Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 0**4.07.2021**

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value-added course on "**Spring framwork**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course "**Spring framework**" -Reg in our campus premises on **11.07.2021**, students would be participating in this course. We request you kindly to give permission to organize this event.
Venue: **CSE Smart Room**

Timing: 1:30 PM to 4:30 PM(AN)

Submitted to Principal for approval to organize this value-added course.

HOD

DEAN ENGINEERING

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

04.07.2021

The School of computing, BharathInstitute of Higher Education and Research is planned to conduct a certification value added course on "Spring Framework "for the benefit ofII, III and IV year students. This course is scheduled from 11.07.2021 for 30 hours which includes theory and practical. The timings are I :30PM to 4:30 PM

All Registered Students must attend all the classes without fail. The following faculty members are assigned to handle the course

SNo	Name of the Faculty	Designation
1	Mr.K.Sivaraman	Assistant Professor
2	Mr,B.Sundarrajan	Assistant Professor

Head of Department

To

Copy to CSE

Copy to IT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE ON SPRING FRAMEWORK

Date of Introduction of the Course: 11.07.2021

COURSE SYLLABUS

1. Basics of Spring

What is Spring–Spring Modules –Spring Application –Spring with IDE –Spring in Myeclipse–Spring in Eclipse.

2. Understanding IOC and Dependency Injection

Constructor Injection –CI Dependent object-CI with collection –CI with Map-CI Inheriting Bean –Setter Injection-SI Dependent Object-SI with Collection –SI with Map-CI vs SI Auto wiring –Factory Method.

3. Spring AOP

AOP Terminology –AOP Implementations –Pointcut-Advices.

4. Spring JDBC

Jdbc Template Example –Prepared Statement –Result Set Extractor –Row Mapper –Name Parameter –Simple Jdbc template.

5. Spring with ORM

Spring with Hibernate –Spring with JPA.

6. SpEL

SpEL Examples –operators in SpEL- Variable in SpEL.

7. Spring 3 MVC Remoting with Spring

Spring with RMI –Http Invoker –Hessian –Burlap – Spring with JMS.

8. OXM Frameworks

Spring with JAXB- Spring with Xstream –Spring with Castor.

COURSE OBJECTIVES

Getting the student to be well trained in JAVA Programming skills for an easy entry in the IT industry

Specifically, the course has the following objectives:

Students will learn

1) Make J2EE easier to use
2) Eliminate need for middle tier "glue"
3) Provide the best Inversion of Control solution
4) Provide a pure Java AOP implementation, focused on solving common problems in J2EE
5) Fully portable across application servers

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

Bharath
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CERTIFICATE COURSE ON SPRING FRAMEWORK

Date of Introduction of the Course: 11.07.2021

The timings are 1:30 PM to 4:30 PM

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	11-07-2021(AN)	1.**Basics of Spring** What is Spring –Spring Modules –Spring Application
3,4	15-07-2021(FN)	2.**IDE** Spring with IDE –Spring in Myeclipse –Spring in Eclipse.
5,6	16-07-2021(AN)	**3.Understanding IOC** Constructor Injection –CI Dependent object-CI with collection –CI with Map-CI Inheriting.
7,8	16-07-2021(AN)	**4. Dependency Injection** SI Dependent Object-SI with Collection –SI with Map-CI vs SI Auto wiring –Factory Method..
9,10	22-07-2021(AN)	**5. Spring AOP** AOP Terminology –AOP Implementations –Pointcut-Advices.
11,12	23-07-2021(FN)	**6.Spring JDBC** Jdbc Template Example –Prepared Statement
13,14	23-07-2021(AN)	**7.Extractor** Result Set Extractor –Row Mapper –NameParameter –Simple Jdbc template.
15,16	29-07-2021(AN)	**8.Spring with ORM** Spring with Hibernate –Spring with JPA.
17,18	30-07-2021(AN)	**9.SpEL** SpEL Examples –operators in SpEL- Variable in SpEL.
19,20	30-07-2021(FN)	**10. Spring 3 MVC** Spring with RMI –Http Invoker
21,22	05-08-2021(AN)	**11.Remoting with Spring** Hessian –Burlap – Spring with JMS.
23,24	06-08-2021(AN)	**12.OXM Frameworks** Spring with JAXB- Spring with Xstream –Spring with Castor.
25,26	06-08-2021(AN)	**13. Dependency Injection** SI Dependent Object-SI with Collection –SI with Map-CI vs SI Auto wiring –Factory Method..

27,28	**12-08-2021(FN)**	**14.Spring AOP** AOP Terminology –AOP Implementations –Pointcut-Advices.
29,30	**13-08-2021(AN)**	**15. OXM Frameworks** Spring with JAXB- Spring with Xstream –Spring with Castor.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci[illegible] Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE ON SPRING FRAMEWORK
Date of Introduction of the Course: 11.07.2021

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS001	AADHITYA MALLIKA ARJUN
2	U14CS003	ABDUL RAHIM.M
3	U14CS004	ABDUL RAZVI .M.K
4	U14CS006	ABHIKAMALI .A
5	U14CS007	ABHISHEK MANDURI
6	U14CS008	AJAY.D
7	U14CS009	AKASH CHANDRA AMBASTHA
8	U14CS010	AKHIL REDDY.G
9	U14CS012	AMAR BASUMATARY
10	U14CS013	ANDREW JOSEPH.V
11	U14CS015	ANKITA
12	U14CS016	ANNILKRISHNAN .K
13	U14CS017	ASHUTOSH SRIVASTAVA
14	U14CS019	ARAMBAKAM,YASWANTH
15	U14CS021	AREEF SYED
16	U14CS022	ARUN KUMAR SINGH
17	U14CS023	ASIF NAZIR WANI
18	U14CS024	ATUL ANAND
19	U14CS025	BACHU HARISH
20	U14CS027	BALAJI SINGH. T
21	U14CS029	BALAKRISHNAN.T
22	U14CS031	BISHAL BANIK
23	U14CS033	BOORAGADDA VAMSI KRISHNA
24	U14CS034	BOYAPATI VINAY
25	U14CS035	BYSANI VENKAT SANDEEP

26	U14CS038	CHIDIRALA.SAI SHANKAR
27	U14CS040	CHINTAPANTI SRIKANTH
28	U14CS041	CHINTLA VENKATESH
29	U14CS042	CHUDAAMANI.V
30	U14CS045	DEEPAKSANKAR REDDY.M
31	U14CS046	DEVARAPALLI HIMAKAR
32	U14CS047	DEVULAPALLY NAGARAJU
33	U14CS048	DIVYA RUPINI.B

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

HEAD OF DEPARTMENT
Department of Computer Sci & 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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(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE OF PARTICIPATION

This certificate is presented to

DIVYA RUPINI.B

For actively participating in the value added course on **" Spring Framework "**
Conducted by School of Computing, BIHER from 11.07.2021 to 13.08.2021.

COURSE COORDINATORS
DIRECTOR

HEAD OF THE DEPARTMENT

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term							
Course Number							
Course Title		Spring Framework					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	✓

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**	

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term							
Course Number							
Course Title		spring frame work					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	✓

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	YES
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

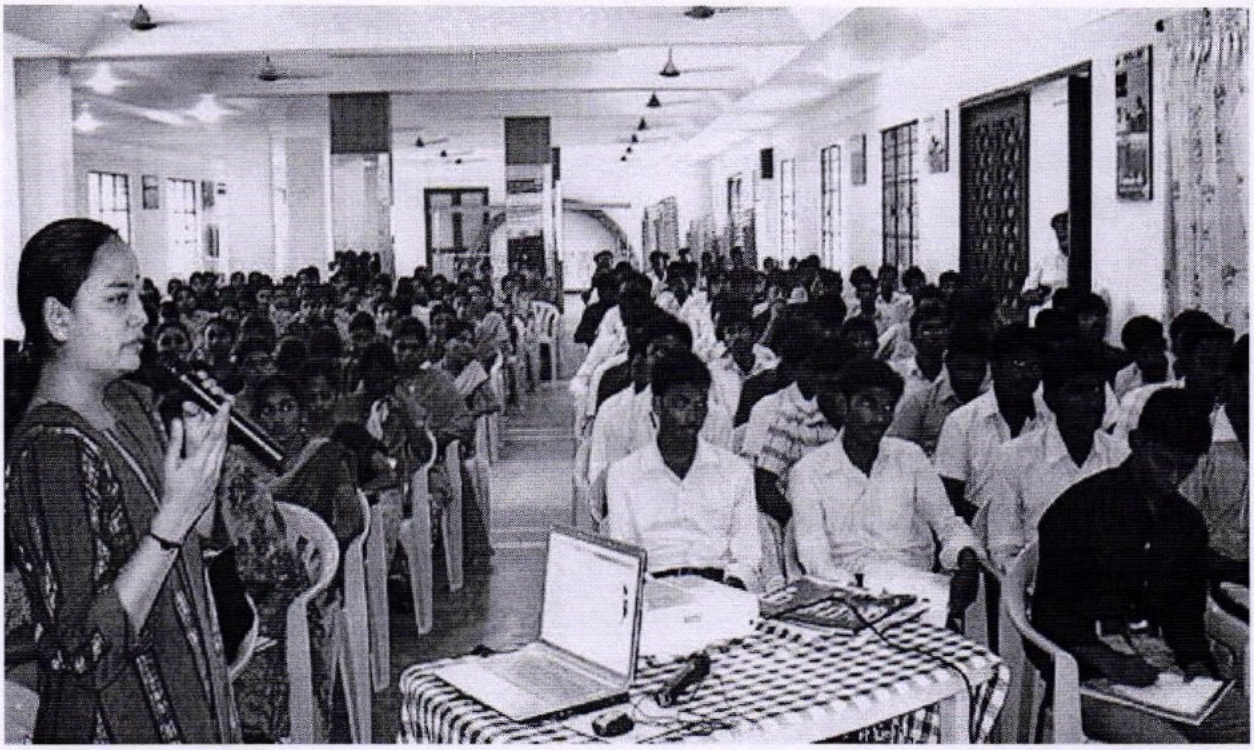
About the Instructor: Information on the Respondent: (Tick (√) Appropriately)

		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**	

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci... & 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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BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

Date: 05.07.2021

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Windows 10 Mobile Application development and training**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Windows 10 Mobile Application development and training**" in our campus premises on **11/07/2021**.

52 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

09.07.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Windows 10 Mobile Application Development &Training** for the benefit of II, III and IV year students. This course is scheduled from 11.07.2021 for 30hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM :

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	Mrs.C.Anuradha	Assistant.Professor
2	Dr.C.Rajabhushanam	Professor

Head of Department

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

To

Copy to CSE

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INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE ON WINDOWS 10 MOBILE APPLICATION DEVELOPMENT AND TRAINING

Date of Introduction of the Course:11.07.2021

The timings are 1:30 PM to 4:30 PM

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	11.07.2021(AN)	1. Introduction - Course Welcome, Introduction to the Universal Windows10 Platform
3,4	15.07.2021(AN)	2.Windows Phone 10 Application Lifecycle
5,6	16.07.2021(FN)	3.Planning Application - UI Basics, Responsive vs. Adaptive UI.
7,8	16.07.2021(AN)	4.Designing Application - for Different Form Factors
9,10	22.07.2021(AN)	5.Data Binding - Data Entry and Local Data Storage, Introduction to XAML Data Binding.
11,12	23.07.2021(FN)	6.Application Lifecycle Management - Suspension, Resume and Termination, Storing and, Retrieving App Data, Splash Screens, Alternative Launch Scenarios.
13,14	23.07.2021(AN)	7.MVVM - Intro to MVVM, Creating Models, Views and ViewModels, Implementing MVVM Class Interactions.
15,16	29.07.2021(AN)	8.Commands - Navigation, and User Interaction Design, Navigation Commands and CommandBars, Context Menus and ContextDialog Controls.
17,18	30.07.2021(FN)	9.File Storage - Adding File Access Controls, Implementing File Pickers.
19,20	30.07.2021(AN)	10.Publishing Your App - App Testing and the WACK, Monetization, Creating an App Package and Deploying an App.

21,22	**05.08.2021(AN)**	11.Maps and Location (H/W Drives) in Windows 10
23,24	**06.08.2021(FN)**	12.Network Communication, Push Notifications, Background Agents
25,26	**06.08.2021(AN)**	13.Tiles and Lock Screen Notifications
27,28	**12.08.2021(AN)**	14.Windows 10 Mobile App to App Communication.
29,30	**13.08.2021(FN)**	15.A Glimpse at the Future

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE ONWINDOWS 10 MOBILE APPLICATION DEVELOPMENT AND TRAINING

Date of Introduction of the Course:11.07.2021

COURSE SYLLABUS

1. Introduction - Course Welcome, Introduction to the Universal Windows10 Platform
2. Windows Phone 10 Application Lifecycle
3. Planning Application - UI Basics, Responsive vs. Adaptive UI
4. Designing Application - for Different Form Factors.
5. Data Binding - Data Entry and Local Data Storage, Introduction to XAML Data Binding
6. Application Lifecycle Management - Suspension, Resume and Termination, Storing and, Retrieving App Data, Splash Screens, Alternative Launch Scenarios
7. MVVM - Intro to MVVM, Creating Models, Views and ViewModels, Implementing MVVM Class Interactions
8. Commands - Navigation, and User Interaction Design, Navigation Commands and CommandBars, Context Menus and ContextDialog Controls
9. File Storage - Adding File Access Controls, Implementing File Pickers
10. Publishing Your App - App Testing and the WACK, Monetization, Creating an App Package and Deploying an App.
11. Maps and Location (H/W Drives) in Windows 10
12. Network Communication, Push Notifications, Background Agents
13. Tiles and Lock Screen Notifications
14. Windows 10 Mobile App to App Communication.
15. A Glimpse at the Future

COURSE OBJECTIVES

1. Describe those aspects of mobile programming that make it unique from programming for other platforms,
2. Critique mobile applications on their design pros and cons,
3. Utilize rapid prototyping techniques to design and develop sophisticated mobile interfaces,
4. Program mobile applications for the Android operating system that use basic and advanced phone features, and
5. Deploy applications to the Android marketplace for distribution.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE COURSE ON Windows 10 Mobile Application Development &Training

Date of Introduction of the Course: 11.07.2021

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS048	DIVYA RUPINI.B
2	U14CS049	EVELIN JUGI.R
3	U14CS050	FAZIL AHAMED.J
4	U14CS051	GANESH RAJ .L
5	U14CS052	GARLAPATI HEMA SAI KRISHNA
6	U14CS053	GODJSELA SRINATH
7	U14CS054	GONTLA KARTHIK
8	U14CS055	GOTTIPATI KARTHIK
9	U14CS702	S.KUMARAN
10	U14CS709	RAGUL TIGER
11	U14CS220	KARTHIKEYAN SURESH
12	U14CS231	GYANA PRASANNA
13	U14CS235	SATHISH RAJ
14	U14CS105	MOOTHI LAKSHMI PRASANNA
15	U14CS106	MUGANTH.R.
16	U14CS107	MUGUNTHANATHAN.G
17	U14CS108	MURALI .S
18	U14CS109	N.UMA VENKATA MAHESHWARA SWAMY
19	U14CS110	NAGA TEJA.K
20	U14CS148	RAMYA.B

21	U14CS177	K.SIVA SUBRAMANIAN
22	U14CS222	M.GANESH RAJAN
23	U14CS225	ARJHUN KUMAR.K
24	U14CS229	INDHU GOPALAKRISHNAN
25	U14CS703	VASANTHAN.N
26	U14CS705	SHABEEK ABUTHAHIR.S
27	U14CS710	SHOPMINISTER
28	U14CS160	SANDEEP INGUVA
29	U14CS161	SANJAY KUMAR YADAV
30	U14CS162	SANTHOSH KUMAR.N
31	U14CS163	SASHAANK.S
32	U14CS164	SAURAV KUMAR
33	U14CS165	SAURAV SINGH
34	U14CS224	R.SINDHU
35	U14CS228	ELACATI JAGANNADHA HARSHITHA
36	U14CS230	MARAM REDDY RAJASEKHAR
37	U14CS234	DANDU MOHAN RAJENDRA VARMA
38	U14CS706	RAFTEN WANCHU
39	U14CS707	ARNISHA DAS
40	U14CS708	SUSMITA MOG
41	U14CS213	AKULA MOHITH
42	U14CS214	PRASANTH KUMAR .P
43	U14CS215	PRANJAL BHASHKAR
44	U14CS216	SUNDAR.V.
45	U14CS217	CHILLIMUNTA VENKATESH
46	U14CS218	MAKKAPTI SIDDHARDHA
47	U14CS223	ARUN
48	U14CS226	SARAVANAN.B
49	U14CS227	I.SUKAPATLA AVINASH
50	U14CS237	CHARAN KUMAR
51	U14CS701	BALAJI
52	U14CS232	B.BALAKUMARAN

