

# J. B. INSTITUTE OF ENGINEERING AND TECHNOLOGY



Course Plan  
For  
OOPS THROUGH PYTHON

II B. Tech(CSE)

II SEMESTER

ACADEMIC YEAR

2015-16

M.Venugopal  
Assistant Professor



## COURSE PLAN

2015-16


Regulation: R14

### FACULTY DETAILS:

Name of the Faculty:: M.Venugopal  
Designation: Assistant Professor  
Department:: IT

### COURSE DETAILS

Name Of The Programme:: B.Tech Batch:: 2014  
Designation:: II-B.Tech  
Year 2015-16 Semester II  
Department:: IT  
Title of The Subject OOPS THROUGH PYTHON Subject Code  
No of Students 49

	COURSE PLAN	2015-16
		Regulation: R14

2015-16

### 1. TARGET

- a) Percentage Pass: 100%
- b) Percentage I class 90%

### 2. COURSE PLAN

(Please write how you intend to cover the contents: i.e., coverage of Units by lectures, guest lectures, design exercises, solving numerical problems, demonstration of models, model preparation, or by assignments, etc.)

- |                        |                            |
|------------------------|----------------------------|
| 1. More no of Examples | 3. Tests                   |
| 2. Assignments         | 4. Best utilization of lab |

### 3. METHOD OF EVALUATION

- 3.1.  Continuous Assessment Examinations (CAE 1, CAE 2)
- 3.2.  Assignments / Seminars
- 3.3.  Mini Projects
- 3.4.  Quiz
- 3.5.  Term End Examination
- 3.6.  Others

### 4. List out any new topic(s) or any innovation you would like to introduce in teaching the subject in this Semester.

- Making the students to think beyond languages and making them understand that java is a paradigm that helps manage complexity involved in software.

Signature of HOD  
Date:

Signature of Faculty  
Date:



## GUIDELINES TO STUDY THE SUBJECT

2015-16

Regulation: R14

### FACULTY DETAILS:

Name of the Faculty:: M.Venugopal  
Designation: Asst.Professor  
Department:: IT

Guidelines for Preparing the Course:

#### Course Description:

This course introduces computer programming using the PYTHON programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre major and/or elective course requirement.

#### Course Objectives:

1. Understanding the fundamentals of programming such as variables condition and iterative executions, methods, etc.
2. Understanding the fundamentals of object oriented programming in PYTHON, including defining classes, invoking methods, using class libraries, etc.
3. Fine knowledge on important topics and principles of software development.
4. Developing the ability to write a program to solve specified problem.
5. Be able to use python SDK environment to create, debug and run simple python programs

#### Learning Outcomes:

1. Design, create, build, and debug python applications.
2. Apply algorithmic thinking to solve programming problems.
3. Implement syntax rules in Python programs.
4. Explain variables and data types used in program development.
5. Apply arithmetic operations for displaying numeric output.
6. Write and apply decision structures for determining different operations.
7. Write and apply loop structures to perform repetitive tasks.
8. Write user-defined methods.
9. Identify and implement strings, list, tuple, and dictionary.
10. Write python programs using object-oriented programming techniques including classes, objects, methods, instance variables, composition, inheritance, and polymorphism,Exception handling.
11. Understands various built in functions available for performing File read and write operations.
12. Write python programs using different functions to connect to database and perform DDL, DML operations.



## COURSE OBJECTIVES

2015-16

Regulation: R14

### FACULTY DETAILS:

Name of the Faculty:: M.Venugopal  
Designation: Asst.Professor  
Department: IT

On completion of this Subject / Course the student shall be able to:

S.No.	Objectives	Outcomes
1.	Examine the Python development environment, identify fundamentals of Python syntax, describe how to compile and run a simple Python application, Describe how to construct simple variables and data structures and control flow.	1,6,7,8
2.	Describe how to define Data Structures like Strings, List, Tuple, and Dictionary and explain various in built functions which belongs to this data structure.	2,3,9
3.	Identify object-oriented programming concepts; describe how Python implements object-oriented programming, the structure of classes, how simple inheritance is used, and class and variable access modifiers.	4,5
4.	Identify how to create and use of exceptions, creating and using try, throw and catch blocks, assertions.	10
5.	Describe how to define class and methods to implement polymorphism.	10
6.	Manipulate files, directories and their contents from within Python applications, open and close files from within a Python application, read and write files from Within a Python application.	11
7.	Describe how to connect to MYSQL database and perform various DDL, DML and DQL operations.	12
8.	Review key features of the Python language and development environment.	

