



# Bharath

**INSTITUTE OF HIGHER EDUCATION AND RESEARCH**

(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

## CIRCULAR

18.12.2017

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on Object-Oriented Design and Programming in LabVIEW for the benefit of II, III and IV year students. This course is scheduled from 22.12.2017 for 30hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM from Friday (AN) and Saturday (FN&AN).

All Registered Students must attend all the classes without fail. The following faculty members are assigned to handle the course. S.NO	Name of the Faculty	Designation
1	Dr.K.P.Kaliyamurthie	Professor
2	Dr.C.Nalini	Professor

**Head of Department**

To

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HEAD OF DEPARTMENT  
Department of Computer Science & Engg.,  
Bharath Institute of Higher Education & Research  
(Declared as Deemed to be University U/S 3 of UGC Act, 1956)  
Chennai-600 073. INDIA



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## **CERTIFICATE COURSE ON OBJECT ORIENTED DESIGN AND PROGRAMMING IN LABVIEW**

**Date of Introduction of the Course: 18.12.20217**

### **COURSE OBJECTIVES**

The Object-Oriented Design and Programming in LabVIEW Course covers the fundamental concepts of object-oriented design and programming and then demonstrates how those concepts are implemented in LabVIEW. Object-oriented design (OOD) encourages cleaner interfaces between sections of code and results in code that is easier to debug and scales better for large programming teams. Object-oriented programming is the development of code in a language that enforces object-oriented design principles.

#### **After learning, Students can able to**

1. Determine the appropriateness of using an object-oriented approach to develop an application
2. Design an application using object-oriented design principles
3. Implement a basic class hierarchy using LabVIEW classes
4. Use LabVIEW features that provide additional functionality to LabVIEW classes
5. Implement an application using common object-oriented design patterns
6. Modify an existing LabVIEW application to replace common patterns with LabVIEW objects

### **COURSE SYLLABUS**

- 1. Introduction to OOPs concept**
  - Class
  - Object
  - OOD
  - Object-oriented programming
- 2. Introduction to Object-Oriented Application**
  - OOD Application
  - Differentiating classes
  - Identifying classes and methods
- 3. Designing an Object-oriented Application**
  - Class relationships
  - Common design mistakes
- 4. Environment setup**
  - Introduction to object-oriented programming in g
  - LabVIEW classes

**5. Object-Oriented Concepts in LabVIEW**

- Encapsulation
- Inheritance

**6. Object-Oriented Programming in LabVIEW**

- Dynamic Dispatch
- Tools
- Common use cases

**7. Object-Oriented Tools**

- Object references and construction guarantees
- Front Panel displays for object data

**8. Object-Oriented Design Patterns**

- Design Patterns: Introduction
- Channeling pattern
- Aggregation pattern
- Factory pattern
- Design patterns: Conclusion

**9. Reviewing an Object-Oriented Application**

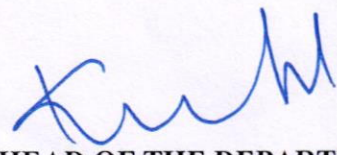
- Code review
- Migrating to LabVIEW classes

**10. Designing of Deployment**

- Deployment
- Additional resources



**COURSE COORDINATOR**



**HEAD OF THE DEPARTMENT**

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## CERTIFICATE COURSE ON OBJECT ORIENTED DESIGN AND PROGRAMMING IN LABVIEW

**Date of Introduction of the Course: 18.12.2017**

The timings are 1:30 PM to 4:30 PM from Friday (AN) and Saturday (FN&AN).