)ORDINATOR

HEAD OF THE DEPARTMENT

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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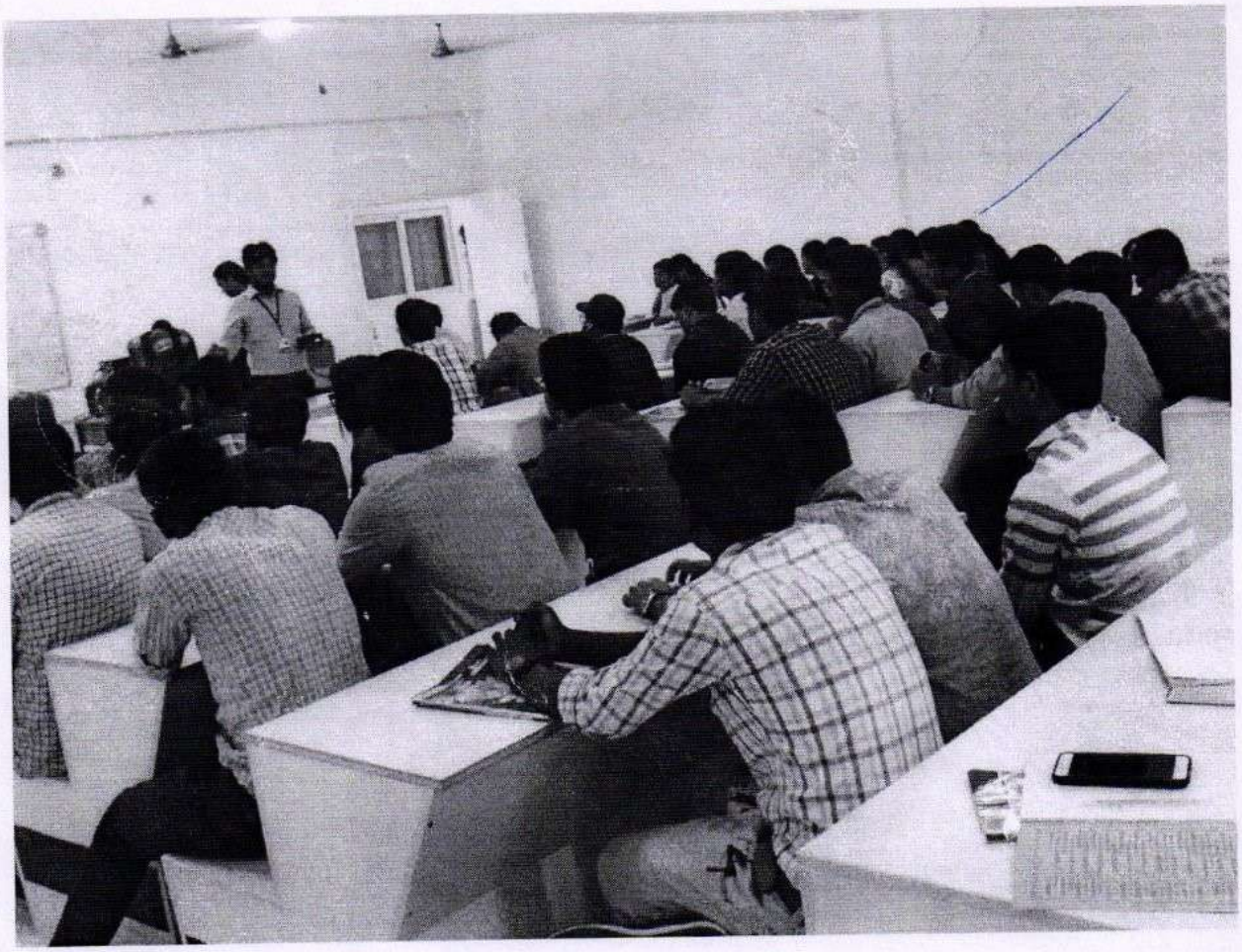
CERTIFICATE COURSE ON SOFTWARE PROJECT MANAGEMENT



COURSE COORDINATOR

HEAD OF THE DEPARTMENT

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

S.KUMARAN

For actively participating in the value added course **"Windows 10 Mobile Application Development &Training"**
Conducted by School of Computing, BIHER from 11.07.2021 to 13.08.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year			2021-2022								
Term			Odd sem								
Course Number											
Course Title			Windows 10 Mobile Application Development and Training								
Number of Credits											
Type of Course	Regular			Elective			Add-on				

I.	**Information on the Respondent: (Tick (√) Appropriately)**										
1.	**Percentage of classes attended**										
	0-20		20-40		40-60		60-80	✓	80-100		
2.	**Number of hours per week spent on the course (Other than lecture hours)**										
	0-2		2-4		4-6		6-8	✓	8-10		

3.	**Preparation for the course by the student:**		
	(i)	Have done part of this course earlier	yes
	(ii)	Has adequate prior exposure to the prerequisites	yes
	(iii)	Had to pickup relevant additional topics through concurrent study	yes
	(iv)	Have no exposure to the background material	yes
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	

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**	

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2021 - 2022					
Term		odd sem					
Course Number							
Course Title		Windows 10 Mobile Application Development & Training					
Number of Credits							
Type of Course	Regular		Elective		Add-on		

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8	✓	8-10	

3. **Preparation for the course by the student:**

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

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	

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	

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date:07.07.2021

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value-added course on **"Developing Business Applications using Web services"** -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on **""Developing Business Applications using Web services"** in our campus premises on **11.07.2021**, students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing 2.00PM to 4:00 PM

Submitted to Principal for approval to organize this value-added course.

HOD

HEAD OF DEPARTMENT
Department of Computer Scie & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

DEAN ENGINEERING

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

07.07.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Developing Business Applications using Web Services**for the benefit of II, III and IV year students. This course is scheduled from 11.07.2021 for 28hours which includes theory and practical. The timings are 2:00 PM to 4:00

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	D.JeyaPriya	Assistant Professor
2	C.Geetha	AssistantProfessor

Head of Department

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

To

Copy to CSE

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INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE ON DEVELOPING BUSINESS APPLICATIONS USING WEB SERVICES

Date of Introduction of the Course: 11.07.2021

The timings are 2.00 PM to 4: PM

Time Table & Lesson plan

CLASS	DATE	TOPIC
1,2	11-07-2021(AN)	1. Introductions to web services, Course mechanics, .NET Overview, CLR, Assemblies (monolithic vs. component-based applications
3,4	12-07-2021(AN)	2. Introduction to HTML: HTML, JavaScript, CSS, DOJO, Jquery, DOJO, OpenDesigns, Introduction to C#: Types and program structure
5,6	13-07-2021(AN)	3. Development Environment Setup, ISS, SQL Server and Visual Studio, Advanced C#: OOP, Delegates, Events, Attributes, unsafe code, .NET Interop
7,8	14-07-2021(AN)	4. NET Framework Class Library (FCL): Elements, Implicit JSP Objects, Declaring Variables and Methods , Sharing Data Between JSP pages, Users Passing Control and Data between Pages, JSP application design with JDBC, JSP Application Design with MVC.
9,10	15-07-2021(AN)	5 .System, Collections: I/O, Networking, Threading,Transactions, Databases and Data Access using ADO.NET & LINQ
11,12	18-07-2021(AN)	6. Introduction to ASP.NET programming model, server controls, data binding ASP.NET state management, tracing, caching, error handling, security, deployment, user and custom controls, DotNetNuke;

13,14	**19-07-2021(AN)**	**7.** Exposing and consuming ASP.NET Web Services, XML, Content Management Systems (CMS), Windows SharePoint Services and DotNetNuke models
15,16	**20-07-2021(AN)**	**8.** Execution Model: Client-Side vs. Server-Side Programming, Web Technologies . Context Parameters, Handling Http Request & Responses, Using Cookies-Session Tracking, Servlet with JDBC
17,18	**21-07-2021(AN)**	**9.** Restful, Soap, Disco, Uddi Continue with Web Services, Developing Secure Web ServicesWeb Servers and Servlets: Tomcat web server, Introduction to Servlets: Servlets,
19,20	**22-07-2021(AN)**	**10.** The Advantage of Servlets over "Traditional" CGI: Basic Servlet Structure, Simple Servlet Generating Plain Text, Compiling and Installing the Servlet, Invoking the Servlet, Lifecycle of a Servlet, The Servlet API, Reading Servlet parameters, Reading Initialization parameters,

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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Department of Computer Sci & Engg.
Bharath Institute of Higher Education & Research
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CERTIFICATE COURSE ON DEVELOPING BUSINESS APPLICATIONS USING WEB SERVICES

Date of Introduction of the Course: 11.07.2021

COURSE SYLLABUS

1. Introductions to web services,
   course mechanics, .NET Overview, CLR, Assemblies (monolithic vs. component-based applications
2. Introduction to HTML:
   HTML, JavaScript, CSS, DOJO, Jquery, DOJO, OpenDesigns, Introduction to C#: Types and program structure

3. Development Environment Setup, ISS, SQL Server and Visual Studio, Advanced C#: OOP, Delegates, Events, Attributes, unsafe code, .NET Interop

4.NET Framework Class Library (FCL):
Elements, Implicit JSP Objects, Declaring Variables and Methods , Sharing Data Between JSP pages, Users Passing Control and Data between Pages, JSP application design with JDBC, JSP Application Design with MVC.

5.System, Collections:
I/O, Networking, Threading,Transactions, Databases and Data Access using ADO.NET & LINQ

6.Introduction to ASP.NET
programming model, server controls, data binding ASP.NET state management, tracing, caching, error handling, security, deployment, user and custom controls, DotNetNuke;

7. Exposing and consuming ASP.NET Web Services, XML,
Content Management Systems (CMS), Windows SharePoint Services and DotNetNuke models

8, Execution Model:
Client-Side vs. Server-Side Programming, Web Technologies . Context Parameters, Handling Http Request & Responses, Using Cookies-Session Tracking, Servlet with JDBC.

9 .Restful, Soap, Disco, Uddi

Continue with Web Services, Developing Secure Web ServicesWeb Servers and Servlets: Tomcat web server, Introduction to Servlets: Servlets,

10.The Advantage of Servlets over "Traditional" CGI:

Basic Servlet Structure, Simple Servlet Generating Plain Text, Compiling and Installing the Servlet, Invoking the Servlet, Lifecycle of a Servlet, The Servlet API, Reading Servlet parameters, Reading Initialization parameters,

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of Web services, and an in-depth study into its enabling technologies and main building blocks. Students will gain hands-on experience solving relevant problems through projects that will utilize existing public cloud tools. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1) The fundamental ideas behind Image processing, the evolution of the paradigm, its applicability; Benefits, as well as current and future challenges;

2) The basic ideas and principles in data centre design; Image processing techniques and computer vision;

3) Different CPU, memory and I/O virtualization techniques that serve in offering software, computation and storage services on the cloud; Software Defined Networks (SDN) and Software Defined Storage (SDS);

4) The variety of programming models and develop working experience in several of them.

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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CERTIFICATE COURSE ON DEVELOPING BUSINESS APPLICATIONS USING WEB SERVI

Date of Introduction of the Course: 11.07.2021

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U16CS001	SANTOSH B
2	U16CS002	APARNA V M
3	U16CS003	NALAMOTHU SRIKANTH
4	U16CS004	ABDUL KHADIR L
5	U16CS006	SARAVANAN R
6	U16CS007	SANAM NAGA VENKATA SAI KRISHNA
7	U16CS008	CHEEMIREDDIGARI ANKITHAREDDY
8	U16CS009	RITIK RAJ
9	U16CS010	JOHAN KIRUBHAHAR P P
10	U16CS011	RAVURI MOUNIKA
11	U16CS012	FAYAZ AKIL S
12	U16CS013	SURYA SUNDARRAJ SRIRAM
13	U16CS014	SOMA BHARATH KUMAR
14	U16CS015	B J JAISON
15	U16CS016	SARAVANAKUMAR S
16	U16CS001	SANTOSH B
17	U16CS002	APARNA V M
18	U16CS003	NALAMOTHU SRIKANTH
19	U16CS004	ABDUL KHADIR L
20	U16CS006	SARAVANAN R
21	U16CS007	SANAM NAGA VENKATA SAI KRISHNA
22	U16CS008	CHEEMIREDDIGARI ANKITHAREDDY
23	U16CS009	RITIK RAJ
24	U16CS010	JOHAN KIRUBHAHAR P P
25	U16CS011	RAVURI MOUNIKA
26	U16CS012	FAYAZ AKIL S

27	U16CS013	SURYA SUNDARRAJ SRIRAM
28	U16CS014	SOMA BHARATH KUMAR
29	U16CS015	B J JAISON
30	U16CS016	SARAVANAKUMAR S
31	U16CS050	HRITHIK KUMAR
32	U16CS051	YEDDULA SAIRAKESH
33	U16CS052	D SURYA PRABHAKAR
34	U16CS053	ANIL MAURYA
35	U16CS054	M KAUSHIK SUDHAN
36	U16CS055	MEGANATHAN G
COURSE COORDINATOR		**HEAD OF THE DEPARTMENT**

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg..
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Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

APARNA V M

For actively participating in the value added course **"Developing web services using Web Applications"** Conducted by School of Computing, BIHER from 11.07.2021 to 22.07.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		ODD SEM					
Course Number							
Course Title		Developing business Application using Web Services					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8	✓	8-10	

3.	**Preparation for the course by the student:**		
	(i)	Have done part of this course earlier	Yes
	(ii)	Has adequate prior exposure to the prerequisites	Yes
	(iii)	Had to pickup relevant additional topics through concurrent study	Yes
	(iv)	Have no exposure to the background material	Yes
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**	

HEAD OF THE DEPARTMENT

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COURSE FEEDBACK FORM

Academic Year		2021 – 2022					
Term		ODD SEM					
Course Number							
Course Title		Developing business Application using web Services					
Number of Credits		4					
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8	✓	8-10	

3.	**Preparation for the course by the student:**		
	(i)	Have done part of this course earlier	Yes
	(ii)	Has adequate prior exposure to the prerequisites	Yes
	(iii)	Had to pickup relevant additional topics through concurrent study	Yes
	(iv)	Have no exposure to the background material	Yes
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**	

HEAD OF THE DEPARTMENT

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Department of Computer Sci... & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON DEVELOPING BUSINESS APPLICATION USING WEB SERVICES

Date of Introduction of the Course: 11.07.2021

School of Computing

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

From
Dr. K.P Kaliyamurthie
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

Date: 20.06.2021

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir,

Subject : Request of Permission to conduct a value added course on "**Advanced PHP**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Advanced PHP**" in our campus premises from 11.07.2021 for 38hours

Ourinternal Professorswould deliver lecture for the above mentioned course. About 40 students would be participating in this course. We request you kindly to give permission to organize this.

Venue: **CSEClass room**

Timing : 1:30 PM to 4:30 PM

9.00 PM to 4.00 PM

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

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

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INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CIRCULAR

08.07.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Advanced PHP** for the benefit of IV year students. This course is scheduled from 11.07.2021 for 38 hours which includes theory and practical. The timings are 1:30 PM to 4:30

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.C.Nalini	Professor
2	Dr.C.Rajabhushanam	Professor

Head of Department

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

To

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CERTIFICATE COURSE ON ADVANCED PHP

Date of Introduction of the Course: 11.07.2021

COURSE OBJECTIVE

PHP focuses on speed and scalability of web applications. With our Advanced PHP training, unleash the power of the PHP to build efficient server-side scripts and command line scripts. You also master the skills to develop desktop applications. Our Advanced PHP course includes Cloudlabs integration so you gain in-depth hands-on experience developing RESTful web-services. Also, learn to extend the capabilities of PHP with PEAR and the techniques to build a fast and capable dynamic web application using Ajax. By the end of our PHP deep dive training, you will also have a sound understanding of industry best practices of PHP development from our expert.

WHAT TO EXPECT

- learn functions, date and time, debugging and logging
- Discover code reuse, feeding a function, return data from a function
- Learn how to do string manipulation
- Runtime error handling using PHP exception handling mechanism
- Discover database connectivity methods
- Send e-mail using SMTP
- Learn the PHP extension and application repository - PEAR
- Web services will be discussed including SOAP, NU SOAP, and WSDL
- Learn about Smarty Templates
- Discover popular frameworks including CakePHP, Yii, Zend and Codelgniter

COURSE SYLLABUS

1. **Introduction to PHP**

- ✓ Evaluation of Php
- ✓ Basic Syntax
- ✓ Defining variable and constant
- ✓ Php Data type
- ✓ Operator and Expression

2. **Handling Html Form With Php**

- ✓ Capturing Form Data
- ✓ Dealing with Multi-value filed
- ✓ Generating File uploaded form
- ✓ Redirecting a form after submission

3. **Decisions and loop**

- ✓ Making Decisions
- ✓ Doing Repetitive task with looping
- ✓ Mixing Decisions and looping with Html

4. **Function**

- ✓ What is a function
- ✓ Define a function
- ✓ Call by value and Call by reference
- ✓ Recursive function

5. **String**

- ✓ Creating and accessing String
- ✓ Searching & Replacing String
- ✓ Formatting String
- ✓ String Related Library function

6. Array

- ✓ Anatomy of an Array
- ✓ Creating index based and Associative array
- ✓ Accessing array Element
- ✓ Looping with Index based array
- ✓ Looping with associative array using each() and foreach()
- ✓ Some useful Library function

7. Working with file and Directories

- ✓ Understanding file& directory
- ✓ Opening and closing a file
- ✓ Coping ,renaming and deleting a file
- ✓ Working with directories
- ✓ Building a text editor
- ✓ File Uploading & Downloading
- ✓ Mini Project (With file Handling)

8. State management

- ✓ Using query string(URL rewriting)
- ✓ Using Hidden field
- ✓ Using cookies
- ✓ Using session

9. String matching with regular expression

- ✓ What is regular expression
- ✓ Pattern matching in Php
- ✓ Replacing text
- ✓ Splitting a string with a Regular Expression

10. Generating Images with PHP

- ✓ Basics of computer Graphics
- ✓ Creating Image
- ✓ Manipulating Image
- ✓ Using text in Image

11. Advance PHP

- ✓ Introduction to OOPS
- ✓ Introduction
- ✓ Objects
- ✓ Declaring a class
- ✓ The new keyword and constructor
- ✓ Destructor
- ✓ Access method and properties using $this variable
- ✓ Public ,private, protected properties and methods
- ✓ Static properties and method
- ✓ Class constant

12. Inheritance

- ✓ Inheritance & code reusability
- ✓ Polymorphism
- ✓ Parent:: & self:: keyword
- ✓ Instanceof operator
- ✓ Abstract method and class
- ✓ Interface
- ✓ Final

13. Exception Handling

- ✓ Understanding Exception and error
- ✓ Try, catch, throw

14. Database Connectivity with MySql

- ✓ Introduction to RDBMS
- ✓ Connection with MySql Database
- ✓ Performing basic database operation(DML) (Insert, Delete, Update, Select)
- ✓ Setting query parameter
- ✓ Executing query
- ✓ Join (Cross joins, Inner joins, Outer Joins, Self joins.)

