Module No.1 - Aptitude & Soft Skill Training (80 Hours)

Topic	Sub Topic	Time period
Quantitative Aptitude	Algebra	30hrs
	Profit Ans Loss	
	Average & Allegation / Mixture	
	Time and Work	
	Geometry Mensuration	
	Numbers	
	Percentage	
	Permutation and Combination	
	Probability	
	Ratios and Proportion	
	Time and Distance	
Reasoning	Analytical	15hrs
	Puzzles	
	Blood relationship	
	Data Interpretation	
	Data sufficiency	
	Logical Deductions	
	Logical Sequence of Words	
	Logical Venn Diagrams	
	Statement and Arguments	
	Statement and Assumptions	
	Statement and Conclusions	
	Syllogism	
English	Reading Comprehension	20hrs
	Para Jumbles	
	Cloze Test	
	Tenses/ Voice/ Speech	
	Prepositions/ SVA/ Articles	
	Vocab /Verbal Analogy	
	Sentence completion	
	Sentence Correction	
LIFE SKILLS TRAINING	Essay Writing	15hrs
	Communication	
	Group Discussion	
	Resume /Personal Interview	
	E-mail Writing	
	Personal Interview SESSIONS	
	INDIVIDUAL HR/Technical Interview	
TOTAL		80

Module No.2-Technical Training (80 Hours)

Java Programming	
Topic	**Subtopic**
Why Programming?	Introduction to programming
	Representation of algorithms
	Introduction to Java
	Keywords, variables, identifiers and data types
	Operators
	Implicit/Explicit Type conversions
	Control Structures Selection Control Structures
	Flow Control
	Iteration Control Structures
OOP Basics	Need for OOP
	Class and Objects
	Methods and parameters
	Constructors
	Instance and Local variables
	this keyword
	Memory management Memory management
	OOP concepts
Exception Handling	
File handling	
Encapsulation	Abstraction
	Access modifiers
	Arrays and String Working with Arrays
	String and its methods
Debugging & Code Analysis	
Debugging	Code Analysis using Programming Mistake
	Detector (PMD)
Static Static variables, methods, blocks Relationships	
Association	Aggregation
	Inheritance and its types
	super keyword
	Polymorphism Static polymorphism
	Dynamic polymorphism
	Object and Wrapper classes Object and Wrapper classes
Abstract classes and methods	final class, method, variable
	Interfaces
	Exception handling and packages Exception handling
	Packages
	Abstract , final and Interfaces
Unit testing Unit testing using JUnit and Code coverage	Recursion
	Regular expression Regular expression

SQL	Basics of SQL queries
	SQL Joins
JDBC	Introduction
	JDBC Architecture
	Types of Drivers
	Statement
	Result Set
	Read Only Result Set
	Updatable Result Set
	Forward Only Result Set
	Scrollable Result Set
	Prepared Statement

Database Management System	
Topic	**Subtopic**
Introduction to DBMS -Database Systems Overview	Data Integrity and Constraints
	Entities and Relationships
	SQL Basics SQL Commands and Data Types
	Operators and Expressions
	DDL Statements Create and Drop Table
Alter Table	
DML Statements	
Inserting Data	Retrieving Data
	Updating Data
	Deleting Data
SQL Functions, Sorting & Grouping data	
Functions	Sorting Data
	Grouping Data
	Combining Data
Joins	Cartesian Product and Inner Join
	Self-Join
	Outer Join
Subquery Independent Subquery	Correlated Subquery
	Transactions
	Normalization Functional Dependency
	Normal Forms
	Performance Index
Best Practices for Query Writing	
NoSQL Databases	
Introduction to NoSQL	CAP Theorem
	Types of NoSQL Databases
	MongoDB

Module No.3 - Python, Machine Learning training & 1-month Internship in Product Based Company(IN VACATION JUNE 2021)