Signature of Faculty

**Date:**

Note: For each of the OBJECTIVE indicate the appropriate OUTCOMES to be achieved.  
Kindly refer Page 16, to know the illustrative verbs that can be used to state the objectives.



## COURSE OUTCOMES

2015-16

Regulation: R14

**FACULTY DETAILS:**

Name of the Faculty:: M.Venugopal  
 Designation: Asst.Professor  
 Department: IT

**The expected outcomes of the Course / Subject are:**

S.No.	General Categories of Outcomes	Specific Outcomes of the Course
A.	An ability to apply knowledge of mathematics, science, and engineering	Fundamental knowledge of python programming.
B.	An ability to design and conduct experiments, as well as to analyze and interpret data	Learn how to provide the design for programs.
C.	An ability to design a system, component, or process to meet desired needs within realistic Constraints such as economic, environmental, social, political, ethical, health and safety, Manufacturability and sustainability	Learn how to define the functions and various methods for implementing the functions for writing the python scripts .
D.	An ability to function on multi-disciplinary teams	
E.	An ability to identify, formulate, and solve engineering problems	
F.	An understanding of professional and ethical responsibility	
G.	An ability to communicate effectively	
H.	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
I.	A recognition of the need for, and an ability to engage in life-long learning	
J.	A knowledge of contemporary issues	
K.	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	

**Objectives – Outcome Relationship Matrix** (Indicate the relationships by \* mark).

Objectives \ Outcomes	A	B	C	D	E	F	G	H	I	J	K
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<b>COURSE SCHEDULE</b>	2015-16
		Regulation: R14

**FACULTY DETAILS:**

Name of the Faculty:: M.Venugopal  
 Designation: Asst.Professor  
 Department:: IT

The Schedule for the whole Course / Subject is:: 62

S. No.	Description	Duration (Date)		Total No. of Periods
		From	To	
1.	Programming paradigms	14-12-2015	9-01-2016	12
2.	Python data structures	11-01-2016	30-01-2016	15
3.	Object oriented programming using Python	01-02-2016	27-02-2016	11
4.	Classes and methods	29-02-2016	19-03-2016	12
5.	Files handling and Exceptions	21-03-2016	09-03-2016	10

Total No. of Instructional periods available for the course: Hours / Periods





## SCHEDULE OF INSTRUCTIONS

2015-16

### UNIT - I

Regulation: R14

**FACULTY DETAILS:**

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Department: IT

The Schedule for the whole Course / Subject is:: 62


Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No_ to
			Programming paradigms; Structured programming vs. object oriented programming		
1	14/12/2015	1		<u>1 &amp; 1</u>	T2 9
2	16/12/2015	2	OOPs fundamentals	<u>1 &amp; 1</u>	T2 14
3	17/12/2015	3	Introduction to Python	<u>1&amp;1</u>	T2 16
4	18/12/2015	4	Variables, Expressions and Statements	<u>1&amp;2</u>	T2 16
5	19/12/2015	5	Evaluating expressions, operators and operands	<u>1&amp;2</u>	T2 18
6	21/12/2015	6	Functions: function calls, type conversion, type coercion	<u>1&amp;8</u>	T2 36
7	23/12/2015	7	Pre-defined functions, composition, user define functions	<u>1&amp;3</u>	T2 36
8	24/12/2015	8	Flow of execution, passing parameters, function parameters and scope	<u>1&amp;3</u>	T2 36
9	25/12/2015	9	Conditionals and recursion: modulus operator, Boolean expression, logical operators,	<u>1&amp;6</u>	T2 21
10	26/12/2015	10	Conditional execution, alternative execution,	<u>1&amp;7</u>	T2 22
11	28/12/2015	11	Chained and nested conditionals, return statement;	<u>1&amp;7</u>	T2 26
12	30/12/2015	12	Recursion, infinite recursion.	<u>1&amp;8</u>	T2 36

T2. Programming in Python 3- A completes Introduction to the Python Language- Second Edition, Mark Summerfield, Addison-Wesley 2010.