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

Bharath
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CERTIFICATE COURSE ON ADVANCED PHP

Date of Introduction of the Course:11.07.2021

The timings are 1:30 PM to 4:30 PM

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	11-07-2021	• Evaluation of Php • Basic Syntax • Defining variable and constant • Php Data type • Operator and Expression
3,4	15-07-2021	• Capturing Form Data • Dealing with Multi-value filed • Generating File uploaded form
5,6	16-07-2021	• Redirecting a form after submission • Making Decisions • Doing Repetitive task with looping • Mixing Decisions and looping with Html
7,8	22-07-2021	• What is a function • Define a function • Call by value and Call by reference • Recursive function
9,10, 11,12	23-07-2021	• Creating and accessing String • Searching & Replacing String • Formatting String • String Related Library function

13,14	**29-07-2021**	• Anatomy of an Array • Creating index based and Associative array • Accessing array Element
15,16, 17,18	**30-07-2021**	• Looping with Index based array • Looping with associative array using each() and foreach() • Some useful Library function • Understanding file& directory • Opening and closing a file • Coping ,renaming and deleting a file • Working with directories
19,20	**05-08-2021**	• Building a text editor • File Uploading & Downloading • Mini Project (With file Handling) • Using query string(URL rewriting) • Using Hidden field • Using cookies • Using session
21,22, 23,24	**06-08-2021**	• What is regular expression • Pattern matching in Php • Replacing text • Splitting a string with a Regular Expression
25,26	**12-08-2021**	• Basics of computer Graphics • Creating Image • Manipulating Image • Using text in Image
27,28, 29,30	**13-08-2021**	• Introduction to OOPS • Introduction • Objects • Declaring a class • The new keyword and constructor • Destructor • Access method and properties using $this variable • Public ,private, protected properties and methods

		• Static properties and method • Class constant
31,32	**19-08-2021**	• Inheritance & code reusability • Polymorphism • Parent:: & self:: keyword • Instanceof operator • Abstract method and class • Interface • Final
33,34, **35,36**	**20-08-2021**	• Understanding Exception and error • Try, catch, throw • Introduction to RDBMS • Connection with MySql Database • Performing basic database operation(DML) (Insert, Delete, Update, Select) • Setting query parameter
37,38	**26-08-2021**	• Executing query • Join (Cross joins, Inner joins, Outer Joins, Self joins.)

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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CERTIFICATE COURSE ON ADVANCED PHP

Date of Course Introduction 11/07/2021

School Of Computing

Registered Students List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS055	GOTTIPATI KARTHIK
2	U14CS702	S.KUMARAN
3	U14CS709	RAGUL TIGER
4	U14CS220	KARTHIKEYAN SURESH
5	U14CS231	GYANA PRASANNA
6	U14CS235	SATHISH RAJ
7	U14CS107	MUGUNTHANATHAN.G
8	U14CS108	MURALI .S
9	U14CS109	N.UMA VENKATA MAHESHWARA SWAMY
10	U14CS110	NAGA TEJA.K
11	U14CS148	RAMYA.B
12	U14CS177	K.SIVA SUBRAMANIAN
13	U14CS222	M.GANESH RAJAN
14	U14CS225	ARJHUN KUMAR.K
15	U14CS229	INDHU GOPALAKRISHNAN
16	U14CS703	VASANTHAN.N
17	U14CS705	SHABEEK ABUTHAHIR.S
18	U14CS710	SHOPMINISTER
19	U14CS163	SASHAANK.S
20	U14CS164	SAURAV KUMAR
21	U14CS165	SAURAV SINGH
22	U14CS224	R.SINDHU
23	U14CS228	ELACATI JAGANNADHA HARSHITHA
24	U14CS230	MARAM REDDY RAJASEKHAR
25	U14CS234	DANDU MOHAN RAJENDRA VARMA
26	U14CS706	RAFTEN WANCHU
27	U14CS707	ARNISHA DAS
28	U14CS708	SUSMITA MOG
29	U14CS226	SARAVANAN.B
30	U14CS227	I.SUKAPATLA AVINASH
31	U14CS237	CHARAN KUMAR
32	U14CS701	BALAJI
33	U14CS232	B.BALAKUMARAN
34	U14CS233	P.UPENDRA VARMA
35	U14CS236	M.RAVISANKAR
36	U14CS223	ARUN

Course Coordinator

HOD

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

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This is Presented to

MR. SATHISH RAJ

For actively participating in value added course on "***Advanced PHP***" conducted by School Computing , BIHER from 11/07/2021 to. 26/08/2021

Coordinator **HOD** **DIRECTOR**

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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CERTIFICATE COURSE ON ADVANCED PHP

Date of Course Introduction 11/07/2021

School of Computing

COURSE CO ORDINATOR

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2021-22					
Term		-					
Course Number		-					
Course Title		Advanced PHP					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	✓

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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Chennai-600 073. INDIA

COURSE FEEDBACK FORM

Academic Year		2021 – 2022					
Term							
Course Number							
Course Title		Advanced PHP					
Number of Credits							
Type of Course	Regular		Elective		Add-on		

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	√	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	√	6-8		8-10	

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	yes
(iii)	Had to pickup relevant additional topics through concurrent study	yes
(iv)	Have no exposure to the background material	yes

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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Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai - T.N - 600 073.

Requisition Letter

From
Dr. K.P Kaliyamurthie
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

Date: 21.01.2021

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir,

Subject : Request of Permission to conduct a value added course on "**Network Forensics**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Network Forensics**" in our campus premises from 08.08.2021 for 30 hours

Ourinternal Professorswould deliver lecture for the above mentioned course. About60 students would be participating in this course. We request you kindly to give permission to organize this.

Venue: **CSEClass room**

Timing : 1:30 PM to 4:30 PM

9.00 PM to 4.00 PM

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

HEAD OF DEPARTMENT
Dep... of Computer Sci...
Bha... ...tute of Higher Educa...
(De... ...emed to be University u/s 3 of UGC Act 1956)
Chennai-600 073, INDIA

Bharath
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CIRCULAR

05.08.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Network Forensics**for the benefit of IV year students. This course is scheduled from 08.08.2021 for 30 hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM

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.C.Nalini	Professor
2	Dr. G. Michael	Professor

Head of Department

To

Copy to CSE

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HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
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CERTIFICATE COURSE ON NETWORK FORENSICS

Date of Introduction of the Course: 08.08.2021

COURSE OBJECTIVE

Teaches the basics of how computers and networks function, how they can be involved in crimes as well as used as a source of evidence.

WHAT TO EXPECT

Although many concepts of network forensics are similar to those of any other digital forensic investigation, the network in of itself presents many nuances that require special attention. This course will teach digital forensics and incident response to network-based evidence. This course will also acclimate the student to the basic tools and techniques of the trade.

COURSE SYLLABUS

Introduction: Investigative Process, Analysis Methodologies, Tools and Techniques, File Systems

Networking overview: Windows Networks, Users and Groups, Introduction to Network investigations

Windows and Linux servers: Server roles, Server analysis, Windows Registry, Event logs

IIS and Microsoft Exchange server: IIS server, Mailserver, Windows rootkits, Compromised server analysis

SQL server and Data bases: Microsoft SQL server, SQL server permission and encryption,

SQL server Forensics Acquisition and analysis: SQL server forensics and traditional windows forensics, SQL server artifacts, Resident and non-resident artifact's Collecting SQL data bases, Creating an analysis database, Importing evidence, Activity Reconstruction, Data recovery, SQL server rootkits

Linux Forensics: Linux File systems, Linux server configurations, Linux artifacts, Apache server forensics, LAMP forensics, SMB and Linux file shares

Network Traffic Analysis: Network addressing, DNS poisoning, ARP table analysis, DHCP analysis, Wireshack analysis

Network Device Forensics: management of switches and routers, Diagramming physical networks, Securing and isolating physical devices, Collecting Volatile/Non-volatile evidences from the routers, Volatile/Non-volatile.

COURSE COORDINATOR

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CERTIFICATE COURSE ON NETWORK FORENSICS

Date of Introduction of the Course:08.08.2021
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	12.08.2021	**Introduction:** Investigative Process, Analysis Methodologies, Tools and Techniques, File Systems**Networking overview:** Windows Networks, Users and Groups, Introduction to Network investigations
3,4, 5,6, 7,8, 9,10, 11,12, 13,14, 15,16,17	13.08.2021 19.08.2021 20.08.2021	**Windows and Linux servers:** Server roles, Server analysis, Windows Registry, Event logs **IIS and Microsoft Exchange server:** IIS server, Mailserver, Windows rootkits, Compromised serveranalysis **SQL server and Data bases:** Microsoft SQL server, SQL server permission and encryption, **SQL server Forensics Acquisition and analysis**: SQL server forensics and traditional windows forensics, SQL server artifacts, Resident and non-resident artifact's Collecting SQL data bases, Creating ananalysis database, Importing evidence, Activity Reconstruction, Data recovery, SQL server rootkits
18, 19,20, 21,22,	26.08.2021 27.08.2021	**Linux Forensics:** Linux File systems, Linux server configurations, Linux artifacts, Apache server forensics, LAMP forensics, SMB and Linux file shares Network Traffic Analysis: Network addressing, DNS poisoning, ARP table analysis, DHCP analysis,Wireshack analysis
23,24, 25,26, 27,28, 29,30	02.09.2021 03.09.2021	**Network Device Forensics:** management of switches and routers, Diagramming physical networks,Securing and isolating physical devices, Collecting Volatile/Non-volatile evidences from the routers,Volatile/Non-volatile

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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CERTIFICATE COURSE ON NETWORK FORENSICS
Date of Introduction of the Course: 08.08.2021

School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS003	ABDUL RAHIM.M
2	U14CS004	ABDUL RAZVI .M.K
3	U14CS005	ABDUR RASEED
4	U14CS006	ABHIKAMALI .A
5	U14CS007	ABHISHEK MANDURI
6	U14CS008	AJAY.D
7	U14CS009	AKASH CHANDRA AMBASTHA
8	U14CS010	AKHIL REDDY.G
9	U14CS014	ANGELIN .R
10	U14CS015	ANKITA
11	U14CS016	ANNILKRISHNAN .K
12	U14CS017	ASHUTOSH SRIVASTAVA
13	U14CS107	MUGUNTHANATHAN.G
14	U14CS108	MURALI .S
15	U14CS109	N.UMA VENKATA MAHESHWARA SWAMY
16	U14CS110	NAGA TEJA.K
17	U14CS148	RAMYA.B
18	U14CS177	K.SIVA SUBRAMANIAN
19	U14CS094	MANISH SHARMA
20	U14CS096	MD. ARSHAD
21	U14CS097	MEDARAMETLA BRAHMA RAO
22	U14CS098	MEDIGA UDAYA KUMAR
23	U14CS099	MEKA VIVEK REDDY
24	U14CS113	NALLAJARLA CHAKRADHAR
25	U14CS114	NANDALA SWETHA
26	U14CS115	NANDIPALLI MOUNICA
27	U14CS116	NAYANA.P. BALA CHANDRAN
28	U14CS117	NEERAJAN SAHA
29	U14CS128	PENAGALAPATI MARUTHI RAO
30	U14CS129	PIYALI CHAKRABORTHY.M
31	U14CS130	POOJA KUMARI

32	U14CS131	PRAGYA ADITI
33	U14CS132	PRASHANTH.B
34	U14CS133	PRATEEP ANAND
35	U14CS134	PRINCE RAJ
36	U14CS160	SANDEEP INGUVA
37	U14CS161	SANJAY KUMAR YADAV
38	U14CS162	SANTHOSH KUMAR.N
39	U14CS163	SASHAANK.S
40	U14CS164	SAURAV KUMAR
41	U14CS165	SAURAV SINGH
42	U14CS224	R.SINDHU
43	U14CS169	SHAIK YASMIN
44	U14CS170	SHANKAR KUMAR GUPTA
45	U14CS171	SHARSHI KANT PRASAD
46	U14CS172	SHASHI BHUSHAN BHAGAT
47	U14CS183	SULEKHA KUMARI
48	U14CS184	SUNITA.S
49	U14CS185	SURENDAR.K
50	U14CS186	SURIYA.A.
51	U14CS187	SURYA.A
52	U14CS196	TUMU SRINIKHIL
53	U14CS197	TWINKLE
54	U14CS198	VADLAMUDI KOWSHIK
55	U14CS199	VAMMARVALLI RAJA
56	U14CS200	VARSHITH REDDY.T
57	U14CS201	VASI KARTHIK

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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Certificate of Participation

Ms . RAMYA.B

For actively participating in value added course on

"***NETWORK FORENSICS*** " conducted by School Computing , BIHER from 08/08/2021 to 03/09/2021

Coordinator **HOD** **DIRECTOR**

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
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CERTIFICATE COURSE ON NETWORK FORENSICS

Date of Introduction of the Course: 08.08.2021

School of Computing

COURSE CO ORDINATOR

HEAD OF THE DEPARTMENT

COURSE FEEDBACK FORM

Academic Year		2021 – 2022					
Term							
Course Number							
Course Title		Network Forensics					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8		8-10	

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	yes
(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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Department of Computer Sci... & Engg.,
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Chennai-600 073, INDIA

COURSE FEEDBACK FORM

Academic Year		2021 - 2022					
Term							
Course Number							
Course Title		Network Forensics					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80		80-100	
					✓				

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8	✓	8-10	

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	yes
(iii)	Had to pickup relevant additional topics through concurrent study	yes
(iv)	Have no exposure to the background material	yes

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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Department of Computer Sci... & Engg..
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NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 0**5.08.2021**

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value-added course on "**C#Programming**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course "**C#Programming**" -Reg in our campus premises on **08.08.2021**, students would be participating in this course. We request you kindly to give permission to organize this event.
Venue: **CSE Smart Room**

Timing: 2:00 PM to 4:00 PM .

Submitted to Principal for approval to organize this value-added course.

HOD

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Department of Computer Sci & Engg.,
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DEAN ENGINEERING

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CIRCULAR

05.08.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **C# Programming** for the benefit of II, III and IV year students. This course is scheduled from 08.08.2021 for 20hours which includes theory and practical. The timings are 2:00 PM to 4:00 PM

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	R.MuthuVenkataKrishnan	Assistant Professor
2	S.Sangeetha	AssistantProfessor

Head of Department

To

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Department of Computer Sci & Engg.,
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CERTIFICATE COURSE ON C# PROGRAMMING

Date of Introduction of the Course: 08.08.2021

COURSE SYLLABUS

01. Introducing C#

Introducing C#, Understanding .NET, overview of C#, Literals, Variables, Data Types.

02. Operators

Operators, checked and unchecked operators, Expressions, Branching, Looping, Methods, implicit and explicit casting.

03. Array in C#

Constant, Arrays, Array Class, Array List, String, String Builder, Structure, Enumerations, boxing and unboxing.

04. Class and Objects in C#

Class, Objects, Constructors and its types, inheritance, properties, indexers, index overloading.

05. Polymorphism using C#.

Polymorphism, sealed class and methods, interface, abstract class, abstract and interface, operator overloading.

06. String Manipulator.

Strings and Regular Expressions – Generics – Collections – Memory Management.

07. Pointers in C#.

Pointers – Errors and Exceptions – Reflection.

08. C# in Advanced Features.

Delegates – Lambdas – Lambda Expressions – Events – Event Publisher – Event Listener – Generics.

09. Window based Applications.

Window based applications – Core ASP.NET- ASP.NET Web forms -Windows Communication Foundation (WCF).

10. Web Services.

Web Services -Windows Service – Windows Workflow Foundation (WWF) – Activities – Workflows.

COURSE OBJECTIVES

In this course we plan to give students an overviewof the field of C# Programming, and an in-depth study into its enabling technologies and main building blocks. Students will gain hands-on experience solving relevant problems through projects that will utilize existing public cloud tools. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1) Develop deep understanding of C# language features.
2) Build strong concepts of OOP's and implement the same in C#.
3) Create and manage strings, arrays, collections and enumerators using .NET framework library.
4) Perform file input and output operations - read and write data streams, serialize and de-serialize an object graph.
5) Build on applications using N-Tier architecture having Data, DAO and Business classes.

COURSE COORDINATOR

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CERTIFICATE COURSE ON C# PROGRAMMING

Date of Introduction of the Course: 08.08.2021

The timings are 2.00 PM to 4: PM

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	08-08-2021(AN)	**01. Introducing C#** Introducing C#, Understanding .NET, overview of C#, Literals, Variables, Data Types.
3,4	03-08-2021(AN)	**02. Operators** Operators, checked and unchecked operators, Expressions, Branching, Looping, Methods, implicit and explicit casting.
5,6	17-08-2021(AN)	**03. Array in C#** Constant, Arrays, Array Class, Array List, String, String Builder, Structure, Enumerations, boxing and unboxing.
7,8	22-08-2021 (AN)	**04. Class and Objects in C#** Class, Objects, Constructors and its types, inheritance, properties, indexers, index overloading.
9,10	24-08-2021 (AN)	**05. Polymorphism using C#.** Polymorphism, sealed class and methods, interface, abstract class, abstract and interface, operator overloading.
11,12	29-08-2021 (AN)	**06. String Manipulator.** Strings and Regular Expressions – Generics – Collections – Memory Management.
13,14	31-08-2021 (AN)	**07. Pointers in C#.** Pointers – Errors and Exceptions – Reflection.
15,16	08-09-2021 (AN)	**08. C# in Advanced Features.** Delegates – Lambdas – Lambda Expressions – Events – Event Publisher – Event Listener – Generics.

17,18	**12-09-2021 (AN)**	**09. Window based Applications.** Window based applications – Core ASP.NET-ASP.NET Web forms -Windows Communication Foundation (WCF).
19,20	**14-09-2021 (AN)**	**10. Web Services.** Web Services -Windows Service – Windows Workflow Foundation (WWF) – Activities – Workflows.