Python	
Topic	**Subtopic**
Introduction	
Input/Output Operators	Python Operators
	Ternary Operator in Python
	Division Operators in Python
	Operator Overloading in Python
	Any All in Python
	Operator Functions in Python | Set 1
	Operator Functions in Python | Set 2
	Difference between == and is operator in Python
	Python Membership and Identity Operators | in, not in, is, is not
Data Types	Strings, Lists, Tuples, Iterations)
	Python String
	Python Lists
	Python Tuples
	Python Sets
	Python Dictionary
	Python Arrays
Control Flow	Python if else
	Chaining comparison operators in Python
	Python For Loops
	Python While Loops
	Python break statement
	Python Continue Statement
	Python pass Statement
	Looping Techniques in Python
Functions	Functions in Python
	*args and **kwargs in Python
	When to use yield instead of return in Python?
	Generators in Python
	Python lambda
	Global and Local Variables in Python
	Global keyword in Python
	First Class functions in Python
	Python Closures
	Decorators in Python
	Decorators with parameters in Python
	Memorization using decorators in Python
Python OOP	Python Classes and Objects
	Constructors in Python

	Destructors in Python
	Inheritance in Python
	Types of inheritance Python
	Encapsulation in Python
	Polymorphism in Python
	Class or Static Variables in Python
	class method vs static method in Python
	Metaprogramming with Metaclasses in Python
Exception Handling	Python Exception Handling
	Python Try Except
	Errors and Exceptions in Python
	Built-in Exceptions in Python
	User-defined Exceptions in Python with Examples
	NZEC error in Python
File handling	File Handling in Python
	Open a File in Python
	How to read from a file in Python
	Writing to file in Python
Regex	Regular Expression in Python with Examples | Set 1
	Regular Expressions in Python – Set 2 (Search, Match and Find All)
	Python Regex: re.search() VS re.findall()
	Verbose in Python Regex
	Password validation in Python
Collections	Counters in Python | Set 1 (Initialization and Updation)
	OrderedDict in Python
	Defaultdict in Python
	ChainMap in Python
	Namedtuple in Python
	Deque in Python
	Heap queue (or heapq) in Python
	Collections.UserDict in Python
	Collections.UserList in Python
	Collections.UserString in Python
numPy	Python Numpy
	Numpy | ndarray
	Numpy | Array Creation
	Numpy | Indexing
	Basic Slicing and Advanced Indexing in NumPy Python
	Numpy | Data Type Objects
	Numpy | Iterating Over Array
	Numpy | Binary Operations
	Numpy | Mathematical Function
	Numpy | String Operations
	Numpy | Linear Algebra

	Numpy | Sorting, Searching and Counting
	Random sampling in numpy | randint() function
	Random sampling in numpy | random_sample() function
	Random sampling in numpy | ranf() function
	Random sampling in numpy | random integers() function
	Numpy ufunc | Universal functions
Pandas	Introduction to Pandas in Python
	How to Install Python Pandas on Windows and Linux?
	Python | Pandas DataFrame
	Creating a Pandas DataFrame
	Python | Pandas Series
	Creating a Pandas Series
	Python | Pandas Dataframe/Series.head() method
	Python | Pandas Dataframe.describe() method
	Dealing with Rows and Columns in Pandas DataFrame
	Python | Pandas Extracting rows using .loc[]
	Python | Extracting rows using Pandas .iloc[]
	Indexing and Selecting Data with Pandas
	Boolean Indexing in Pandas
	Pandas GroupBy
	Python | Pandas Merging, Joining, and Concatenating
	Python | Working with date and time using Pandas
	Python | Pandas Working With Text Data
	Python | Read csv using pandas.read_csv()
	Python | Working with Pandas and XlsxWriter | Set – 1

Machine Learning & Data Science

SR.NO	TOPICS
1	What is ML, Data Science, AI. Career opportunities in AIML , Job roles
2	Installing python and setting up Anaconda environment.
3	Basic of Python and R language
4	Data Preprocessing
5	Data Visualization using Matplotlib, Seaborn, Plotly
6	Data preprocessing and Visualtization exercise
7	Algorithms in Supervised Machine Learning
8	Algorithms in Unsupervised Machine Learning
9	Project in Machine Learning – Practice project
10	Advanced Machine learning Overview and Deep learning overview - Perceptrons , Artifical Neural Network , Convolutionary Neural Network