### Time Table & Lesson plan

CLASS	DATE	TOPIC
1,2	22-12-2017 (AN)	<b>Introduction to OOPs concept</b> <ul style="list-style-type: none"> <li>• Class</li> <li>• Object</li> </ul>
3,4	22-12-2017 (AN) 23-12-2017 (FN)	<ul style="list-style-type: none"> <li>• OOD</li> <li>• Object-oriented programming</li> </ul>
5,6	23-12-2017 (FN)	<b>Introduction to Object-Oriented Application</b> <ul style="list-style-type: none"> <li>• OOD Application</li> <li>• Differentiating classes</li> </ul>
7,8	23-12-2017 (FN) 23-12-2017 (AN)	<ul style="list-style-type: none"> <li>• Identifying classes and methods</li> </ul>
9,10	23-12-2017 (AN)	<b>Designing an Object-oriented Application</b> <ul style="list-style-type: none"> <li>• Class relationships</li> <li>• Common design mistakes</li> </ul>
11,12	29-12-2017 (AN)	<b>Environment setup</b> <ul style="list-style-type: none"> <li>• Introduction to object-oriented programming in g</li> </ul>
13,14	29-12-2017 (AN) 30-12-2017 (FN)	<ul style="list-style-type: none"> <li>• LabVIEW classes</li> </ul>
15,16	30-12-2017 (FN)	<b>Object-Oriented Concepts in LabVIEW</b> <ul style="list-style-type: none"> <li>• Encapsulation</li> <li>• Inheritance</li> </ul>
17,18	30-12-2017 (FN) 30-12-2017 (AN)	<b>Object-Oriented Programming in LabVIEW</b> <ul style="list-style-type: none"> <li>• Dynamic Dispatch</li> <li>• Tools</li> </ul>
19,20	30-12-2017 (AN)	<ul style="list-style-type: none"> <li>• Common use cases</li> </ul>
21,22	05-01-2018 (AN)	<b>Object-Oriented Tools</b> <ul style="list-style-type: none"> <li>• Object references and construction guarantees</li> <li>• Front Panel displays for object data</li> </ul>
23,24	05-01-2018 (AN) 06-01-2018 (FN)	<b>Object-Oriented Design Patterns</b> <ul style="list-style-type: none"> <li>• Design Patterns: Introduction</li> <li>• Channeling pattern</li> </ul>
25,26	06-01-2018 (FN)	<ul style="list-style-type: none"> <li>• Aggregation pattern</li> </ul>

		<ul style="list-style-type: none"><li>• Factory pattern</li></ul>
27,28	06-01-2018 (FN) 06-01-2018 (AN)	<b>Reviewing an Object-Oriented Application</b> <ul style="list-style-type: none"><li>• Code review</li><li>• Migrating to LabVIEW classes</li></ul>
29,30	06-01-2018 (AN)	<b>Designing of Deployment</b> <ul style="list-style-type: none"><li>• Deployment</li><li>• Additional resources</li></ul>



**COURSE COORDINATOR**



**HEAD OF THE DEPARTMENT**

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## School of Computing

Certificate course on Object Oriented Design and Programming in Labview

Date of Introduction of the Course: 27.11.2017

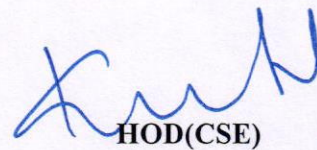
### Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U13CS001	ABIGNA T S
2	U13CS002	ACHINTAYA SAHA
3	U13CS010	AVINISH KUMAR ANAND
4	U13CS011	AVINISH KUMAR PANDEY
5	U13CS018	DEEPONASI
6	U13CS019	DIVYA M J
7	U13CS023	KAILASH RAY
8	U13CS025	KOKILA
9	U13CS031	MAVILLAPALLI POTHRE
10	U13CS035	MOHAMEDSALMANKHAN N
11	U13CS036	NITESH M
12	U13CS041	PIYUSH KUMAR SONI
13	U13CS042	PON VIVEK NAGARAJAN
14	U13CS043	PRANAV KUMAR
15	U13CS045	RANDHIR KUMAR
16	U13CS046	RAVI SHANKAR S
17	U13CS049	RITESH RAJ
18	U13CS050	SANJAY KUMAR MANDAL
19	U13CS057	SNEHIL NAIR
20	U13CS070	S.BHARATH
21	U13CS063	K.VIJAYAN
22	U13CS068	DIKSHA RANI
23	U13CS055	SIMPEE KUMARI
24	U13CS075	DIPIKA KUMARI
25	U13CS053	SHAMBHU KUMAR
26	U13CS059	SUSHMIGATHRI.S.D
27	U13CS052	SAURAV KUMAR
28	U13CS061	TOAIB ALAM
29	U13CS063	K.VIJAYAN
30	U13CS065	ANKIT KUMAR
31	U13CS072	M.B.JEYAGANESH
32	U13CS071	GURPREET SINGH
33	U14CS003	ABDUL RAHIM.M
34	U14CS011	AKSHAY.R
35	U14CS013	ANDREW JOSEPH.V