COURSE COORDINATOR

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CERTIFICATE COURSE ON C# PROGRAMMING
Date of Introduction of the Course: 08.08.2021

School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT	
1	U16CS001	SANTOSH B	
2	U16CS002	APARNA V M	
3	U16CS003	NALAMOTHU SRIKANTH	
4	U16CS004	ABDUL KHADIR L	
5	U16CS006	SARAVANAN R	
6	U16CS007	SANAM NAGA VENKATA SAI KRISHNA	
7	U16CS008	CHEEMIREDDIGARI ANKITHAREDDY	
8	U16CS009	RITIK RAJ	
9	U16CS010	JOHAN KIRUBHAHAR P P	
10	U16CS011	RAVURI MOUNIKA	
11	U16CS012	FAYAZ AKIL S	
12	U16CS013	SURYA SUNDARRAJ SRIRAM	
13	U16CS014	SOMA BHARATH KUMAR	
14	U16CS015	B J JAISON	
15	U16CS016	SARAVANAKUMAR S	
16	U16CS017	VARUN KANNA A	
17	U16CS018	JUPAKA SAIVARUN	
18	U16CS019	PYDI VENKATA PRITHEESH NIHAR	
19	U16CS020	R MAHESH	
20	U16CS021	DHRUBAJYOTI MAJI	
21	U16CS024	SRIMATHI S	
22	U16CS025	SANTHOSHKUMAR S	
23	U16CS026	AJAY KUMAR R	
24	U16CS027	GARLAPATI RAGHURAM	
25	U16CS028	PADILAM JAYANTH YADAV	

26	U16CS029	MOHAMMED KHIZER HUSSAIN N	
27	U16CS030	JEEVAMEDHA M	
28	U16CS031	SYED HAFEEZ HUSSAIN	
27	U16CS030	JEEVAMEDHA M	
28	U16CS031	SYED HAFEEZ HUSSAIN	
29	U16CS032	MUGESH P	
30	U16CS033	POOJALAKSHMI N	
31	U16CS034	GUNDU NIKITHA REDDY	
34	U16CS035	RESHMA R	
32	U13CS035	RESHMA R	
33	U16CS036	LAKSHMI NARAYANAN A	
34	U16CS037	PALLE NAZEER VALI	
35	U16CS038	GOLUSULA SAI KUMAR	
36	U16CS039	PATTAN FEROZ KHAN	
37	U16CS040	MOHAMMAD AHAMAD ALIKHAN	
38	U16CS041	LAAVANYA G A	
39	U16CS042	MD NOORUL ISLAM	
40	U16CS043	RAVI KUMAR	
41	U16CS044	ADARSH BARANWAL	
42	U16CS045	RAHUL TIWARI	

COURSE COORDINAT

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2021-22					
Term							
Course Number							
Course Title		C# Programming					
Number of Credits		—					
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8		8-10	✓

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	

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	

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2021-22					
Term							
Course Number		—					
Course Title		C # Programming					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8		8-10	✓

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	yo
(d)	Better Employment Opportunity	yo
(e)	Complete Course requirements	yo
(f)	To Improve CGPA	yo

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	

HEAD OF THE DEPARTMENT

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

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

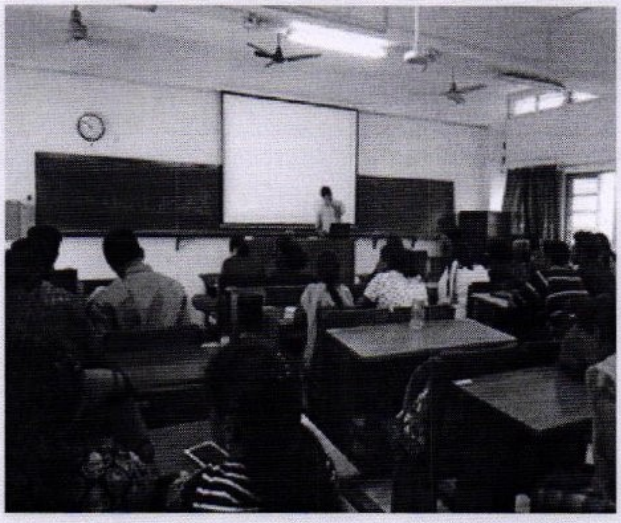
RESHMA .R

For actively participating in the value added course **"C# PROGRAMMING"**
Conducted by School of Computing, BIHER from 08.08.2021 to 14.09.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR



Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 05.09.2021

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Cyber Security Professional**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Cyber Security Professional**" in our campus premises on **12/09/2021**.

42 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

Elakkiya

09.09.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on**CYBER SECURITY PROFESSIONAL**for the benefit of II, III and IV year students. This course is scheduled from 12.09.2021 for 30hours which includes theory and practical. The timings are 3:00 PM to 5:00 PM

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	C.Rajabhushanam	Assistant Professor
2	E.Fathima	Assistant Professor

Head of Department

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

To

Copy to CSE

Copy to IT

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON CYBER SECURITY PROFESSIONAL

Date of Introduction of the Course:12.09.2021

COURSE SYLLABUS

1. INTRODUCTION TO CYBER CRIME

Introduction, Forgery, Hacking, Software Piracy, Computer Network intrusion - Category ofCybercrime – Cybercrime Mobile & Wireless devices - Tools and Methods used in Cybercrime -Phishing & Identity Theft.

2. CYBER LAW

Power of Arrest without Warrant under the IT act, 2000: A Critique - Cyber Crime and CriminalJustice: Penalties, Adjudication and Appeals – Jurisdiction in the cyber world – Battling CyberSquatters and Copyright Protection.

3. E – COMMERCE PROTECTION

E-Commerce taxation – Digital signatures, certifyingauthorities and E-Governance – Indian Evidence Act – Protection of Cyber Consumers in India.

4. CYBER AND INFORMATION SECURITY POLICY

Cyber governance issues – Cyber user issues – Cyber conflict issues – Cyber management issues – Cyber infrastructures issues.

5.POLICIES AND MANAGEMENT PROCESS

Introduction - Corporate policies - Tier 1, Tier 2 andTier3 policies - process management - planning and preparation - developing policies – assetclassification policy - developing standards.

6. SECURING CYBERSPACE

The private sector role in securing cyberspace - National governments and their role in securingcyberspace - International law's role in securing cyberspace .

7.CYBER WAR

Privacy, surveillance and the lawCyber War and Strategy - Authentication and Identity - Current legislative and policy initiatives.

8. ORGANIZATIONAL AND HUMAN SECURITY

Organizational and Human Security: Adoption of Information Security Management Standards,Human Factors in Security - Role of information security profession.

9. INFORMATION SECURITY CONCEPTS

Information Security Overview - Information Security Services - Types of Attacks - Goals for Security - E-commerce Security - Computer Forensics – Steganography - Security Engineering.

10.SECURITY THREATS AND VULNERABILITIES

Overview of Security threats - Hacking Techniques - Password Cracking – Insecure - Network connections - Malicious Code - Programming Bugs - Cyber crime and Cyberterrorism - Information Warfare and Surveillance.

11. CRYPTOGRAPHY

Introduction to Cryptography - Symmetric key Cryptography - Asymmetric key – Cryptography - Message Authentication and Hash functions - Digital Signatures - Public Key infrastructure - Diffe-Hellman key exchange proptocol - Applications of Cryptography.

12. SECURITY MANAGEMENT PRACTICES

Overview of Security Management - Information Classification Process - Security Policy - Risk Management - Security Procedures and Guidelines - Business Continuity and Disaster Recovery.

13.SECURITY LAWS AND STANDARDS

Security Assurance - Security Laws - International Standards - Security Audit - OCTAVE approach - SSE-CMM.

14.SERVER MANAGEMENT AND CYBER SECURITY FIREWALLS

User Management - DNS Routing and Load Balancing - Overview of Firewalls- Types of Firewalls - DMZ and firewall features.

15.SECURITY FOR VPN AND NEXT GENERATION NETWORKS

VPN Security - Security in Multimedia Networks - Fax Security - Link Encryption-Devices.

COURSE OBJECTIVES:

- Upon completion of this course, the students will be able to
- Explain the basic information on cybercrime.
- Describe cyber laws for various crime activities.
- Identify the security policies for cyber issues.
- Analyze the role of organization for securing cyberspace.
- Explain the need for security in organizations.

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON CYBER SECURITY PROFESSIONAL

Date of Introduction of the Course:12.09.2021

The timings are 3 PM to 5 PM

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	12.09.2021	**1. INTRODUCTION TO CYBER CRIME** Introduction, Forgery, Hacking, Software Piracy, Computer Network intrusion - Category ofCybercrime – Cybercrime Mobile & Wireless devices - Tools and Methods used in Cybercrime -Phishing & Identity Theft.
3,4	16-09-2021(AN)	**2. CYBER LAW** Power of Arrest without Warrant under the IT act, 2000: A Critique - Cyber Crime and CriminalJustice: Penalties, Adjudication and Appeals – Jurisdiction in the cyber world – Battling CyberSquatters and Copyright Protection.
5,6	17-09-2021(FN)	**3. E – COMMERCE PROTECTION** E-Commerce taxation – Digital signatures, certifyingauthorities and E-Governance – Indian Evidence Act – Protection of Cyber Consumers in India.
7,8	17-09-2021(AN)	**4. CYBER AND INFORMATION SECURITY POLICY** Cyber governance issues – Cyber user issues – Cyber conflict issues – Cyber managementissues – Cyber infrastructures issues.

9,10	**23-09-2021(AN)**	**5.POLICIES AND MANAGEMENT PROCESS** Introduction - Corporate policies - Tier 1, Tier 2 andTier3 policies - process management - planning and preparation - developing policies – assetclassification policy - developing standards.
11,12	**24-06-2021(FN)**	**6. SECURING CYBERSPACE** The private sector role in securing cyberspace - National governments and their role in securingcyberspace - International law's role in securing cyberspace .
13,14	**24-09-2021(AN)**	**7.CYBER WAR** Privacy, surveillance and the lawCyber War and Strategy - Authentication and Identity - Current legislative and policy initiatives.
15,16	**30-09-2021(AN)**	**8. ORGANIZATIONAL AND HUMAN SECURITY** Organizational and Human Security: Adoption of Information Security Management Standards,Human Factors in Security - Role of information security profession.
17,18	**01-10-2021(FN)**	**9. INFORMATION SECURITY CONCEPTS** Information Security Overview - Information Security Services - Types of Attacks - Goals for Security - E-commerce Security - Computer Forensics – Steganography - Security Engineering.
19,20	**01-10-2021(AN)**	**10.SECURITY THREATS AND VULNERABILITIES** Overview of Security threats - Hacking Techniques - Password Cracking – Insecure - Network connections - Malicious Code - Programming Bugs - Cyber crime and Cyberterrorism - Information Warfare and Surveillance.
21,22	**07-10-2021(AN)**	**11. CRYPTOGRAPHY** Introduction to Cryptography - Symmetric key Cryptography - Asymmetric key – Cryptography - Message Authentication and Hash functions - Digital

		Signatures - Public Key infrastructure - Diffe-Hellman key exchange proptocol - Applications of Cryptography.
23,24	**08-10-2021(FN)**	**12. SECURITY MANAGEMENT PRACTICES** Overview of Security Management - Information Classification Process - Security Policy - Risk Management - Security Procedures and Guidelines - Business Continuity and Disaster Recovery.
25,26	**08-10-2021(AN)**	**13.SECURITY LAWS AND STANDARDS** Security Assurance - Security Laws - International Standards - Security Audit - OCTAVE approach - SSE-CMM
27,28	**14-10-2021(AN)**	**14.SERVER MANAGEMENT AND CYBER SECURITY FIREWALLS** User Management - DNS Routing and Load Balancing - Overview of Firewalls - Types of Firewalls - DMZ and firewall features.
29,30	**15-10-2021(FN)**	**15.SECURITY FOR VPN AND NEXT GENERATION NETWORKS** VPN Security - Security in Multimedia Networks - Fax Security - Link Encryption - Devices.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE COURSE ON CYBER SECURITY PROFESSIONAI

Date of Introduction of the Course: 12.09.2021

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS033	BOORAGADDA VAMSI KRISHNA
2	U14CS035	BYSANI VENKAT SANDEEP
3	U14CS089	MADIYAL ANJAY
4	U14CS090	MAL REDDY GANESH REDDY
5	U14CS092	MANDELA SAIKIRAN
6	U14CS151	RAVIPATI SUBBARAYUDU
7	U14CS153	RONU SHARMA
8	U14CS155	TAMMINANA SAGAR
9	U14CS157	SAJJA. SURENDRA PRASAD
10	U14CS166	SHAFAN HASIM.N
11	U14CS170	SHANKAR KUMAR GUPTA
12	U14CS178	SK MD TAUQEER
13	U14CS181	SOURABH PRIYADARSHI
14	U14CS185	SURENDAR.K
15	U14CS199	VAMMARVALLI RAJA
16	U14CS207	VIVEK KUMAR
17	U14CS210	YELLALA SANTHOSH REDDY
18	U14CS217	CHILLIMUNTA VENKATESH
19	U15CS144	OMPRAKASH YADAV
20	U15CS147	PALEPU SIVA MANIKANTA CHARI
21	U15CS148	PARTHIBAN S
22	U15CS710	JAYANTHI..S
23	U15CS502	DANIEL BRITTO
24	U15CS194	SHAIK SABIR
25	U15CS196	SHARYARAI.S
26	U15CS197	SHATRUGHAN SUHAN.S
27	U15CS199	SIRI GIRI HAREESH
28	U15CS201	SMITHA C.S
29	U15CS255	ADITYA
30	U15CS701	PRAVEEN RAJ.V
31	U15CS702	GOWTHAMAN.S
32	U16CS025	SANTHOSHKUMAR S
33	U16CS099	GANGUMALLA GANGA SUNIL
34	U16CS101	NITHISHVAR S

35	U16CS109	CHITTALA HARIKA
36	U16CS147	PREM KUMAR MISHRA
37	U16CS152	NALLAPU RAJESH
38	U16CS162	YEMIREDDY SRINIVASA REDDY
39	U16CS169	RAVILLA HARSHITHA
40	U16CS192	GANTLA VASU
41	U16CS197	PRAVEENRAJ R M
42	U16CS210	TANIRU SATISH

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci... & 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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INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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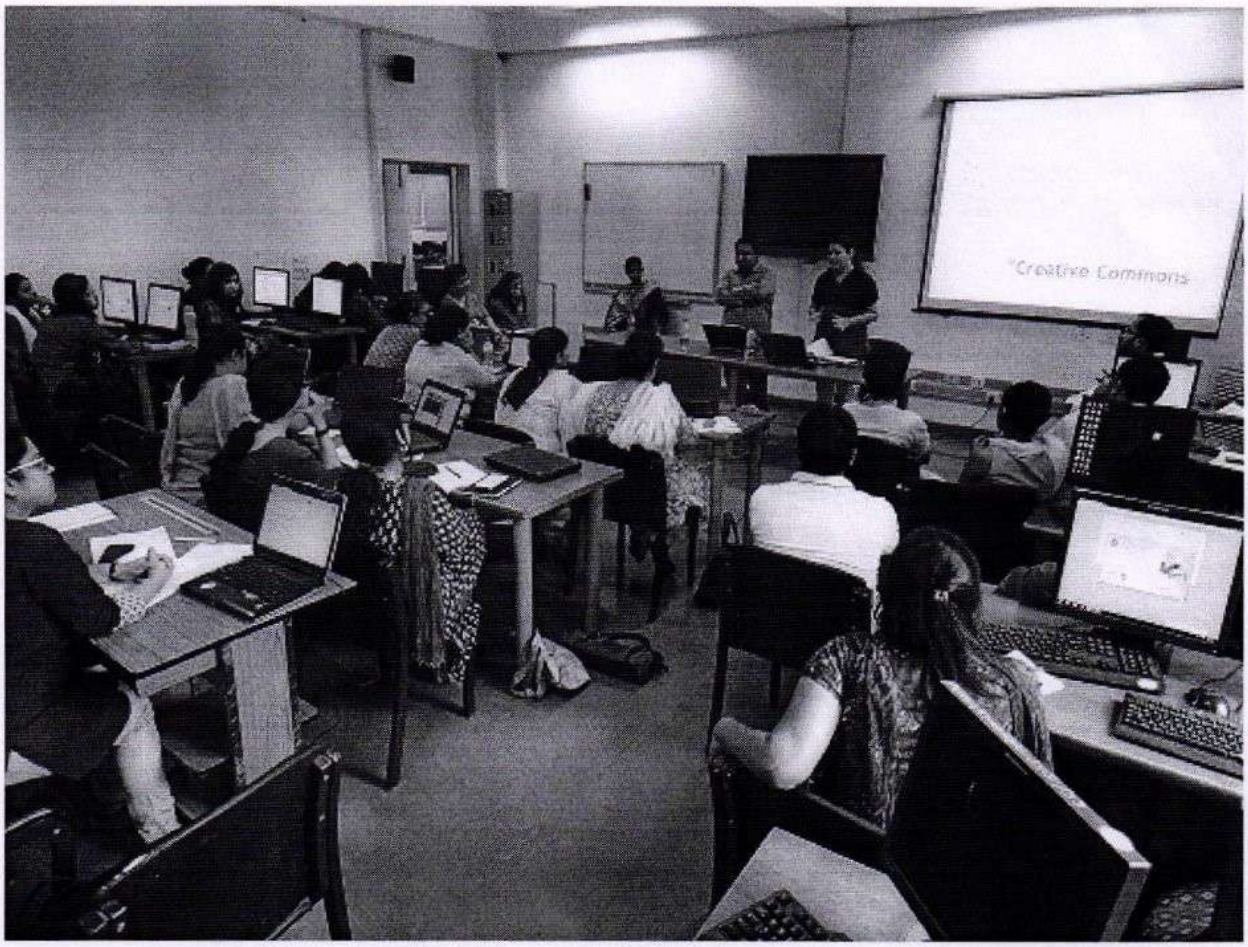
CERTIFICATE COURSE ON CYBER SECURITY PROFESSIONAL



COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

RONU SHARMA (REG NO:U14CS153)

For actively participating in the value added course "CYBER SECURITY PROFESSIONAL" Conducted by School of Computing, BIHER from 12.09.2021 to 15.10.2021

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021 -2022					
Term		Odd Sem					
Course Number							
Course Title		Cyber Security Professional					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60	✓	60-80		80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8		8-10	

3. **Preparation for the course by the student:**

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

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	

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	

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		odd Sem.					
Course Number							
Course Title		Cyber Security Professional					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60	✓	60-80		80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8		8-10	

3. **Preparation for the course by the student:**

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

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	

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Oracle Database 11g:Implement Database value Release 2**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Oracle Database 11g:Implement Database value Release 2**" in our campus premises on **12/09/2021**.

