VIDHYADEEP UNIVERSITY
Holy Flame of Knowledge

FIRST-YEAR DIPLOMA ENGINEERINGSYLLABUS

Semester: 2nd

Course Code:002204207 **Type of Course: PCC-4**

Course Name: BASIC OBJECT ORIENTED PROGRAMMING

Course Prerequisites: Basic knowledge of **Basic Object Oriented Programming**

COURSE OBJECTIVE(S):

This course intends to teach the students about basic concepts of Object-Oriented Programming (OOP) and C++. Large programs are probably the most complicated entities ever created by humans. Because of this complexity, programs are prone to error and software errors can be expensive and even life- threatening. Object-oriented programming offers a new and powerful way to cope with this complexity and act as the backbone to all other courses that are based on Object Oriented concept. Therefore, by learning this course sincerely the students will be able to develop programs in 'C++' using Object Oriented Programming Concepts.

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

Th: Theory; Pr: Practical; FA: Final Assessment; CAT: Continuous Assessment Theory; CAP: Continuous Assessment Practical;

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

COURSE CONTENT(S):

Unit No.	Content	Hours	Weightage (%)
1	**Principles ofObjectOrientedProgramming** • Differentiate procedure andobject orientedlanguages • Explain the general structure of C++ • Develop program using cin and cout • Develop program using scoperesolution operator, manipulatorandenumeration	07	20%
2	**Function, Structure andWorkingwithObject** • Develop program using call byreferenceandreturn byreference, default arguments,constant arguments, inline andfunctionoverloading. • Develop program using structure. • Apply concept of access specifier in C++	12	30%

	• Develop Simple Programs using class and objects, array of objects, friend functions, passing and returning objects and friend class • Apply concept of staticmember and static memberfunctionin C++.		
3	**ConstructorandDestructor** • Define constructor &destructor • Develop program usingconstructoranddestructor	07	20%
4	**Inheritance** • Define Inheritance • List the applications of inheritance, types of inheritance and develop programs using single, multilevel and multiple inheritance • Apply the concept of constructor in derived classes	12	15%
5	**MS-Polymorphism,VirtualFunctionandworkingwithFiles** • Apply this Pointer to Objects • Develop a program using runtime polymorphism. • Develop a program using File operations.	07	15%
	TOTAL	**45**	**100%**

Text Book(s):

Title of the Book	Author(s)	Publication
Basic Object Oriented Programming	M T Savaliya	Atul prakashan

Reference Book(s):

Sr. No.	TitleofBook	Author	Publication with place, year andISBN
1	Object OrientedProgrammingin C++	Lafore,Robert	SAMS,2012
2	ObjectOriented ProgrammingwithC++	Balagurusamy,E.	McGrawHill,Delhi,2012
3	Object OrientedProgrammingwithC++-s econdedition	Sahay,Sourav	Oxford,Delhi 2012
4	MasteringC++	Venugopal	TataMcGrawHill,Delhi,2011
5	Programminginc++	Kamthane,Ashok	Pearson,NewDelhi,2012
6	C++An Introductionto Programming	JesseLiberty, JimKeogh	Prentice-Hall,India

7	TheCompleteReference C++	HerbertSchildt	TataMcGraw-Hill

Web Material Link(s):

a) https://snap.berkeley.edu/snap/snap.html
b) https://scratch.mit.edu/download/scratch2
c) https://nptel.ac.in/courses/106/105/106105151/
d) https://www.programiz.com/cpp-programming
e) https://www.codecademy.com/learn/learn-c-plus-plus
f) https://www.tutorialspoint.com
g) www.w3schoolscom
h) https://www.udemy.com/topic/c-plus-plus/
i) https://www.udacity.com/course/c-for-programmers--ud210

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. No.	Activity	Marks	Weightage
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		

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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	20%	10%	10%	15%	10%	20%

COURSE OUTCOMES:*(in the range of 4 to 6)*

Sr. No.	CO Statement
CO-1	Selectproceduralorientedandobject-orientedapproachtosolvegivenproblem.
CO-2	Implement object-oriented program using constructor and destructor.
CO-3	Implement Inheritance for code reuse in C++ program.
CO-4	Develop program using runtime polymorphism.