Signature of Faculty

Date

- Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.  
 2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.  
 3. MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	<b>SCHEDULE OF INSTRUCTIONS</b>	2015-16
	<b>UNIT - II</b>	Regulation: R14

FACULTY DETAILS:

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Department: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No__ to __
1	30/12/2015	1	Python data structures: <b>Strings:</b> Creating, initializing, List operations;	2&4	T1 151
2	31/12/2015	2	accessing the elements; String operators,	2&4	T1 151
3	1/01/2016	3	Comparing strings using relational operators; String functions and methods.	2&9	T1 151
4	2/01/2016	4	<b>Lists:</b> Concept of mutable lists	2&4	T1 171
5	4/01/2016	5	creating, initializing and accessing the elements,	2&4	T1 171
6	5/01/2016	6	traversing, appending, updating and deleting elements	2&9	T1 171
7	6/01/2016	7	List functions and Methods, list parameters, nested lists, Matrices.	2&9	T1 171
8	7/01/2016	8	<b>Dictionaries:</b> Concept of key-value pair,	2&4	T1 162
9	8/01/2016	9	creating, initializing and accessing the elements in a dictionary,	2&9	T1 162
10	9/01/2016	10	dictionary operations: traversing, appending, updating and deleting elements,	2&9	T1 162
11	11/01/2016	11	Dictionary functions and methods	2&9	T1 162

12	12/01/2016	12	<b>Tuples:</b> Mutability and tuples,	<u>2&amp;4</u>	T1 159
13	13/01/2016	13	Immutable concept, creating,	<u>2&amp;4</u>	T1 159
14	18/01/2016	14	initializing and accessing the elements in a tuple,	<u>2&amp;9</u>	T1 159
15	19/01/2016	15	Tuple functions.	<u>2&amp;9</u>	T1 159

T1. Python 3 Object Oriented Programming, Dusty Phillips, Packet Publishing, 2010.

Signature of Faculty  
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.  
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.  
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.



## SCHEDULE OF INSTRUCTIONS

2015-16

### UNIT - III

Regulation: R14

**FACULTY DETAILS:**

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Department: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No_ to
			Object oriented programming using Python:	3&10	
1	20/01/2016	1	creating python classes, classes and objects:	3&10	T2 233
2	21/01/2016	2		3&10	T2 234
3	22/01/2016	3	user defined compound types,	3&10	T2 235
4	23/01/2016	4	attributes, instances as arguments,	3&10	T2 246
5	25/01/2016	5	instances as return values,	3&10	T2 246
6	27/01/2016	6	objects are mutable, copying	3&10	T2
7	28/01/2016	7	classes and functions:	3&10	T2
8	29/01/2016	8	pure function, modifiers	3&10	T2
9	30/01/2016	9	Exceptions: raising exceptions,	3&10	T1 95-109
10	1/02/2016	10	handling exceptions,	3&10	T1 95-109
11	2/02/2016	11	exception hierarchy	3&10	T1 95-109

T1. Python 3 Object Oriented Programming, Dusty Phillips, Packet Publishing 2010.

T2. Programming in Python 3- A completes Introduction to the Python Language- Second Edition, Mark Summerfiels, and Addison-Wesley 2010.

Signature of Faculty

Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.

2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.

MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.



## SCHEDULE OF INSTRUCTIONS

2015-16

### UNIT - IV

Regulation: R14

**FACULTY DETAILS:**

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Department: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No ___ to ___
1	3/02/2016	1	Classes and methods:	4,5 & 10	T1 7
2	4/02/2016	2	object oriented features,	4,5 & 10	T1 9
3	5/02/2016	3	optional arguments,	4,5 & 10	T1 11
4	6/02/2016	4	initialization method	4,5 & 10	T1 35
5	15/02/2016	5	operator overloading	4,5 & 10	T1
6	16/02/2016	6	Polymorphism.	4,5 & 10	T1 78
7	17/02/2016	7	Inheritance: Basic Inheritance:	4,5 & 10	T1 63
8	18/02/2016	8	extending built-ins,	4,5 & 10	T1 66
9	19/02/2016	9	overriding and super;	4,5 & 10	T1 67
10	20/02/2016	10	Multiple inheritance:	4,5 & 10	T1 68
11	22/02/2016	11	the diamond problem,	4,5 & 10	T1 71
12	23/02/2016	12	Different sets of arguments.	4,5 & 10	T1 75

T1. Python 3 Object Oriented Programming, Dusty Phillips, Packet Publishing, 2010.