52 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

08.09.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Oracle Database 11g: Implement database Vault Release 2** for the benefit of II, III and IV year students. This course is scheduled from 12.09.2021 for 30 hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM

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. G.Michael	Professor
2	Dr.C.Rajabhushanam	Professor

Head of Department

HEAD OF DEPARTMENT
Department of Computer Sci... Engg.,
Bharath Institute of Higher Educa... esearch

To

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INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON ORACLE DATABASE 11G: IMPLEMENT DATABASE VAULT RELEASE 2

Date of Introduction of the Course: 12.09.2021

COURSE SYLLABUS

1. **Introduction.**

   Database Vault elements and functionality, Component relationships

2. **Overview of Database Vault**

   Database Vault example, Database Vault effects

3. **Database Administrator**

   Database Vault Administration (DVA) -Reporting and monitoring -Database Vault API -Managing Database Vault databases using Enterprise Manager

4. **Configuring Database Vault**

   Enabling Oracle Database Vault -Configuring an Oracle database for Database Vault - Database parameters altered during configuration -Logging into DVA

5. **Database Vault Account**

   Database roles-Database Vault accounts-Database Vault schemas

6. **Configuring Realms**

   Realms: Concepts-Creating and editing realms-Deleting realms-The realm algorithm-Examples of realms-Delivered realms-Realm views-Monitoring and reporting of realms

7. **Defining Rule Sets**

   Rule sets: Concepts-Creating and editing rule sets-Deleting rule sets-Reusing rules-Auditing rule sets

8. **Database Event Handlers**

   Custom event handlers-Using rule sets with realms-Rule set examples

9. **Configuring Command Rules**

   Command Rules: Concepts-Creating and editing command Rules-Delivered command rules-DBA_DV_COMMAND_RULE view-Command rule report-Command rule API

10. **Extending Rule Sets**

    Factors: Concepts-Factor scenarios-Creating and editing factors.

11. Managing factors

Identities: Concepts-Purpose of identities-Creating an identity-Managing identities

12. Configuring Secure Application Roles

Secure application roles: Concepts-Creating and editing secure application roles-Deleting secure application roles-Secure application roles: Examples-Managing secure application roles.

13. Viewing Database Vault Reports-1 and Viewing Database Vault Reports-2

Monitoring Database Vault - Configuration reports - Auditing reports - Security reports.

Object privilege reports-Accounts and roles reports-Privilege summary reports-System privileges reports

14. **Implementing Best Practices**

Identifying your security requirements-Suggested naming convention-Separation of duty best practices

15. **Identifying your security requirements**

Audit all violations-Connection pooling considerations-Enforcing connections from application server-Performance considerations.

COURSE OBJECTIVES

1. Identify the features and benefits of Oracle Database Vault
2. Install and Configure Oracle Database Vault Audit Database Vault activities
3. Configure Oracle Database Vault components (such as Realms, Identities, and Factors) to implement security
4. Use attributes such as time of day and IP address to determine users' privileges
5. Use the Database Vault administration browser interface
6. Use PL/SQL APIs to perform Database Vault functionality
7. Access Database Vault views to see security information
8. Incorporate best practices into database vault configuration

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON ORACLE DATABASE 11G: IMPLEMENT DATABASE VAULT RELEASE 2

Date of Introduction of the Course: 12.09.2021

The timings are 1:30 PM to 4:30 PM

Time Table & Lesson plan

CLASS	DATE	TOPIC
1, 2	12.09.2021 (AN)	1. **Introduction** - Database Vault elements and functionality , Component relationships
3, 4	16.09.2021 (AN)	2. **Overview of Database Vault** - Database Vault example ,Database Vault effects
5, 6	17.09.2021 (FN)	3. **Database Administrator** - Database Vault Administration (DVA) -Reporting and monitoring - Database Vault API -Managing Database Vault databases using Enterprise Manager
7, 8	17.09.2021 (AN)	4. **Configuring Database Vault** - Enabling Oracle Database Vault -Configuring an Oracle database for Database Vault -Database parameters altered during configuration -Logging into DVA
9, 10	23.09.2021 (AN)	5. **Database Vault Account** - Database roles-Database Vault accounts-Database Vault schemas
11, 12	24.09.2021 (FN)	6. **Configuring Realms** - Realms: Concepts-Creating and editing realms-Deleting realms-The realm algorithm-Examples of realms-Delivered realms-Realm views-Monitoring and reporting of realms
13, 14	24.09.21 (AN)	7. **Defining Rule Sets** - Rule sets: Concepts-Creating and editing rule sets-Deleting rule sets-Reusing rules-Auditing rule sets
15, 16	30.09.2021 (AN)	8. **Database Event Handlers** - Custom event handlers-Using rule sets with realms-Rule set examples

17, 18	**01.10.2021 (FN)**	**9. Configuring Command Rules -** Command Rules: Concepts-Creating and editing command Rules-Delivered command rules-DBA_DV_COMMAND_RULE view-Command rule report-Command rule API.
19, 20	**01.10.2021 (AN)**	**10. Extending Rule Sets -** Factors: Concepts-Factor scenarios-Creating and editing factors.
21, 22	**07.10.2021 (AN)**	**11. Managing factors -** Identities: Concepts-Purpose of identities-Creating an identity-Managing identities
23, 24	**08.10.2021 (FN)**	**12. Configuring Secure Application Roles -** Secure application roles: Concepts-Creating and editing secure application roles-Deleting secure application roles-Secure application roles: Examples-Managing secure application roles.
25, 26	**08.10.2021(AN)**	**13. Viewing Database Vault Reports-1 and Viewing Database Vault Reports-2 -** Monitoring Database Vault-Configuration reports-Auditing reports-Security reports. Object privilege reports-Accounts and roles reports-Privilege summary reports-System privileges reports
27, 28	**14.10.2021 (AN)**	**14. Implementing Best Practices -** Identifying your security requirements-Suggested naming convention-Separation of duty best practices.
29, 30	**15.10.2021 (FN)**	**15. Identifying your security requirements -** Audit all violations-Connection pooling considerations-Enforcing connections from an application server-Performance considerations

COURSE COORDINATOR

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HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073, INDIA

Certificate Cources on Oracle Database 11g: Implement Database Vault Release 2
Date of Introduction of the Course: 12.09.2021
School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS166	SHAFAN HASIM.N
2	U14CS167	SHAIK AATIKA
3	U14CS168	SHAIK MEERA SHARIF
4	U14CS169	SHAIK YASMIN
5	U14CS170	SHANKAR KUMAR GUPTA
6	U14CS171	SHARSHI KANT PRASAD
7	U14CS056	GOUTHAM KALYAN KUMAR .R
8	U14CS057	GOVIND KUMAR
9	U14CS058	HARI TEJA.G
10	U14CS059	HARISH.V
11	U14CS060	JASIMKHAN.J.
12	U14CS061	JENNIFER.S
13	U14CS062	JERIPOTHULA SURESH GOUD
14	U14CS063	JOHN DALTON .H
15	U14CS064	K. LAKSHMIKANTH REDDY
16	U14CS065	K. LAKSHMI NARAYANA REDDY
17	U14CS111	NAGINENI SRIKANTH CHOWDARY
18	U14CS112	NAGIREDDY MOHAN KRISHNA REDDY
19	U14CS113	NALLAJARLA CHAKRADHAR
20	U14CS114	NANDALA SWETHA
21	U14CS115	NANDIPALLI MOUNICA
22	U14CS223	ARUN
23	U14CS226	SARAVANAN.B
24	U14CS227	I.SUKAPATLA AVINASH
25	U14CS237	CHARAN KUMAR
26	U14CS701	BALAJI

27	U14CS232	B.BALAKUMARAN
28	U14CS233	P.UPENDRA VARMA
29	U14CS236	M.RAVISANKAR
30	U15CS001	ABHIJEET KUMAR
31	U15CS002	ABHIJIT KUMAR GUPTA
32	U15CS003	ABHISHEK KUMAR SINGH
33	U15CS004	ALLU SAI SIVA PRIYANKA NAIDU
34	U15CS005	AMBIKE KUMAR SINGH
35	U15CS006	ANBUMANI S
36	U15CS007	ANJAR ALI
37	U15CS008	ANKAM MANJUNATH
38	U15CS009	ANNADI DHANUSH
39	U15CS011	ANUMOLU YESWANTH
40	U15CS064	INJE RAVI TEJA
41	U15CS065	INNURU SWATHI
42	U15CS066	JAGADEESH K
43	U15CS067	JAGADEESWARA RAO JADDU
44	U15CS068	JAICHAND KUMAR
45	U15CS069	JANAKI RAMAN V
46	U15CS071	JOHN PARAM JYOTHI JYOTHULA
47	U15CS073	K THULASIRAM
48	U15CS074	KADALI VINAYNARASIMHA
49	U15CS075	KADUMU MOUNIKA
50	U15CS191	SEETAPTI HEMA SEKHAR
51	U15CS192	SESHA SRUJAN.B
52	U15CS193	SHAIK AFRIDI

COURSE COORDINATOR

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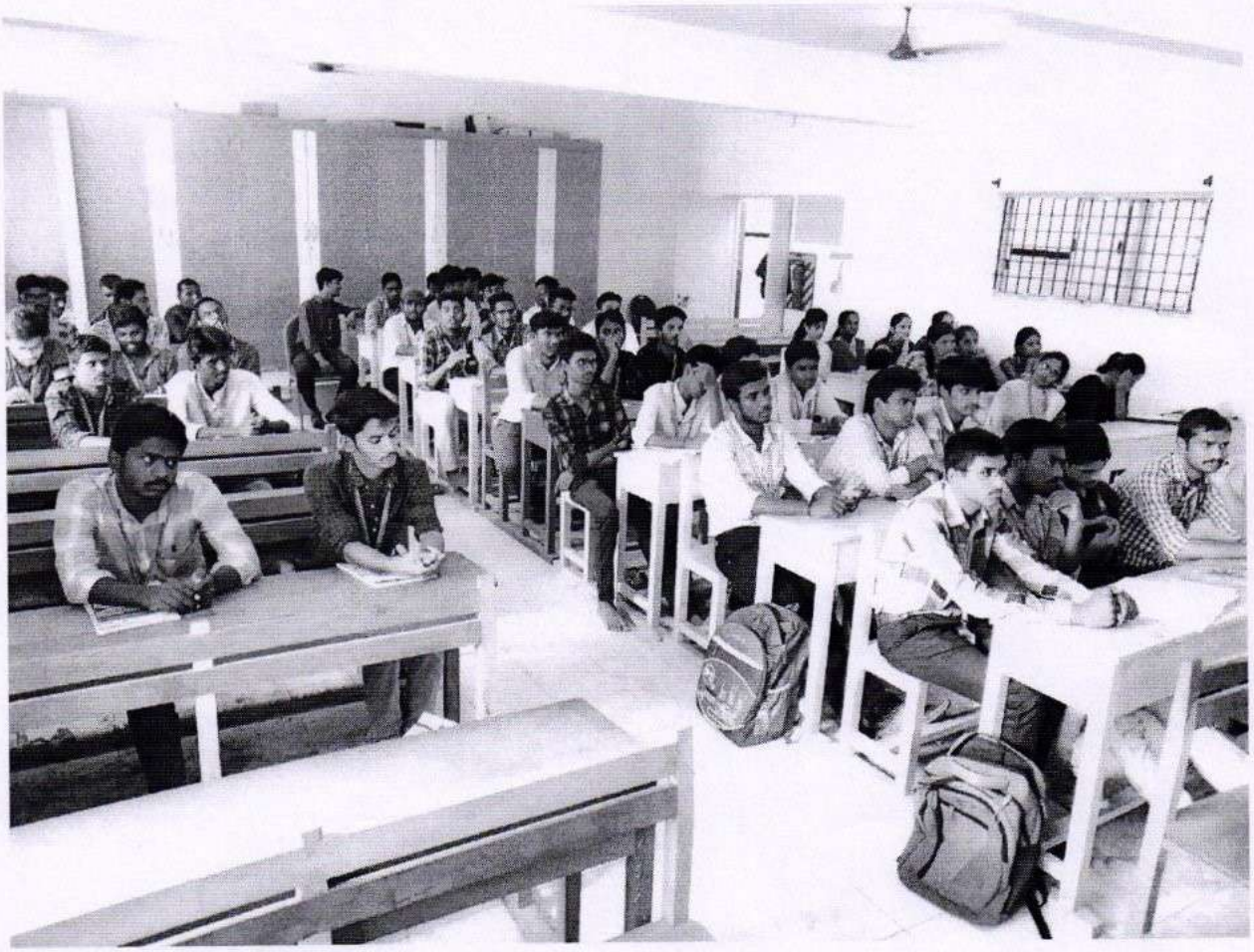
CERTIFICATE COURSE ON ORACLE DATABASE 11g:IMPLEMENT DATABASE VAULT REALEASE 2



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Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

ABDUL RAHIM.M

For actively participating in the value added course "Oracle Database 11g: Implement Database Vault Release 2

Conducted by School of Computing, BIHER from 12.09.2021 to 15.10.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021 - 2022					
Term		odd sem					
Course Number							
Course Title		Oracle Database 11g : Implement Database Value Release 2					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8		8-10	

3. **Preparation for the course by the student:**

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

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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Chennai-600 073. INDIA

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		Odd Sem					
Course Number							
Course Title		Oracle Database 11g - Implement Database Value Release 2					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8	✓	8-10	

3. **Preparation for the course by the student:**

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

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	

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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Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

Date: 05.09.2021

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Introduction to Python Data Types**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Introduction to Python Data Types**" in our campus premises on **12/09/2021**.

55 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
Bharath Institute of Higher Education & Research
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CIRCULAR

08.09.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on Introduction to Python Data Types for the benefit of II, III and IV year students. This course is scheduled from 12.09.2021 for 30hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM

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.C.Nalini	Professor
2	Dr.G.Michael	Professor

Head of Department

To

Copy to CSE

Copy to IT

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
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CERTIFICATE COURSE ON INTRODUCTION TOPYTHON DATATYPES

Date of Introduction of the Course: 12-09-2021

COURSE SYLLABUS

1. Introduction to Python Syllabus

An Introduction to The Python Programming Language. History of Python, Evolution Introduces Python's Basic Datatypes, Files, Functions, And Error Handling.

2. Beginning Python Basics

The Print Statement, Comments, Python Data Structures & Data Types, String operations in Python, Simple Input & Output, Simple Output Formatting, Operators in Python

3. Variables in Python- Global and Static Variables

Creating and Declaring Python Variable, Re-Declaring a Variable, Local variable, Global variable, Deleting a variable, Concatenating Variables, Constants

4. Python Program Flow

Indentation, The If statement and its' related statement, an example with it and its related statement, the while loop, the for loop, the range statement, Break & Continue, Assert Examples for looping

5. Functions and Modules

Create your own functions, Functions Parameters, Variable Arguments, Scope of a Function, Function Documentations, Lambda Functions& map, Exercise with functions Create a Module, Standard Modules.

6. Python Data types

Python Data Types: An Overview, Mutable Data Types, Immutable Data Types, Numbers, Strings, Lists, Tuples, Sets, Dictionaries.

7. Python Numerical

Categories of Number Data Type, Integers in Python, Long Integers, Octal and Hexadecimal in Python, Floating Point in Python, Complex Numbers in Python Number Type Conversion.

8. Strings in Python

Creating String in Python, Accessing Python String Characters, Updating and Deleting a String in Python, Python String Operators, Built-in Python String Methods and Python String Functions.

9. List in Python

Creating Lists in Python, Creating Multi-dimensional lists in Python, Python Lists Extension, Accessing Lists in Python.

10. Python List Comprehension

List Comprehension- Syntax, Condition, Expression, Nested Loop in List Comprehension.

11. Common List Operation in Python

Slicing Python Lists, Update or Add Elements in a Python List, Update or Add Elements in a Python, remove elements from list in python, remove duplicates from lists in python, Sorting Lists in Python, Reverse a List in Python.

12. Python Lists Functions and Methods

Predefined List Functions in List, Built-in Methods using List/Array.

13. Tuples in Python

Creating Tuple in Python, Accessing Python Tuple Elements – Indexing, Reverse Indexing, Slicing Operator, Operations in Python Tuples-Modifying Element in Python Tuple, Deleting Python Tuple Elements

14. Set in Python

Instantiate a set in Python, Python set Operation, Common Python Set Methods.

15. Dictionary in Python

Create a Dictionary in Python, Access Items in Dictionary, Operations in Dictionary, Common Python Dictionary methods.

COURSE OBJECTIVES

In this course we plan to give students an overview of basic concepts and terminology related to **Python and its Data Types**. This Python for beginners training course leads the students from the basics of writing and running Python scripts to more advanced features such as file operations, regular expressions, working with binary data, and using the extensive functionality of Python modules. Extra emphasis is placed on features unique to Python, such as tuples, array slices, and output formatting.

