VIDHYADEEP UNIVERSITY
Holy Flame of Knowledge

SECOND-YEAR DIPLOMA ENGINEERING SYLLABUS

Semester: 4th

Course Code: 002205405 **Type of Course: PCC-11**

Course Name: Programming With Java

Course Prerequisites: The purpose of this course is to help the student to attain the following industry identified competency through various teaching-learning experiences.

COURSE OBJECTIVE(S):

Java is a general-purpose computer programming language; itis platform independent,open-source, class-based, and object-oriented with enriched open source libraries. It is asimple, portable, distributive, robust, secure, dynamic, architecture neutral, object orientedprogramming language. It has idealized 'virtual machine' that allows application developers"write once, run anywhere", meaning that compiled Java code can run on all platforms thatsupport Java without the need for recompilation. In the current industrial scenario Java hasthe broadindustry supportandprerequisite to many technologies like Java Server Pages,and Android Application Development. This course develops necessary skills in students,after learning this course; students will be able to develop object oriented applications usingjava.

TEACHING & EXAMINATION SCHEME:

Teaching Scheme (Hrs/Week)				Examination Scheme					
				SEE		CA			Total
Theory	Tutorial	Practical	Credit	Th	Pr	MSE	PLE	LA	
3	0	0	3	60	00	20	20	00	100

SEE: Semester End Examination; CA: Continuous Assessment; Th: Theory; Pr: Practical; MSE: Mid Semester Examination; PLE: Participatory Learning Experience; LA: Laboratory Assessment

*TOTAL Theory Hours: No. of Th. and Tut. Hrs/Week*15 = 45*

COURSE CONTENT(S):

Unit No.	Content	Hours	Weightage (%)
1	**Introduction toObject Oriented Programmingparadigm.** • Introduction to programmingparadigm • Benefitsofobjectorientedprogramming • HistoryofJava • Javafeatures • AdvantagesofJava. • Comparison of Java with C • Javaprogramstructure:	9	20

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	Compilingandrunningasimplejavaprogram, Comments in java, data types,variables, type casting • Operators: Arithmetic,Relational,Logical,Assignment,Incrementdecrement, Conditional,Bitwise,Special,Operatorprecedenceandassociatively.		
2	**ControlStatements:** • Branching statements: if-else, if-else ladder, nested if-else and switchstatements • Loopingstatements: while,do-while,for, nested for • Jumpstatements:break,continue.	07	15
3	**ClassandObject:** • Definingclass • creating objectsand methods • String class • String Buffer class,Operations on string, String Joinerclass • Statickeyword • WrapperClass • Constructors: Default constructors,Parameterized constructors, Copyconstructors,Privateconstructor, AndConstructorOverloading	10	20
4	**Inheritance,AbstractionandPolymorphism:** • Basics of Inheritance • Typesofinheritance • Method overriding, • Superand final keyword. • Basics of Polymorphism • Differencebetween method overloading andmethod • overriding. • Definingandimplementinginterfaces • Interfacevariable,Use ofinterfaceasmultiple inheritance.	09	20
5	**PackagesandExceptionhandling:** • Introductiontopackages • JavaAPIpackages • Benefitsofpackages • Creating and accessing a package • Fundamentals of Exception andErrors,Types ofException • Using try and catch in Exception,Multiple catch clauses, Use ofnestedtry statements. • Throw and throws keywords, andfinallyclause	10	25

	• Built in exceptions, creating ownexception subclasses, Java Optionalclass • JavaApplets: Appletbasics,appletlifecycle,appletskeleton • Appletmethod:update()andrepaint().		
	Total	**45**	**100**

Text Book(s):

Title of the Book	Author(s)	Publication
Programming With Java	A A PUTAMBEKAR	ATUL PRAKASHAN

Reference Book(s):

Title of the Book	Author(s)	Publication
Java:TheComplete Reference	HerbertSchildt	McGrawHillEducation,11th Edition ISBN-13:1220440232-879
Programmingwith Java	BalagurusamyE.	McGrawHillEducation,5th Edition ISBN-13:978-93-5134-320-2
Java 8 ProgrammingBlackBook	DT EditorialServices	DreamtechPress,New Delhi,ISBN:978-93-511 9-758-4

Web Material Link(s):

a) https://boonsuen.com/process-scheduling-solver
b) http://cpuburst.com/ganttcharts.html
c) https://codepen.io/faso/pen/zqWGQW
d) https://www.tutorialspoint.com
e) www.w3schoolscom
f) https://nptel.ac.in/courses/106106144
g) https://nptel.ac.in/courses/106105214
h) https://nptel.ac.in/courses/106102132

Equivalent/Corresponding Course on NPTEL (SWAYAM):

NPTEL course on
https://onlinecourses.nptel.ac.in/noc21_cs02/preview
https://nptel.ac.in/courses/106/105/106105151/

COURSE EVALUATION:

Sr.	Activity	Marks	Weightage

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No.			
1	Semester End Examination (External Th)	60	60%
2	Internal Examination	40	40%
2(a)	Mid Semester Examination	20	
2(b)	Attendance	10	
2(c)	Assessment Types (Any One from 2(c).1 to 2(c).7)	10	
2(c).1	Subject (Course) based Mini-Project		
2(c).2	Industry/Site Visit & Report		
2(c).3	Assignment		
2(c).4	Seminar		
2(c).5	Case Study		
2(c).6	Surprise Class Quiz		
2(c).7	Design Exercise		
2(c).7	Presentation		
2(d)	Practical (if Applicable)		

* For 4 Credit Subjects

1 Credit = 25 Marks
Theory: 3 Credits = 75 Marks
Practicals: 1 Credit = 25 Marks
SEE Evaluation will be of 100 marks and converted to 50 Marks (75 Th + 25 Pr)
CA Evaluation will be of 100 Marks and converted to 50 Marks. (75 Th + 25 Pr)

Distribution of Marks for Theory Evaluation as per Bloom's Taxonomy Level:

Level	Remember	Understand	Apply	Analyse	Evaluate	Create
% Weightage	18%	28%	24%	10%	10%	-

COURSE OUTCOMES:

CO1	Analysis Terms and Python Specific Data.
CO2	Implement object-oriented programming in python.
CO3	Implement stack and Queue.
CO4	Implement Linklist presentation with programs.
CO5	Implement Search and sort using program.
CO6	Implement non linear data structure like trees.