Signature of Faculty  
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.  
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.  
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.



## SCHEDULE OF INSTRUCTIONS

2015-16

### UNIT - V

Regulation: R14

**FACULTY DETAILS:**

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Department: IT

The Schedule for the whole Course / Subject is:: 62

Sl. No.	Date	No. of Periods	Topics / Sub - Topics	Objectives & Outcome Nos.	References (Text Book, Journal...) Page No_ to
			<b>Files handling and Exceptions:</b>	6,7&1	
1	24/02/2016	1		1,12	T3 287-310
			Text files,	6,7 &	
2	25/02/2016	2		11, 12	T3 287-310
			writing variables,	6,7 &	
3	26/02/2016	3		11, 12	T3 287-310
			Directories,	6,7 &	
4	27/02/2016	4		11, 12	T3 287-310
			Pickling;	6,7 &	
5	28/02/2016	5		11, 12	T3 287-310 T4 -297 – 310
			Database Programming in Python:	6,7 &	
6	29/02/2016	6		11, 12	T4 -297 – 310
			Connection module,	6,7 &	
7	1/03/2016	7			



				11, 12	
8	2/03/2016	8	connect MySQL Data base	6,7& 11,12	T4 -297 – 310
9	2/03/2016	9	Perform DDL, DML	6,7& 11,12	T4 -297 – 310
10	4/03/2016	10	DQL operations.	6,7& 11,12	T4 -297 – 310

T3. Programming in Python 3 A Complete Introduction to the Python Language  
T4. Python Essential Reference, Fourth Edition (2009)

Signature of Faculty  
Date

Note: 1. ENSURE THAT ALL TOPICS SPECIFIED IN THE COURSE ARE MENTIONED.  
2. ADDITIONAL TOPICS COVERED, IF ANY, MAY ALSO BE SPECIFIED **BOLDLY**.  
MENTION THE CORRESPONDING COURSE OBJECTIVE AND OUT COME NUMBERS AGAINST EACH TOPIC.

	<b>COURSE COMPLETION STATUS</b>	2015-16
		Regulation: R14

**FACULTY DETAILS:**

Name of the Faculty:: M.Venugopal  
 Subject:: OOPS Through PYTHON  
 Department:: IT  
 Subject Code

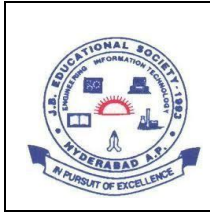
Actual Date of Completion & Remarks, if any

Units	Remarks	Nos. of Objectives
		Achieved
Unit 1	Good knowledge on oops concepts and able to learn new concepts in python.	1
Unit 2	Able Learn new data types in python.	2
Unit 3	Able to acquire knowledge on class and Inheritance.	
Unit 4	Learn concepts of class and methods. Learn how to connect to data base and perform various DDL,	
Unit 5	DML and DQL operations.	

Signature of Dean of School  
Date:

Signature of Faculty  
Date:

NOTE: AFTER THE COMPLETION OF EACH UNIT MENTION THE NUMBER OF OBJECTIVES ACHIEVED.



## TUTORIAL SHEETS - I

2015-16

Regulation: R14

### FACULTY DETAILS:

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Department:: IT

The Schedule for the whole Course / Subject is:: 62

Date:

This Tutorial corresponds to Unit Nos.1,2,

Time:

1. What is Python?
2. Name some of the features of Python.
3. Is python a case sensitive language?
4. What are the supported data types in Python? What is the output of `print str` if `str = 'Hello World!'`?
5. What is the output of `print str[0]` if `str = 'Hello World!'`? What is the output of `print str[2:5]` if `str = 'Hello World!'`?
6. What is the output of `print str[2:]` if `str = 'Hello World!'`? What is the output of `print str * 2` if `str = 'Hello World!'`?
7. What are tuples in Python? What is the difference between tuples and lists in Python?
8. What are Python's dictionaries? How will you create a dictionary in python? How will you get all the keys from the dictionary? How will you get all the values from the dictionary? How will you convert a string to an int in python?
9. How will you create a dictionary using tuples in python?
10. What is the purpose of `**` operator?
11. What is the purpose of `//` operator? What is the purpose of `is` operator? What is the purpose of `not in` operator?
12. What is the purpose break statement in python? What is the purpose continue statement in python? What is the purpose pass statement in python?
13. How will you randomize the items of a list in place?
14. How will you capitalizes first letter of string? How will you check in a string that all characters are alphanumeric? How will you check in a string that all characters are digits? How will you check in a string that all characters are in lowercase?
15. How will you check in a string that all characters are numerics? How will you check in a string that all characters are whitespaces? How will you check in a string that it is properly titlecased? How will you check in a string that all characters are in uppercase? How will you merge elements in a sequence? How will you get the length of the string?

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

Signature of Dean of School  
Date:

Signature of Faculty  
Date:



## TUTORIAL SHEETS - II

2015-16

Regulation: R14

### FACULTY DETAILS:

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Department:: IT

The Schedule for the whole Course / Subject is:: 62

Date:

This Tutorial corresponds to Unit Nos.3,4,5

Time:

1. Discuss in detail about python class and object creations and its members.
2. Explain checked & unchecked exceptions?
3. What is exception? What are the different types of exceptions?
4. Write a python script to connect to database and perform DDL operations?
5. Write a python script to connect to database and perform DML operations?
6. Explain about various built in functions of files to perform file operations.
7. Explain about Inheritance with an example programme
8. Explain about function overloading and overriding with example programme.
9. Explain about pure function.
10. Explain about exception hierarchy ?

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the objectives to which these questions / Problems are related.

**Signature of Dean of School**

Date:

**Signature of Faculty**

Date:



## ILLUSTRATIVE VERBS FOR STATING INSTRUCTIONAL OBJECTIVES

2015-16

Regulation: R14

*These verbs can also be used while framing questions for Continuous Assessment Examinations as well as for End – Semester (final) Examinations.*

### ILLUSTRATIVE VERBS FOR STATING GENERAL OBJECTIVES

Know Comprehend	Understand Apply	Analyze Design	Generate Evaluate
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### ILLUSTRATIVE VERBS FOR STATING SPECIFIC OBJECTIVES:


#### **A. Cognitive Domain**

1	2	3	4	5	6
<b>Knowledge</b>	<b>Comprehension Understanding</b>	<b>Application</b> of knowledge & comprehension	<b>Analysis</b> of whole w.r.t. its constituents	<b>Synthesis</b> combination of ideas/constituents	<b>Evaluation</b> judgement
Define Identify Label List Match Reproduce Select State	Convert Defend Describe (a procedure) Distinguish Estimate Explain why/how Extend Generalize Give examples Illustrate Infer Summarize	Change Compute Demonstrate Deduce Manipulate Modify Predict Prepare Relate Show Solve	Breakdown Differentiate Discriminate Distinguish Separate Subdivide	Categorize Combine Compile Compose Create Devise Design Generate Organize Plan Rearrange Reconstruct Reorganize Revise	Appraise Compare Conclude Contrast Criticize Justify Interpret Support

#### **B. Affective Domain**

#### **C. Psychomotor Domain (skill development)**

Adhere	Resolve	Bend	Dissect	Insert	Perform	Straighten
Assist	Select	Calibrate	Draw	Keep	Prepare	Strengthen
Attend	Serve	Compress	Extend	Elongate	Remove	Time
Change	Share	Conduct	Feed	Limit	Replace	Transfer
Develop		Connect	File	Manipulate	Report	Type
Help		Convert	Grow	Move precisely	Reset	Weigh
Influence		Decrease	Handle	Operate	Run	
Initiate		Demonstrate	Increase	Paint	Set	