Specifically, the course has the following objectives:

Students will learn

1. Explain basic principles of Python programming language
2. Implement object oriented concepts,
3. Implement database and GUI applications

COURSE COORDINATOR

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CERTIFICATE COURSE ON INTRODUCTION TO PYTHON DATA TYPES

Date of Introduction of the Course:12-09-2021

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	12-09-2021(AN)	**1.Introduction to Python Syllabus** An Introduction To The Python Programming Language. History Of Python, Evolution Introduces Python's Basic Datatypes, Files, Functions, And Error Handling.
3,4	16-09-2021(AN)	**2.Begining Python Basics** ThePrint Statement, Comments, Python Data Structures & Data Types,String Operations in Python, Simple Input & Output, Simple Output Formatting, Operators in Python
5,6	17-09-2021(FN)	**3. Variables in Python- Global And Static Variables** Creating and Declaring Python Variable, Re-Declaring a Variable, Local variable, Global variable, Deleting a variable, Concatenating Variables,Constants
7,8	17-09-2021(AN)	**4. Python Program Flow** Indentation, The If statement and its' related statement, An example with if and it's related statement, The while loop, The for loop,The range statement, Break &Continue, Assert Examples for looping
9,10	23-09-2021(AN)	**5. Functions and Modules** Create your own functions , Functions Parameters, Variable Arguments, Scope of a Function, Function Documentations, Lambda Functions& map, n Exercise with functions Create a Module, Standard Modules.
11,12	24-06-2021(FN)	**6. Python Data types** Python Data Types: An Overview, Mutable Data Types, Immutable Data Types, Numbers, Strings, Lists, Tuples, Sets, Dictionaries
13,14	24-09-2021(AN)	**7. Python Numericals** Categories of Number Data Type, Integers in Python, Long Integers, Octal and Hexadecimal in Python, Floating Point in Python, Complex Numbers in Python Number Type Conversion.

15,16	**30-09-2021(AN)**	**8. Strings in Python** Creating String in Python, Accessing Python String Characters, Updating and Deleting a String in Python, Python String Operators, Built-in Python String Methods and Python String Functions
17,18	**01-10-2021(FN)**	**9.List In Python** Creating Lists in Python , Creating Multi-dimensional lists in Python, Python Lists Extension, Accessing Lists in Python
19,20	**01-10-2021 (AN)**	**10.Python List Comprehension** List Comprehension- Syntax, Condition, Iterable, Expression , Nested Loop in List Comprehension
21,22	**07-10-2021 (AN)**	**11. Common List Operation in Python** Slicing Python Lists,Update or Add Elements in a Python List, Update or Add Elements in a Python, Remove elements from list in python,Remove duplicates from lists in python,Sorting Lists in Python, Reverse a List in Python .
23,24	**08-10-2021 (FN)**	**12. Python Lists Functions and Methods** Predefined List Functions in List, Built-in Methods using List/Array.
25,26	**08-10-2021 (AN)**	**13.Tuples in Python** Creating Tuple in Python, Accessing Python Tuple Elements – Indexing , Reverse Indexing, Slicing Operator, Operations in Python Tuples-Modifying Element in Python Tuple, Deleting Python Tuple Elements.
27,28	**14-10-2021 (AN)**	**14. Set In Python** Instantiate a set in Python, Python set Operation, Common Python Set Methods.
29,30	**15-10-2021 (FN)**	**15.Dictionary In Python** Create a Dictionary in Python, Access Items in Dictionary, Operations in Dictionary, Common Python Dictionary methods

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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CERTIFICATE COURSE ON INTRODUCTION TO PYTHON DATA TYPES
Date of Introduction of the Course: 12.09.2021

School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS038	ANKAM MANJUNATH
2	U14CS007	ANKITA
3	U14CS015	BALA MURUGAN .P
4	U14CS026	CHIDIRALA.SAI SHANKAR
5	U14CS047	DEVULAPALLY NAGARAJU
6	U14CS054	GONTLA KARTHIK
7	U14CS231	GYANA PRASANNA
8	U14CS060	JASIMKHAN.J.
9	U14CS072	KATKURI.KUMAR
10	U14CS082	KRISHNANDAN YADAV
11	U14CS094	MANISH SHARMA
12	U14CS101	MOHAMMAD AADIL SHANHREYAR.
13	U14CS177	K.SIVA SUBRAMANIAN
14	U14CS703	VASANTHAN.N
15	U14CS120	NIRUPAMA CHAKRABORTY .S
16	U14CS129	PIYALI CHAKRABORTHY.M
17	U14CS138	RAHUL KUMAR
18	U14CS151	RAVIPATI SUBBARAYUDU
19	U14CS160	SANDEEP INGUVA
20	U14CS164	SAURAV KUMAR
21	U14CS708	SUSMITA MOG
22	U14CS172	SHASHI BHUSHAN BHAGAT
23	U14CS183	SULEKHA KUMARI
24	U14CS192	THARIGOPULA LOKESH
25	U14CS202	VEMULA ANWAR

26	U14CS210	YELLALA SANTHOSH REDDY
27	U14CS223	ARUN
28	U14CS236	M.RAVISANKAR
29	U15CS008	ARYAN SAHU
30	U15CS015	BANDARU RAMESH
31	U15CS020	BONALA SRIDHAR RAO
32	U15CS028	DADAM CHAITHRA
33	U15CS040	GANGARAPU UKESH
34	U15CS051	GUNDA VINAY KUMAR
35	U15CS058	JAICHAND KUMAR
36	U15CS068	KAIPU PRANAY REDDY
37	U15CS076	KANDULA SRINATH
38	U15CS085	KONDURU PREM KUMAR
39	U15CS096	M. DINESH REDDY
40	U15CS110	MANOJ KUMAR R
41	U15CS117	KARAM
42	U15CS704	N SWAPNA RAAGA
43	U15CS129	NEELA SAI KUMAR
44	U15CS138	PATNAM VENKATA RAMANA
45	U15CS150	PRATHI VENKAT RANJITH KUMAR
46	U15CS162	RAMIREDDY SURENDRA REDDY
47	U15CS176	SADHOLLA PRANAY REDDY
48	U15CS185	SANTHOSH RAJ M
49	U15CS189	SESHA SRUJAN.B
50	U15CS192	SIRI GIRI HAREESH
51	U15CS199	TAKKELLA AJITH CHOWDARY
52	U15CS209	VEMSETTY ARUN SAHADEV
53	U15CS216	KARAN PRINCY.P
54	U15CS233	SOMESH.C
55	U15CS248	PRAVEEN RAJ.V
55	U15CS701	ABHISHEK MANDURI

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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CERTIFICATE COURSE ON INTRODUCTION TO PYTHON DATATYPES

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

NEELA SAI KUMAR

For actively participating in the value added course "Introduction to Python Data Types" Conducted by School of Computing, BIHER from 12.09.2021 to 15.10.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021 - 2022					
Term		Odd Sem					
Course Number							
Course Title		Python Data Types					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80		80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8		8-10	

3. **Preparation for the course by the student:**

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

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	

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	

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		Odd Sem					
Course Number							
Course Title		Introduction to Python Data Types					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60	✓	60-80		80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

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

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Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 11.10.2021

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Course on Java Skills and Java Certification**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Course on Java Skills and Java Certification**" in our campus premises on **17/10/2021**.

55 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

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

CIRCULAR

13.10.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **"Course on Core Java Skills and Java Certification"** for the benefit of II, III and IV year students. This course is scheduled from 17.10.2021 for 30 hours which includes theory and practical. The timings are 01:30 PM to 04:30 PM

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.C.Nalini	Professor
2	S.Pothumani	Assistant Professor

Head of Department

To

Copy to CSE

Copy to IT

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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COURSE ONCORE JAVA SKILLS AND JAVA CERTIFICATION

Date of Introduction of the Course: 17.10.2021

COURSE SYLLABUS

1. BASICS OF JAVA

History and Features of Java, C++ vs Java, Hello Java Program, Internal How to set the path?, JDK, JRE, and JVM (Java Virtual Machine),JVM Memory Management,Internal details of JVM, Unicode System, Operators, Keywords, and Control Statements like if-else, switch, For loop, while loop, etc.

2. CLASS, OBJECT, AND TYPES OF CLASSES

Classes, Objects, and Features, Object declaration and initialization, Life cycle of an object, Anonymous object in Java, Classes and Objects in java with Realtime examples

3. PACKAGES IN JAVA

Package naming conventions, Sub packages, Types of packages such as user-defined packages, built-in packages, Importing packages in Java

4. DATA TYPES IN JAVA

Data types in Java - Primitive data types, Non-primitive data types, Memory allocation of primitive and non-primitive data types, etc.

5. VARIABLES, CONSTANTS, AND LITERALS

Variable declaration & initialization - Naming convention, Types of variables such as local variables, instance variables, and static variables, Scope and memory allocation of variables.

6. METHODS IN JAVA

Methods in Java - Use of method in Java, Method declaration, method signature, Types of methods in Java: predefined method, user-defined methods: instance method, static method, Calling of method, Java main method, Return type in Java.

7. CONSTRUCTOR IN JAVA

What is Constructor in Java? ,Types of constructors: Default and Parameterized constructors, Java constructor overloading, Constructor chaining in java, Copy constructor in Java

8. INNER CLASSES AND WRAPPER CLASSES

Introduction, Member Inner Class, Static Inner Class, Local Inner Class, Anonymous Inner Class, Introduction, Byte, Short, Integer, Long, Float, Double, Character, Boolean classes

9. COLLECTION FRAME WORK

Introduction, Util Package interfaces, List, Set, Map, List Interface 7 Its Classes, Set Interface & Its Classes, Map Interface & Is Classes

10. AWT

Introduction, Components, Event-Delegation-Model, Listeners, Layouts, Individual Components Lable, Button, Check Box, Radio Button,Choice, List, Menu, Text Field, Text Area

11. SWING (JFC)

Understanding Session Hijacking, Phases involved in Session Hijacking, Types of Session Hijacking, Session Hijacking Tools -Introduction Diff B/W AWT and SWING, Hierarchy, Individual Swings components J Label, JButton, JTextField, JTextAres

12. **WEB SERVER AND APPLICATION SERVER**

Tomcat-Introduction, Overview, installation, Configuring Tomcat, Jboss server-Introduction, Overview, Installation and Configuration, Comparison

13. SQL and JDBC

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

14. SERVLETS

Introduction, Web application Architecture, HTTP Protocol & HTTP Methods, Web Server & Web Container, Servlet Interface, HTTPServlet, GenericServlet, Servlet Life Cycle, Servlet Config, Servlet Context, Servlet Communication

15. JSP

Introduction, JSP LifeCycle, JSP Implicit Objects & Scopes, JSP Directives

COURSE OBJECTIVES

This course enables programmers to develop a single application that can run across multiple platforms seamlessly and reliably. In this hands-on course, students gain extensive experience with Java and its object-oriented features. Students learn to create robust console and GUI applications and store and retrieve data from relational databases. Upon completion of the course students should be able to:

- Build robust applications using Java's object-oriented features
- Create robust applications using Java class libraries
- Develop platform-independent GUIs
- Read and write data using Java streams
- Retrieve data from a relational database with JDBC

COURSE CO-ORDINATOR **HEAD OF THE DEPARTMENT**

COURSE ON CORE JAVA SKILLS AND JAVA CERTIFICATION

Date of Introduction of the Course:17.10.2021

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	17-10-2021(AN)	**1. BASICS OF JAVA** History and Features of Java, C++ vs Java, Hello Java Program, Internal How to set the path?, JDK, JRE, and JVM (Java Virtual Machine),JVM Memory Management,Internal details of JVM, Unicode System, Operators, Keywords, and Control Statements like if-else, For loop, while loop, etc.
3,4	21-10-2021(AN)	**2. CLASS, OBJECT, AND TYPES OF CLASSES** Classes, Objects, and Features, Object declaration and initialization, Life cycle of an object, Anonymous object in Java, Classes and Objects in java with Realtime examples
5,6	22-10-2021(FN&AN)	**3.PACKAGES IN JAVA** Package naming conventions, Sub packages, Types of packages such as user-defined packages, built-in packages, Importing packages in Java
7,8	28-10-2021(AN)	**4. DATA TYPES IN JAVA** Data types in Java - Primitive data types, Non-primitive data types, Memory allocation of primitive and non-primitive data types, etc.
9,10	29-10-2021(FN)	**5.VARIABLES, CONSTANTS, AND LITERALS** Variable declaration & initialization - Naming convention, Types of variables such as local variables, instance variables, and static variables, Scope and memory allocation of variables.
11,12	29-10-2021(AN) 04-11-2021(AN)	**6. METHODS IN JAVA** Methods in Java - Use of method in Java, Method declaration, method signature, Types of methods in Java: predefined method, user-defined methods: instance method, static method, Calling of method, Java main method, Return type in Java.
13,14	04-11-2021(AN) 05-11-2021(FN)	**7. CONSTRUCTOR IN JAVA** What is Constructor in Java? ,Types of constructors: Default and Parameterized constructors, Java constructor overloading, Constructor chaining in java, Copy constructor in Java

15,16	**05-11-2021(AN)**	**8. INNER CLASSES AND WRAPPER CLASSES** Introduction, Member Inner Class, Static Inner Class, Local Inner Class, Anonymous Inner Class, Introduction, Byte, Short, Integer, Long, Float, Double, Character, Boolean classes
17,18	**11-11-2021(AN)**	**9. COLLECTION FRAME WORK** Introduction, Util Package interfaces, List, Set, Map, List Interface 7 Its Classes, Set Interface & Its Classes, Map Interface & Is Classes
19,20	**12-11-2021(FN)**	**10. AWT** Introduction, Components, Event-Delegation-Model, Listeners, Layouts, Individual Components Lable, Button, Check Box, Radio Button,Choice, List, Menu, Text Field, Text Area
21,22	**12-11-2021(AN)** **18-11-2021(AN)**	**11. SWING (JFC)** Understanding Session Hijacking, Phases involved in Session Hijacking, Types of Session Hijacking, Session Hijacking Tools - Introduction Diff B/W AWT and SWING, Hierarchy, Individual Swings components J Label, JButton, JTextField, JTextAres
23,24	**19-11-2021(FN)**	**12. WEB SERVER AND APPLICATION SERVER** Tomcat-Introduction, Overview, installation, Configuring Tomcat, Jboss server-Introduction, Overview, Installation and Configuration, Comparison
25,26	**19-11-2021(AN)**	**13. SQL and JDBC** 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
27,28	**25-11-2021(AN)** **26-11-2021(FN)**	**14. SERVLETS** Introduction, Web application Architecture, HTTP Protocol & HTTP Methods, Web Server & Web Container, Servlet Interface, HTTPServlet, GenericServlet, Servlet Life Cycle, Servlet Config, Servlet Context, Servlet Communication
29,30	**26-11-2021(AN)**	**15. JSP** Introduction, JSP Life Cycle, JSP Implicit Objects & Scopes, JSP Directives

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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Department of Computer Sci... & Engg.,
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COURSE ON CORE JAVA SKILLS AND JAVA CERTIFICATION

Date of Introduction of the Course: 17.10.2021

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS038	CHIDIRALA.SAI SHANKAR
2	U14CS039	CHINTAGUNTA MARUTHI VENKATESWARA REDDY
3	U14CS040	CHINTAPANTI SRIKANTH
4	U14CS041	CHINTLA VENKATESH
5	U14CS042	CHUDAAMANI.V
6	U14CS044	DARA DEEPTHI
7	U14CS045	DEEPAKSANKAR REDDY.M
8	U14CS046	DEVARAPALLI HIMAKAR
9	U14CS047	DEVULAPALLY NAGARAJU
10	U14CS052	GARLAPATI HEMA SAI KRISHNA
11	U14CS053	GODJSELA SRINATH
12	U14CS054	GONTLA KARTHIK
13	U14CS055	GOTTIPATI KARTHIK
14	U14CS102	MOHAMMED AABID
15	U14CS104	MOLUGURI PRADEEP CHANDRA
16	U14CS105	MOOTHI LAKSHMI PRASANNA
17	U14CS106	MUGANTH.R.
18	U14CS107	MUGUNTHANATHAN.G
19	U14CS108	MURALI .S
20	U14CS156	SAGI AKSHAY KUMAR
21	U14CS157	SAJJA. SURENDRA PRASAD
22	U14CS158	SAMPA PARH
23	U14CS159	SANASAM VEDRAJ SINGH
24	U14CS160	SANDEEP INGUVA
25	U14CS161	SANJAY KUMAR YADAV
26	U14CS162	SANTHOSH KUMAR.N
27	U14CS163	SASHAANK.S

28	U14CS164	SAURAV KUMAR
29	U14CS165	SAURAV SINGH
30	U14CS224	R.SINDHU
31	U14CS234	DANDU MOHAN RAJENDRA VARMA
32	U14CS706	RAFTEN WANCHU
33	U14CS166	SHAFAN HASIM.N
34	U14CS167	SHAIK AATIKA
35	U14CS168	SHAIK MEERA SHARIF
36	U14CS169	SHAIK YASMIN
37	U14CS170	SHANKAR KUMAR GUPTA
38	U14CS171	SHARSHI KANT PRASAD
39	U14CS192	THARIGOPULA LOKESH
40	U14CS193	THEJA.T
41	U14CS194	THEJAVARMA.B
42	U15CS018	ATTANTI RAVIKANTH
43	U15CS019	BANAVATH SUNIL NAIK
44	U15CS020	BANDARU RAMESH
45	U15CS021	BATTA SIVA PRASAD
46	U15CS022	BHARATH K
47	U15CS167	PULUKURI SASIDHAR
48	U15CS168	PUPPALLA SANDEEP KUMAR
49	U15CS169	PUTLURI ANURADHA
50	U15CS170	RAAVI NARENDRA
51	U15CS171	RAGILLA SANTHOSH KUMAR
52	U15CS172	RAJULA SREEVANI
53	U15CS173	RAKESH RATHI
54	U15CS174	RAMACHANDRAN J
55	U15CS175	RAMIREDDY LAKSHMAN AJAY

