No of Lectures	Chapter/Unit Description	Detailed contents	Reference Resources	Remarks

1	8	Introduction to Constitution	History of making of the Indian Constitution. Meaning and importance of the Constitution. Salient features and Preamble of Indian Constitution. Fundamental rights- meaning and limitations. Directive principles of state policy and Fundamental duties -their enforcement and their relevance.	R1, R2,R3	
2	8	Union Government	Structure of Union Government. Union Executive- President, Vice-president, Prime Minister, Council of Ministers. Union Legislature- Parliament and Parliamentary proceedings. Union Judiciary-Supreme Court of India – composition and powers and function.	R1, R2,R3	
3	10	State and Local Governments	Structure of State Government. State Executive- Governor, Chief Minister, Council of Ministers. State Legislature-State Legislative Assembly and State Legislative Council. State Judiciary-High court. Local Government- Panchayat raj system with special reference to 73rd and Urban	R1, R2,R3	

			Local Self Govt. with special reference to74th Amendment.		
4	6	Election provisions, Emergency provisions, Amendment of the constitution	Election Commission of Indiacomposition, powers and functions and electoral process. Types of emergency-grounds, procedure, duration and effects. Amendment of the constitution- meaning, procedure and limitations.	R1, R2,R3	

References:

R1: “Introduction to the Constitution of India”by M.V.Pyle,,4th Edition, Vikas publication,2005
R2: The Constitution of India by B.L. Fadia, Sahitya Bhawan, New Edition 2017
R3: “Introduction to the constitution of India” by Durga Das Basu (DD Basu) ,

COURSE OUTCOMES:

After completing this course students will be able to:

CO-1	Understand and explain the significance of Indian Constitution as the fundamental law of land.
CO-2	Exercise his fundamental rights in proper sense at the same time identifies his responsibilities in national building.
CO-3	Analyse the Indian political system, the powers and functions of the Union, State and Local Governments in detail.
CO-4	Understand Electoral Process, Emergency provisions and Amendment procedure.

Signature of Teacher with Date Signature of HOD

GOVT. POLYTECHNIC, HAMIRPUR (H.P.)
Lesson Planning and Coverage

Branch: Computer Engineering **Semester:** 6th

Subject: Entrepreneurship and Start-ups **Session**: Jan -June 2025

Teacher: Ritesh Avasthi **Laboratory**: No

Sr. No.	No of Lectures	Chapter/Unit Description	Detailed contents	Reference Resources	Remarks
1	12	**UNIT 1** Introduction to Entrepreneurship and Start–Ups	• Definitions, Traits of an entrepreneur, Intrapreneurship, Motivation. • Types of Business Structures, Similarities/differences between entrepreneurs and managers.	R1	
2	10	**UNIT 2** Business Ideas and their implementation	• Discovering ideas and visualizing the business • Activity map • Business Plan	R1	
3	12	**UNIT 3** Idea to Start-up	• Market Analysis–Identifying the target market, • Competition evaluation and Strategy Development, • Marketing and accounting, • Risk analysis	R1,R2	
4	12	**UNIT 4** Management	• Company's Organization Structure, • Recruitment and management of talent. • Financial organization and management	R2,R3,R4	
5	10	**UNIT 5** Financing and Protection of Ideas	• Financing methods available for start-ups in India • Communication of Ideas to potential investors–Investor Pitch • Patenting and Licenses	R2,R3,R4	
6	08	**UNIT 6** Financing and Protection of Ideas	• Exit strategies for entrepreneurs, bankruptcy, and succession and harvestingstrategy.	R2,R3,R4	

References:

R1. Entrepreneurship and Start-ups by True Edu publications
R2. www.startupindia.gov.in.
R3. https://corporatefinanceinstitute.com/resources/knowledge/finance/corporate-structure/
R4. https://www.finder.com/small-business-finace-

COURSE OUTCOMES:

After completing this course students will be able to:

CO-1 Understanding the dynamic role of entrepreneurship and small businesses
CO-2 Organizing and Managing a Small Business

CO-3 Financial Planning and Control.
CO-4 Forms of Ownership for Small Business
CO-5 Strategic Marketing Planning
CO-6 New Product or Service Development
CO-7 Business Plan Creation

Signature of Teacher with Date **Signature of HOD**

Govt. Polytechnic Hamirpur (H.P.)
Activities Planning

Branch : Computer Engineering **Semester:** 6th
Subject : SCA **Session:** Jan-Jun 2025
Teacher: Ekta Sharma

Sr. No.	Periods	Description of Activities	Remarks
•	10	Newspaper reading	
•	10	Quiz Competition	
•	10	Group Discussion	
•	20	Sports activity	
•	14	Cleanliness of Lab/ Class Room	

Signature of Teacher with Date **Signature of HOD**