	<b>LESSON PLAN</b> <b>Unit-1</b>	2015-16
		Regulation: R14

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Subject Code **1412306**


**Unit 1**

**INSTRUCTIONAL OBJECTIVES:**

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Programming paradigms; Structured programming vs. object oriented programming	50min	T2	Black Board
2	OOPs fundamentals	50min	T2	Black Board
3	Introduction to Python	50min	T2	Black Board
4	Variables, Expressions and Statements	50min	T2	Black Board
5	evaluating expressions, operators and operands	50min	T2	Black Board
6	Functions: function calls, type conversion, type coercion	50min	T2	Black Board
7	pre-defined functions, composition, user define functions	50min	T2	Black Board
8	flow of execution, passing parameters, function parameters and scope	50min	T2	Black Board
9	Conditionals and recursion: modulus operator, Boolean expression, logical operators,	50min	T2	Black Board
10	conditional execution, alternative execution,	50min	T2	Black Board
11	chained and nested conditionals, return statement;	50min	T2	Black Board
12	Recursion, infinite recursion.	50min	T2	Black Board

On completion of this lesson the student shall be able to(Outcomes)

1. Design, create, build, and debug python applications.
2. Apply algorithmic thinking to solve programming problems.
3. Implement syntax rules in Python programs.
4. Write and apply loop structures to perform repetitive tasks.
5. Write user-defined methods.


	<b>ASSIGNMENT</b> <b>Unit-I</b>	2015-16
		Regulation: R14

### Assignment / Questions

**Signature of Faculty**

Note: Mention for each question the relevant objectives and outcomes.

1. What is Python?
2. Name some of the features of Python.
3. Is python a case sensitive language?
4. What is the purpose of \*\* operator?
5. What is the purpose of // operator? What is the purpose of is operator? What is the purpose of not in operator?
6. What is the purpose break statement in python? What is the purpose continue statement in python? What is the purpose pass statement in python?

	<b>LESSON PLAN</b> <b>Unit-II</b>	2015-16
		Regulation: R14

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Designation: Asst.Professor

**Unit 2**


**INSTRUCTIONAL OBJECTIVES:**

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Python data structures: <b>Strings:</b> Creating, initializing, List operations;	50min	T1	Black Board
2	accessing the elements; String operators,	50min	T1	Black Board
3	Comparing strings using relational operators; String functions and methods.	50min	T1	Black Board
4	<b>Lists:</b> Concept of mutable lists	50min	T1	Black Board
5	creating, initializing and accessing the elements,	50min	T1	Black Board
6	traversing, appending, updating and deleting elements	50min	T1	Black Board
7	List functions and Methods, list parameters, nested lists, Matrices.	50min	T1	Black Board
8	<b>Dictionaries:</b> Concept of key-value pair,	50min	T1	Black Board
9	creating, initializing and accessing the elements in a dictionary,	50min	T1	Black Board
10	dictionary operations: traversing, appending, updating and deleting elements,	50min	T1	Black Board
11	Dictionary functions and methods	50min	T1	Black Board
12	<b>Tuples:</b> Mutability and tuples,	50min	T1	Black Board
13	Immutable concept, creating,	50min	T1	Black Board
14	initializing and accessing the elements in a tuple,	50min	T1	Black Board
15	Tuple functions.	50min	T1	Black Board

On completion of this lesson the student shall be able to

1. Explain variables and data types used in program development.
2. Identify and implement strings, list, tuple, and dictionary.




	<b>ASSIGNMENT Unit-II</b>	2015-16
		Regulation: R14

### Assignment / Questions

1. What are the supported data types in Python? What is the output of print str if str = 'Hello World!'?
2. What is the output of print str[0] if str = 'Hello World!'? What is the output of print str[2:5] if str = 'Hello World!'?
3. What is the output of print str[2:] if str = 'Hello World!'? What is the output of print str \* 2 if str = 'Hello World!'?
4. What are tuples in Python? What is the difference between tuples and lists in Python?
5. What are Python's dictionaries? How will you create a dictionary in python? How will you get all the keys from the dictionary? How will you get all the values from the dictionary? How will you convert a string to an int in python?
6. How will you create a dictionary using tuples in python?

**Signature of Faculty**

Note: Mention for each question the relevant objectives and outcomes.