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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Department of Computer Sci... & Engg.,
Bharath Institute of Higher Education & Research
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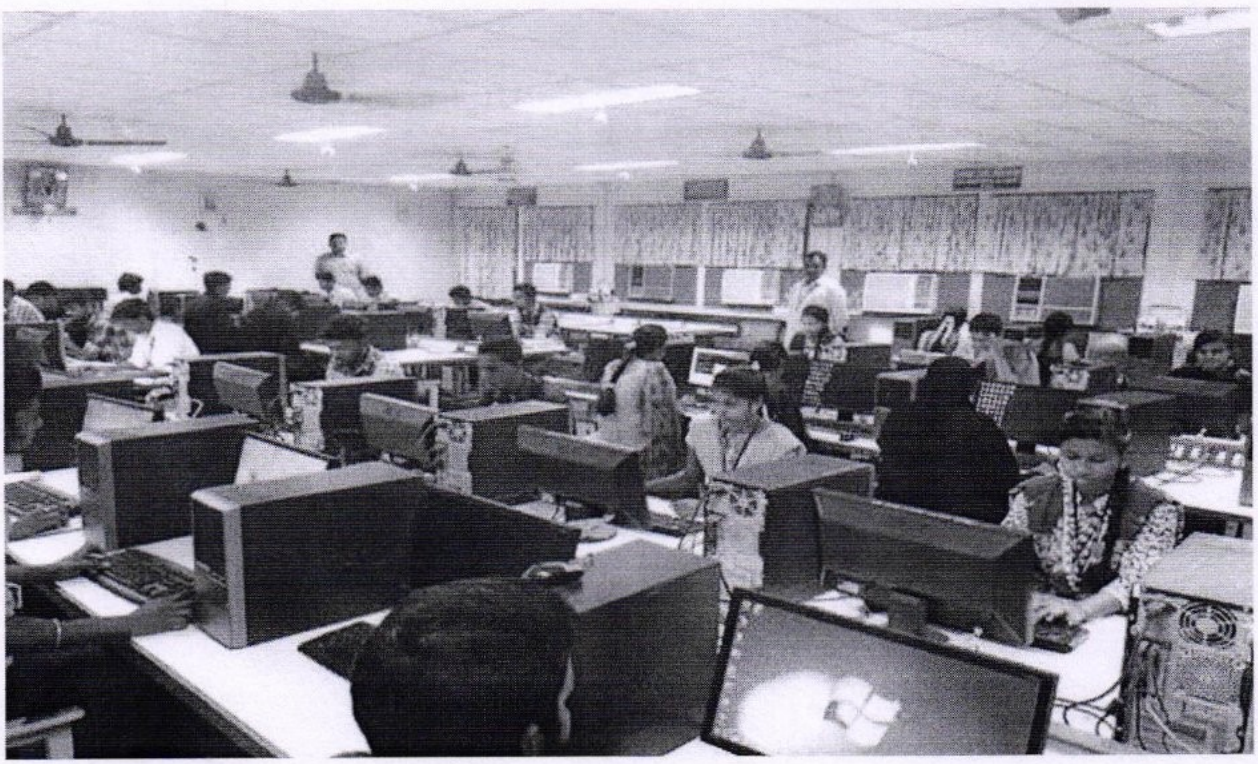
COURSE ON CORE JAVA SKILLS AND JAVA CERTIFICATION



COURSE COORDINATOR

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Bharath Institute of Higher Education & Resea...
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Chennai-600 073. INDIA

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

R.SINDHU

For actively participating in the value added course **"Core Java Skills and Java Certification"**

Conducted by School of Computing, BIHER from 17.10.2021 to 26.11.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		ODD SEM					
Course Number							
Course Title		Course of Core Java Skills and Java certification					
Number of Credits							
Type of Course	Regular		Elective		Add-on ✓		

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60	✓	60-80	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4	✓	4-6		6-8	

3. **Preparation for the course by the student:**

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

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	
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**	

HEAD OF THE DEPARTMENT

COURSE FEEDBACK FORM

Academic Year		2021 - 2022				
Term		ODD SEM				
Course Number						
Course Title		core Java Skills and Java Certification				
Number of Credits						
Type of Course	Regular		Elective		Add-on ✓	

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About the Instructor: Information on the Respondent: (Tick (√) Appropriately)

		A	B	C	
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**	

HEAD OF THE DEPARTMENT

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BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 27.10.2021

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Machine Learning and Data Science**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Machine Learning and Data Science**" in our campus premises on **01/11/2021**.

38 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

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CIRCULAR

31.10.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Machine Learning and Data Science** for the benefit of II, III and IV year students. This course is scheduled from 01.11.2021 for 30 hours which includes theory and practical. The timings are 9:30 AM to 12:30 PM

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.C.Nalini	Professor
2	Mrs.C.Anuradha	Assistant Professor

Head of Department

To

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HEAD OF DEPARTMENT
Department of Computer Science & Engg.,
Bharath Institute of Higher Education & Research
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CERTIFICATE COURSE ON MACHINE LEARNING AND DATA SCIENCE

Date of Introduction of the Course:01.11.2021

COURSE SYLLABUS

1.Introduction: Machine Learning

Machine Learning Overview, ML Techniques, Validation Techniques (Cross-Validations), Feature Reduction/Dimensionality reduction, Principal components analysis (Eigen values, Eigen vectors, Orthogonality).

2.Supervised Learning

Linear regression, Random forest for classification, Support vector machines.

3.Unsupervised Learning

K-means for clustering problems, Apriori algorithm for association rule learning, Principal Component Analysis.

4.Reinforcement Learning

Reinforcement Learning Algorithms, Positive and Negative Reinforcement Learning, Learning Models of Reinforcement

5.Clustering

Distance measures, Different clustering methods (Distance, Density, Hierarchical), Iterative distance-based clustering, Measures of quality of clustering.

6.Classification

Model Assumptions, Probability estimation, Required data processing, M-estimates, Feature selection: Mutual information, Classifier.

7.K-Nearest Neighbors

Computational geometry; Voronoi Diagrams; Delaunay Triangulations, K-Nearest Neighbor algorithm; Wilson editing and triangulations

8. Support Vector Machines

Linear learning machines and Kernel space, Making Kernels and working in feature space, SVM for classification and regression problems.

9.Association Rule mining

Applications of Association Rule Mining: Market Basket, Recommendation Engines,Association analysis vs. classification, FP-trees.

10. Predictive Modeling

Regression, Classification, Data Preprocessing, Model Evaluation and Ensembles

11. Data Science Introduction

Data Science Overview, Components: Machine Learning, Big Data, Business Intelligence

12.Tools of Data Science

R-Language, Python coding, Hadoop Platform, SQL database/coding.

13. Data Analysis

Getting and Cleaning Data: Static Files, SQL, Web Scraping, APIs and Messy Data

14.Statistical Inference

Event Space, Probability, Distributions and Hypothesis Testing.

15.Summarizing and Visualizing Data

Descriptive Statistics, Univariate and Multivariate Exploratory Data Analysis.

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of Machine Learning and Data Science, and an in-depth study into its enabling technologies and main building blocks. Students will gain hands-on experience solving relevant problems through projects that will utilize existing public cloud tools. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1) To introduce students to the basic concepts and techniques of Machine Learning.
2) To develop skills of using recent machine learning software for solving practical problems.
3) To gain experience of doing independent study and research.
4) To develop the ability to build and assess data-based models.
5) To apply data science concepts and methods to solve problems in real-world contexts and will communicate these solutions effectively

COURSE COORDINATOR

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CERTIFICATE COURSE ON MACHINE LEARNING AND DATA SCIENCE

Date of Introduction of the Course: 01.11.2021

Time Table & Lesson plan

CLASS	DATE	TOPIC
1,2	01-11-2021(FN)	**1. Introduction: Machine Learning** Machine Learning Overview, ML Techniques, Validation Techniques (Cross-Validations), Feature Reduction/Dimensionality reduction, Principal components analysis (Eigen values, Eigen vectors, Orthogonality).
3,4	04-11-2021(FN)	**2. Supervised Learning** Linear regression, Random forest for classification, Support vector machines.
5,6	05-11-2021 (FN) 05-11-2021(AN)	**3. Unsupervised Learning** K-means for clustering problems, Apriori algorithm for association rule learning, Principal Component Analysis.
7,8	11-11-2021(FN)	**4. Reinforcement Learning** Reinforcement Learning Algorithms, Positive and Negative Reinforcement Learning, Learning Models of Reinforcement
9,10	12-11-2021(FN)	**5. Clustering** Distance measures, Different clustering methods (Distance, Density, Hierarchical), Iterative distance-based clustering, Measures of quality of clustering.
11,12	12-11-2021(AN) 18-11-2021(FN)	**6. Classification** Model Assumptions, Probability estimation, Required data processing, M-estimates, Feature selection: Mutual information, Classifier.
13,14	19-11-2021(FN)	**7. K-Nearest Neighbors** Computational geometry; Voronoi Diagrams; Delaunay Triangulations, K-Nearest Neighbor algorithm; Wilson editing and triangulations
15,16	19-11-2021(AN)	**8. Support Vector Machines** Linear learning machines and Kernel space, Making Kernels and working in feature space, SVM for classification and regression problems.

17,18	**25-11-2021(FN)** **26-11-2021(FN)**	**9. Association Rule mining** Applications of Association Rule Mining: Market Basket, Recommendation Engines, Association analysis vs. classification, FP-trees.
19,20	**26-11-2021(AN)**	**10. Predictive Modeling** Regression, Classification, Data Preprocessing, Model Evaluation and Ensembles
21,22	**01-12-2021(FN)**	**11. Data Science Introduction** Data Science Overview, Components: Machine Learning, Big Data, Business Intelligence
23,24	**02-12-2021(FN)**	**12. Tools of Data Science** R-Language, Python coding, Hadoop Platform, SQL database/coding.
25,26	**02-12-2021(AN)**	**13. Data Analysis** Getting and Cleaning Data**:** Static Files, SQL, Web Scraping, APIs and Messy Data
27,28	**08-12-2021(FN)**	**14. Statistical Inference** Event Space, Probability, Distributions and Hypothesis Testing.
29,30	**09-12-2021(FN)** **09-12-2021(AN)**	**15. Summarizing and Visualizing Data** Descriptive Statistics, Univariate and Multivariate Exploratory Data Analysis.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON MACHINE LEARNING AND DATA SCIENCE
Date of Introduction of the Course: 01.11.2021
School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U15CS007	ANJAR ALI
2	U15CS008	ANKAM MANJUNATH
3	U15CS009	ANNADI DHANUSH
4	U15CS011	ANUMOLU YESWANTH
5	U15CS012	ARAVAPALLI SIVA VINAYA
6	U15CS013	ARAVINDHAN K R
7	U15CS014	ARVIND KUMR YADAV
8	U15CS039	D N S HRUDAY BHARADWAJ
9	U15CS040	DADAM CHAITHRA
10	U15CS041	DEEPAK KUMAR SINGH
11	U15CS117	MANOJ KUMAR R
12	U15CS118	MANUGUNTA BHARGAVI
13	U15CS119	MARRIBOYINA GOVARDHAN YADAV
14	U15CS120	MARRIPUDI KRISHNA CHAITANYA
15	U15CS154	PERAM ANTONY
16	U15CS155	PERAM VENKATA KRISHNA REDDY
17	U15CS189	SANTHOSH RAJ M
18	U15CS190	SATHISH S
19	U15CS201	SMITHA C.S
20	U15CS202	SODISETTY SANDEEP
21	U15CS203	SUBASH CHANDRAN.V
22	U15CS204	SUBHAM RAY
23	U14CS003	ABDUL RAHIM.M
24	U14CS004	ABDUL RAZVI .M.K
25	U14CS005	ABDUR RASEED
26	U14CS006	ABHIKAMALI .A
27	U14CS032	BODA VEERA VENKATA RAVI TEJA
28	U14CS033	BOORAGADDA VAMSI KRISHNA
29	U14CS085	LAKSHMI PRIYA.A
30	U14CS086	LOKESHWARAN.A.
31	U14CS088	MADDIPATI BHARAT
32	U14CS508	INDHU GOPALAKRISHNAN
33	U14CS710	SHOPMINISTER
34	U14CS113	NALLAJARLA CHAKRADHAR
35	U14CS114	NANDALA SWETHA
36	U14CS115	NANDIPALLI MOUNICA
37	U14CS701	BALAJI
38	U14CS232	B.BALAKUMARAN

COURSE COORDINATOR

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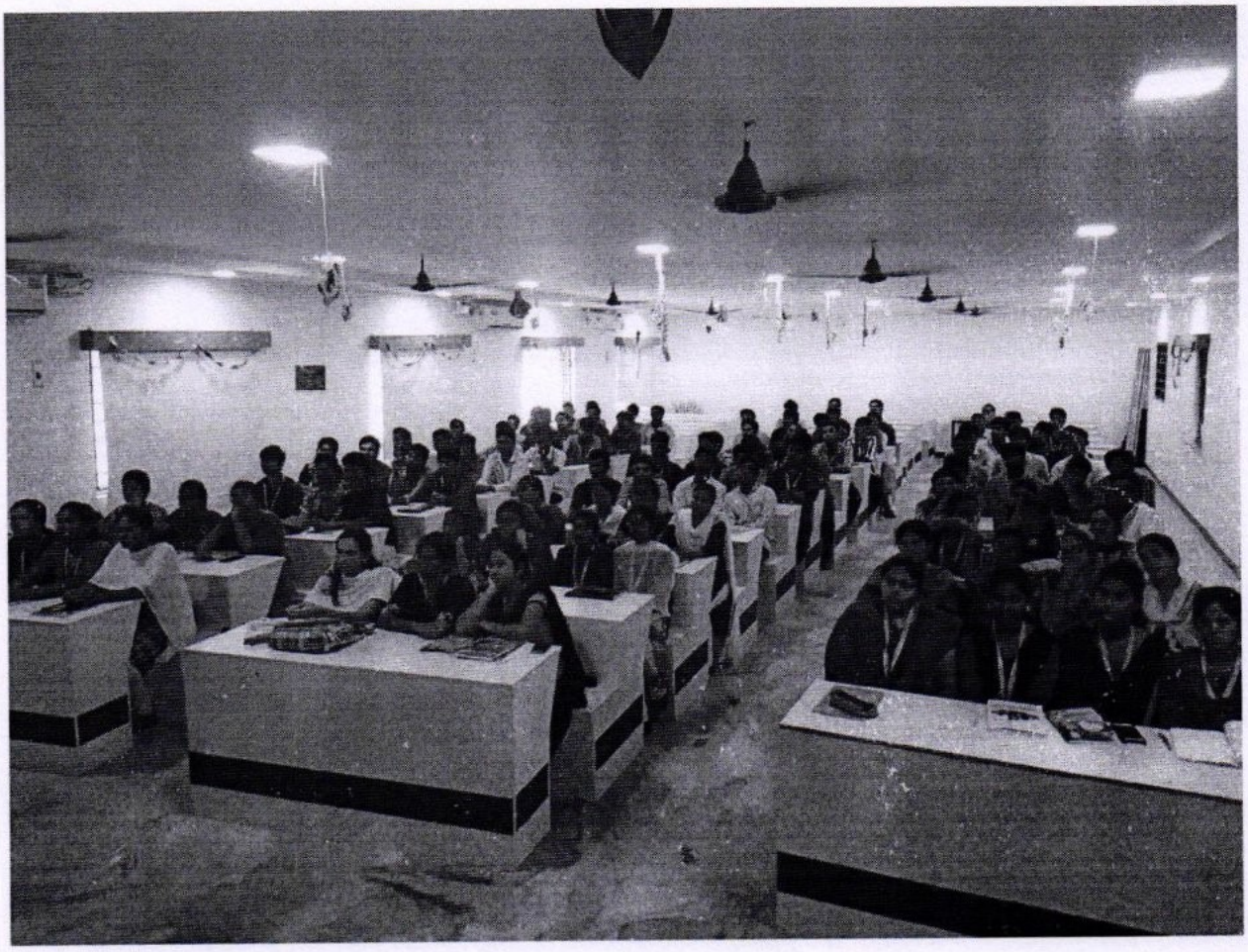
CERTIFICATE COURSE ON MACHINE LEARNING AND DATA SCIENCE



COURSE CO-ORDINATOR

HEAD OF THE DEPARTMEMNT

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

SMITHA C S

For actively participating in the value added course **"Machine Learning and Data Science"** Conducted by School of Computing, BIHER from 01.11.2021 to 09.12.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		ODD SEM					
Course Number							
Course Title		Machine learning and Data Science					
Number of Credits							
Type of Course	Regular		Elective			Add-on	✓

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60	✓	60-80	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8	

3. **Preparation for the course by the student:**

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

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	
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**	

HEAD OF THE DEPARTMENT

COURSE FEEDBACK FORM

Academic Year		2021 - 2022			
Term		ODD			
Course Number					
Course Title		Machine Learning and Data Science			
Number of Credits					
Type of Course	Regular		Elective		Add-on ✓

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60	✓	60-80	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4	✓	4-6		6-8	

3. **Preparation for the course by the student:**

(i)	Have done part of this course earlier	yes
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(iii)	Had to pickup relevant additional topics through concurrent study	yes
(iv)	Have no exposure to the background material	yes

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	
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**	

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date:21.10.2021

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject:Request of Permission to conduct a value-added course on **"Jquery and Advanced Java Script"** -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on **"Jquery and Advanced Java Script"** in our campus premises on **01.11.2021**, students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Submitted to Principal for approval to organize this value-added course.

HOD HEAD OF DEPARTMENT
Department of Computer Science & Engg.,
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Chennai-600 073. INDIA

DEAN ENGINEERING

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CIRCULAR

27.10.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Jquery and Advanced Java Script**for the benefit of II, III and IV year students. This course is scheduled from 01.11.2021 for 30hours which includes theory and practical. The timings are 3:30 PM to 5:30 PM

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.C.Nalini	Professor
2	Dr.C.Rajabhushanam	Professor

Head of Department

To

Copy to CSE

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HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
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CERTIFICATE COURSE ON JQUERY AND ADVANCED JAVA SCRIPT

Date of Introduction of the Course: 01.11.2021

COURSE SYLLABUS

1.Introduction to JavaScript

Introduction to Javascript, JS History, Webkit's Web Inspector, Tracking down errors, JS versions

2. Variable, Value, Data type, Operators and Expressions

Comments, Variables: and let keyword, Statements, Value, JS Keywords, Primitive Data types, Non-Primitive Data types, Type of Operators, Understanding Expressions.

3. Arrays, Decision making and Loops

String, Arrays, If Statement, If-Else Statement, If-Else-IF ladder and Nested If Statements, Switch, Handling repetitive tasks with loops, For Loop, While and Do-While Loop

4. Functions, Variable Scope and Objects

Function, Calling a Function, Parameters and default parameters, Scope of Variables: block level scope, Predefined Functions, Object, Elements and Properties, Accessing an Object's properties and methods, Constructor and this keyword, Date and Math Objects

5. The Browser Environment

BOM (Browser Object Model), Window.* properties, DOM (document object model), Accessing DOM Nodes, Modifying DOM Nodes, Creating and Removing Nodes.