36	U14CS017	ASHUTOSH SRIVASTAVA
37	U14CS033	BOORAGADDA VAMSI KRISHNA
38	U14CS040	CHINTAPANTI SRIKANTH
39	U14CS074	KESHAVAPRIYA .S
40	U14CS075	KEVIN ARNOLD THAKUR
41	U14CS076	KILARI LAXMI SUDHA
42	U14CS113	NALLAJARLA CHAKRADHAR
43	U14CS116	NAYANA.P. BALA CHANDRAN
44	U14CS118	NETHI MUKESH
45	U14CS153	RONU SHARMA
46	U14CS158	SAMPA PARH
47	U14CS170	SHANKAR KUMAR GUPTA
48	U14CS178	SK MD TAUQEER
49	U14CS182	SRI DHARSHINI .P
50	U14CS192	THARIGOPULA LOKESH
51	U14CS199	VAMMARVALLI RAJA
52	U14CS201	VASI KARTHIK
53	U14CS210	YELLALA SANTHOSH REDDY
54	U15CS026	BIRADAVOLU SUCHARITHA
55	U15CS045	DODDI PUJITHA
56	U15CS052	GANGU BHAGYA
57	U15CS72	JOTHI R
58	U15CS118	MANUGUNTA BHARGAVI
59	U15CS149	P.KHAJA KHAN
60	U15CS166	PULIMUNI HIMAJA
61	U15CS184	S. SAI SHRUTHI
62	U15CS228	YADIKI VEMANA BUJJI
63	U15CS248	SOMESH.C



**COURSE COORDINATOR**



**HOD(CSE)**

**HEAD OF DEPARTMENT**  
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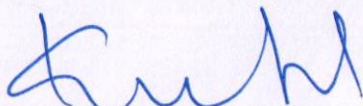
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## CERTIFICATE OF PARTICIPATION

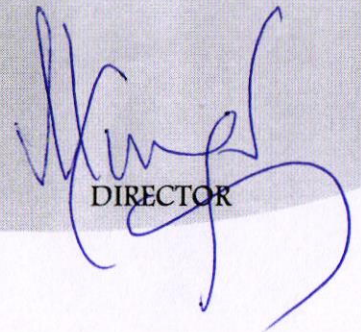
**This certificate is presented to**

**PIYUSH KUMAR SONI**

For actively participating in the value added course “Object Oriented Design and Programming in Labview” Conducted by School of Computing, BIHER from 22.12.2017 to 06.01.2018.

  
COURSE COORDINATORS

  
HEAD OF THE DEPARTMENT

  
DIRECTOR



# COURSE FEEDBACK FORM

Academic Year		2017-18			
Term					
Course Number					
Course Title		Object Oriented Design & Programming in Java			
Number of Credits					
Type of Course	Regular		Elective		Add-on <input checked="" type="checkbox"/>

**I. Information on the Respondent: (Tick (✓) Appropriately)**

**1. Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	
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**2. Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8		8-10	✓
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**3. Preparation for the course by the student:**

(i)	Have done part of this course earlier	No
(ii)	Has adequate prior exposure to the prerequisites	No
(iii)	Had to pickup relevant additional topics through concurrent study	Yes
(iv)	Have no exposure to the background material	No

**4. The expectations for taking the course by the student are:**

(a)	Enhance by skill base in the area of specializations	Yes
(b)	Get exposed to a relevant subject	Yes
(c)	Curiosity	Yes
(d)	Better Employment Opportunity	Yes
(e)	Complete Course requirements	Yes
(f)	To Improve CGPA	Yes

**About the Instructor: Information on the Respondent: (Tick (✓) Appropriately)**

		A	B	C	D	E
1.	Pace of the Teaching/lecture	✓				
2.	Comment of the Subject	✓				
3.	Clarity of expression	✓				
4.	Level of preparation	✓				
5.	Level of interaction	✓				
6.	Accessibility outside the class		✓			
7.	Others (please specify)	✓				

A: Excellent	✓	B: Very Good		C: Good		D: Satisfactory		E: Poor
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