	<b>LESSON PLAN</b> <b>Unit-III</b>	2015-16
		Regulation: R14

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Designation: Asst.Professor

**Unit 3**

**INSTRUCTIONAL OBJECTIVES:**

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Object oriented programming using Python:	50min	T2	Black Board
2	creating python classes, classes and objects:	50min	T2	Black Board
3	user defined compound types,	50min	T2	Black Board
4	attributes, instances as arguments,	50min	T2	Black Board
5	instances as return values,	50min	T2	Black Board
6	objects are mutable, copying	50min	T2	Black Board
7	classes and functions:	50min	T2	Black Board
8	pure function, modifiers	50min	T2	Black Board
9	Exceptions: raising exceptions,	50min	T1	Black Board
10	handling exceptions,	50min	T1	Black Board
11	exception hierarchy	50min	T1	Black Board

On completion of this lesson the student shall be able to(Outcomes)

1. 1. Write python programs using object-oriented programming techniques including classes, objects, methods, instance variables, composition, inheritance, and polymorphism.



**ASSIGNMENT**  
**Unit-III**

2015-16


Regulation: R14

**Assignment / Questions**

1. Explain the benefits of inheritance. How does python achieve it.
2. Explain about exception hierarchy?
3. Discuss in detail about python class and object creations and its members
- 4 Explain checked & unchecked exceptions?
- 5 What is exception? What are the different types of exceptions?

**Signature of Faculty**

Note: Mention for each question the relevant objectives and outcomes.

	<b>LESSON PLAN</b> <b>Unit-IV</b>	2015-16
		Regulation: R14

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Designation: Asst.Professor


**Unit 4**

**INSTRUCTIONAL OBJECTIVES:**

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Classes and methods:	50min	T1	Black Board
2	object oriented features,	50min	T1	Black Board
3	optional arguments,	50min	T1	Black Board
4	initialization method	50min	T1	Black Board
5	operator overloading	50min	T1	Black Board
6	Polymorphism.	50min	T1	Black Board
7	Inheritance: Basic Inheritance:	50min	T1	Black Board
8	extending built-ins,	50min	T1	Black Board
9	overriding and super;	50min	T1	Black Board
10	Multiple inheritance:	50min	T1	Black Board
11	the diamond problem,	50min	T1	Black Board
12	Different sets of arguments.	50min	T1	Black Board

On completion of this lesson the student shall be able to (Outcomes)

1. Write python programs using object-oriented programming techniques including classes, objects, methods, instance variables, composition, inheritance, and polymorphism.
- 2.


	<b>ASSIGNMENT</b> <b>Unit-IV</b>	2015-16
		Regulation: R14

**Assignment / Questions**

1. Explain about Inheritance with an example programme
2. Explain about function overloading and overriding with example programme.
3. Explain about pure function.
4. Explain about diamond problem.

**Signature of Faculty**

Note: Mention for each question the relevant objectives and outcomes.

	<b>LESSON PLAN</b> <b>Unit-V</b>	2015-16
		Regulation: R14

Name of the Faculty:: M.Venugopal

Designation: Asst.Professor

Designation: Asst.Professor


**Unit 5**

**INSTRUCTIONAL OBJECTIVES:**

Session No	Topics to be covered	Time	Ref	Teaching Method
1	Files handling and Exceptions:	50min	T3	Black Board
2	Text files,	50min	T3	Black Board
3	writing variables,	50min	T3	Black Board
4	Directories,	50min	T3	Black Board
5	Pickling;	50min	T3	Black Board
6	Database Programming in Python:	50min	T4	Black Board
7	Connection module,	50min	T4	Black Board
8	connect MySQL Data base	50min	T4	Black Board
9	Perform DDL, DML	50min	T4	Black Board
10	DQL operations.	50min	T4	Black Board

On completion of this lesson the student shall be able to (Outcomes)

1. Understands various built in functions available for performing File read and write operations.
2. Write python programs using different functions to connect to database and perform DDL, DML operations.

	<b>ASSIGNMENT</b> <b>Unit-V</b>	2015-16
		Regulation: R14

**Assignment / Questions**

1. Write a python script to connect to database and perform DDL operations?
2. Write a python script to connect to database and perform DML operations?
3. Explain about various built in functions of files to perform file operations.

**Signature of Faculty**

Note: Mention for each question the relevant objectives and outcomes.