6. Events and Event Handling

Events, Listen to Events, Event Handling, HTML5 Forms and Input tag (form validation), Get and Post methods

7. JQuery

Introduction to Jquery, Structure of jQuery, UsingjQuery and including .js file to HTML, Type of Selectors, Handling Events with jQuery

8. Filtering, Searching and Effects

Selectors Recap, Element and ID Selectors, jQuery DOM Traversal, jQuery DOM Manipulation, jQuery Effects

9. AJAX and JQuery

Introduction to AJAX, Asynchronous access to remote data, GET HTTP request, AJAX Load, Send Data, Callback Handlers, Change AJAX data type, Status Codes, JSON, Accessing and Consuming remote JSON Data

10. HTML5 Forms and JQuery UI

Understanding Forms, Adding Smarts to Your Forms, Form Validation, Updating Database Table Values, Introduction to jQuery UI, Animation and Special Effects

11. Project

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of Jquery and Advanced Java script, and an in-depth study into its enabling technologies and main building blocks. Students will gain hands-on experience solving relevant problems through projects. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn to:

1) Make communication between the browser and server
2) Learn what jQuery is and how to add it to applications
3) Develop rich web pages that respond to user interaction
4) Become adept at implementing client-side interfaces through the use of the DOM, jQuery and AJAX.
5) Become familiar with common libraries and tools that are used in web application development.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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CERTIFICATE COURSE ON JQUERY AND ADVANCED JAVA SCRIPT

Date of Introduction of the Course: 01.11.2021

The timings are 3:30 PM to 5:30 PM from Monday to Friday

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	01-11-2021	**1.Introduction to JavaScript** Introduction to Javascript, JS History, Webkit's Web Inspector, Tracking down errors, JS versions
3,4	02-11-2021	**2. Variable, Value, Data type, Operators and Expressions** Comments, Variables: and let keyword, Statements, Value, JS Keywords, Primitive Data types, Non-Primitive Data types, Type of Operators, Understanding Expressions.
5,6	03-11-2021	**3. Arrays, Decision making and Loops** String, Arrays, If Statement, If-Else Statement, If-Else-IF ladder and Nested If Statements, Switch, Handling repetitive tasks with loops, For Loop, While and Do-While Loop
7,8	04-11-2021	**4. Functions, Variable Scope and Objects** Function, Calling a Function, Parameters and default parameters, Scope of Variables: block level scope, Predefined Functions, Object, Elements and Properties, Accessing an Object's properties and methods, Constructor and this keyword, Date and Math Objects
9,10	07-11-2021	**4. Functions, Variable Scope and Objects** Function, Calling a Function, Parameters and default parameters, Scope of Variables: block level scope, Predefined Functions, Object, Elements and Properties, Accessing an Object's properties and methods, Constructor and this keyword, Date and Math Objects
11,12	08-11-2021	**5. The Browser Environment** BOM (Browser Object Model), Window.* properties, DOM (document object model), Accessing DOM Nodes, Modifying DOM Nodes, Creating and Removing Nodes.

13,14	**09-11-2021**	**6. Events and Event Handling** Events, Listen to Events, Event Handling, HTML5 Forms and Input tag (form validation), Get and Post methods
15,16	**10-11-2021**	**7. JQuery** Introduction to Jquery, Structure of jQuery, Using jQuery and including .js file to HTML, Type of Selectors, Handling Events with jQuery
17,18	**11-11-2021**	**8. Filtering, Searching and Effects** Selectors Recap, Element and ID Selectors, jQuery DOM Traversal, jQuery DOM Manipulation, jQuery Effects
19,20	**14-11-2021**	**8. Filtering, Searching and Effects** Selectors Recap, Element and ID Selectors, jQuery DOM Traversal, jQuery DOM Manipulation, jQuery Effects
21,22	**15-11-2021**	**9. AJAX and JQuery** Introduction to AJAX, Asynchronous access to remote data, GET HTTP request, AJAX Load, Send Data, Callback Handlers, Change AJAX data type, Status Codes, JSON, Accessing and Consuming remote JSON Data
23,24	**16-11-2021**	**9. AJAX and JQuery** Introduction to AJAX, Asynchronous access to remote data, GET HTTP request, AJAX Load, Send Data, Callback Handlers, Change AJAX data type, Status Codes, JSON, Accessing and Consuming remote JSON Data
25,26	**17-11-2021**	**10. HTML5 Forms and JQuery UI** Understanding Forms, Adding Smarts to Your Forms, Form Validation, Updating Database Table Values, Introduction to jQuery UI, Animation and Special Effects
27,28	**18-11-2021**	**10. HTML5 Forms and JQuery UI** Understanding Forms, Adding Smarts to Your Forms, Form Validation, Updating Database Table Values, Introduction to jQuery UI, Animation and Special Effects
29,30	**21-11-2021**	**11. Project**

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE ON JQUERY AND ADVANCED JAVA SCRIPT
Date of Introduction of the Course: 01.11.2021

School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS006	ABHIKAMALI .A
2	U14CS007	ABHISHEK MANDURI
3	U14CS008	AJAY.D
4	U14CS009	AKASH CHANDRA AMBASTHA
5	U14CS010	AKHIL REDDY.G
6	U14CS011	AKSHAY.R
7	U14CS060	JASIMKHAN.J.
8	U14CS061	JENNIFER.S
9	U14CS062	JERIPOTHULA SURESH GOUD
10	U14CS063	JOHN DALTON .H
11	U14CS064	K. LAKSHMIKANTH REDDY
12	U14CS065	K. LAKSHMI NARAYANA REDDY
13	U14CS066	KARAN KUMAR CHETTRI
14	U14CS058	KARTHIKEYAN.J
15	U14CS142	RAJA S.V
16	U14CS143	RAJNISH RANJAN PANDEY
17	U14CS144	RAKESH KUMAR
18	U14CS145	RAKHI PRASAD
19	U14CS146	RAM KUMAR PANDEY
20	U14CS173	SHEKH ADNAN NIYARIYA
21	U14CS181	SOURABH PRIYADARSHI
22	U14CS182	SRI DHARSHINI .P
23	U14CS183	SULEKHA KUMARI
24	U14CS198	VADLAMUDI KOWSHIK
25	U15CS012	ARAVAPALLI SIVA VINAYA

26	U15CS024	BIKKI KUMAR SHA
27	U15CS171	RAGILLA SANTHOSH KUMAR
28	U15CS172	RAJULA SREEVANI
29	U15CS173	RAKESH RATHI
30	U15CS180	RAVURI SRIKANTH
31	U15CS182	RICHARD WUMBRAND J
32	U15CS183	S. PUNITHA
33	U15CS184	S. SAI SHRUTHI
34	U15CS191	SEETAPTI HEMA SEKHAR
35	U15CS192	SESHA SRUJAN.B
36	U15CS193	SHAIK AFRIDI
37	U15CS194	SHAIK SABIR
38	U15CS195	SHAIK YASMEEN
39	U15CS196	SHARYARAI.S
40	U15CS197	SHATRUGHAN SUHAN.S
41	U15CS225	VINOTHKUMAR.J
42	U15CS226	V. VEERAVENKATA SATYANARAYANA
43	U15CS227	VUPPALA SUJITH
44	U15CS228	YADIKI VEMANA BUJJI
45	U15CS229	Y. VENKATA RAMANA MURTHY
46	U15CS230	THARAN RAVI CHANDRU
47	U15CS232	NIKITA SHARMA
48	U15CS233	KARAN PRINCY.P
49	U15CS250	MUTHULAKSHMI.M
50	U15CS251	AISHWARYA
51	U15CS252	PAVANI M.J
52	U15CS253	JOEL PRAKASH.J
53	U15CS254	JAGATH RAJAH.R
54	U15CS701	PRAVEEN RAJ.V
55	U15CS702	GOWTHAMAN.S
56	U15CS703	FRANKLIN.S

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

AKHIL REDDY.G

For actively participating in the value added course **"Jquery and Advanced Java Script "** Conducted by School of Computing, BIHER from 01.11.2021 to 21.11.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		ODD					
Course Number							
Course Title		Jquery and Advanced Java Script					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6	✓	6-8		8-10	

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**	

HEAD OF THE DEPARTMENT

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Department of Computer Sci & Eng
Bharath Institute of Higher Education & Resea
(Declared as Deemed to be University U/S 3 of UGC Act, 19
Chennai-600 073. INDIA

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		ODD					
Course Number							
Course Title		Jquery and Advanced Java Script					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6	✓	6-8		8-10	

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
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	(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**	

HEAD OF THE DEPARTMENT

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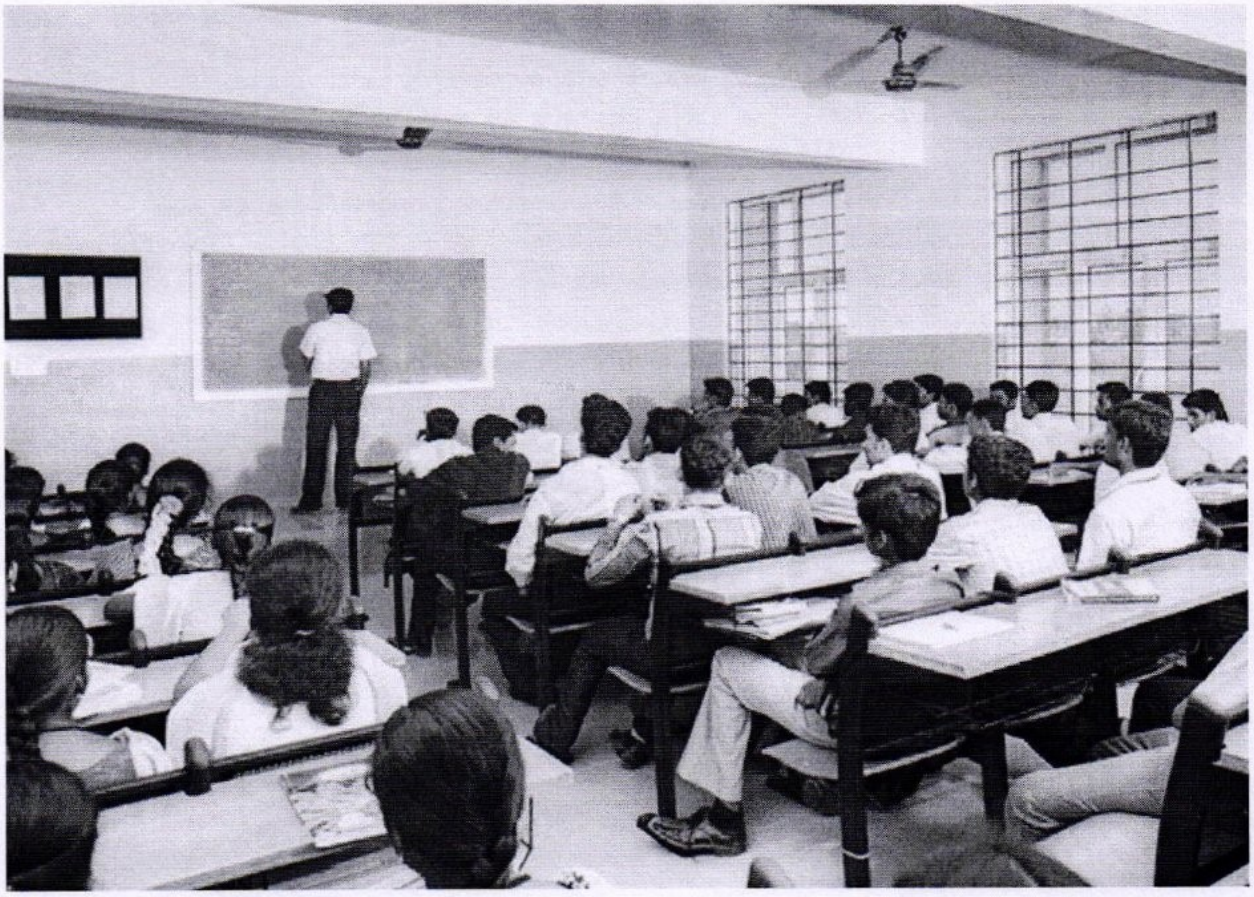
INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE COURSE ON JQUERY AND ADVANCED JAVA SCRIPT



COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 04.12.21

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Introduction to Artificial Intelligence**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Introduction to Artificial Intelligence**" in our campus premises on **12/12/2021**.

46 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CIRCULAR

08.12.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Introduction to Artificial Intelligence** for the benefit of II, III and IV year students. This course is scheduled from 12.12.2021 for 30hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM & 9.00 AM to 4.30PM

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.C.Nalini	Professor
2	R.Velvizhi	Assistant Professor

Head of Department

To

Copy to CSE

Copy to IT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON INTRODUCTION TO ARTIFICAL INTELLIGENCE

Date of Introduction of the Course: 12.12.2021

COURSE SYLLABUS

1. INTRODUCTION

Introduction–Definition – Future of Artificial Intelligence – Characteristics of Intelligent Agents–

2. INTRODUCTION

Typical Intelligent Agents – Problem Solving Approach to Typical AI problems

3. PROBLEM SOLVING METHODS

Problem solving Methods , Search Strategies

4. PROBLEM SOLVING METHODS

Informed . Heuristics , Local Search Algorithms and Optimization Problems

5. PROBLEM SOLVING METHODS

Uninformed ,Searching with Partial Observations

6. PROBLEM SOLVING METHODS

Constraint Satisfaction Problems , Constraint Propagation, Backtracking Search, Game Playing

7. OPTIMAL DECISIONS

Optimal Decisions in Games,Alpha,Beta Pruning,Stochastic Games

8. KNOWLEDGE REPRESENTATION

First Order Predicate Logic , Prolog Programming, Unification , Forward Chaining,Reasoning with Default Information

9. KNOWLEDGE REPRESENTATION

Backward Chaining, Resolution, Knowledge Representation, Ontological Engineering,Categories and Objects

10. KNOWLEDGE REPRESENTATION

Events , Mental Events and Mental Objects ,Reasoning Systems for Categories

11. SOFTWARE AGENTS

Architecture for Intelligent Agents , Agent communication ,systems.

12. SOFTWARE AGENTS

Negotiation and Bargaining , Argumentation among Agents.

13. SOFTWARE AGENTS

Trust and Reputation in Multi,agent.

14. APPLICATIONS

AI applications , Language Models , Information Retrieval, Information Extraction ,Natural Language Processing.

15. APPLICATIONS

Machine Translation, Speech Recognition, Robot, Hardware, Perception, Planning, Moving

COURSE OBJECTIVES

In this course we plan to give students an Introduction to Artificial Intelligence, and an in-depth study into its enabling technologies and main building blocks. Students will gain basic knowledge in AI and Problem Solving.

Specifically, the course has the following objectives:

Students will learn

- **OBJECTIVES:**
  - To understand the various characteristics of Intelligent agents
  - To learn the different search strategies in AI
  - To learn to represent knowledge in solving AI problems
  - To understand the different ways of designing software agents
  - To know about the various applications of AI

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
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Chennai-600 073. INDIA

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE ON INTRODUCTION TO ARTIFICIAL INTELLIGENCE

Date of Introduction of the Course: 12.12.2021

The timings are 1:30 PM to 4:30 PM from Friday (AN) and 9.00 AM to 4.30 PM Saturday (FN&AN).

Time Table & Lesson plan

CLASS	DATE	TOPIC
1,2	12-12-2021 (AN)	**1. INTRODUCTION** Introduction–Definition – Future of Artificial Intelligence – Characteristics of Intelligent Agents–
3,4	16-12-2021 (AN)	**2. INTRODUCTION** Typical Intelligent Agents – Problem Solving Approach to Typical AI problems
5,6	17-12-2021 (FN)	**3. PROBLEM SOLVING METHODS** Problem solving Methods , Search Strategies
7,8	17-12-2021 (AN)	**4. PROBLEM SOLVING METHODS** Informed . Heuristics , Local Search Algorithms and Optimization Problems
9,10	23-12-2021 (AN)	**5. PROBLEM SOLVING METHODS** Uninformed ,Searching with Partial Observations
11,12	24-12-2021 (FN)	**6. PROBLEM SOLVING METHODS** Constraint Satisfaction Problems , Constraint Propagation, Backtracking Search, Game Playing
13,14	24-12-2021 (AN)	**7. OPTIMAL DECISIONS** Optimal Decisions in Games,Alpha,Beta Pruning,Stochastic Games
15,16	30-12-2021 (FN)	**8. KNOWLEDGE REPRESENTATION** First Order Predicate Logic , Prolog Programming, Unification , Forward Chaining,Reasoning with Default Information
17,18	31-12-2021 (FN)	**9. KNOWLEDGE REPRESENTATION** Backward Chaining, Resolution, Knowledge Representation, Ontological Engineering,Categories and Objects
19,20	31-12-2021 (AN)	**10. KNOWLEDGE REPRESENTATION** Events , Mental Events and Mental Objects ,Reasoning Systems for Categories
21,22	06-01-2022 (FN)	**11. SOFTWARE AGENTS** Architecture for Intelligent Agents , Agent communication ,systems.
23,24	07-01-2022 (FN)	**12. SOFTWARE AGENTS** Negotiation and Bargaining , Argumentation among Agents.
25,26	07-01-2022 (AN)	**13. SOFTWARE AGENTS** Trust and Reputation in Multi,agent.

27,28	**20-01-2022 (AN)**	**14. APPLICATIONS** AI applications , Language Models , Information Retrieval, Information Extraction ,Natural Language Processing.
29,30	**21-01-2022 (FN)**	**15. APPLICATIONS** Machine Translation, Speech Recognition, Robot, Hardware, Perception, Planning, Moving

COURSE COORDINATOR

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CERTIFICATE COURSE ON INTRODUCTION TO ARTIFICIAL INTELLIGENCE
Date of Introduction of the Course: 12.12.2021

School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS201	VASI KARTHIK
2	U14CS202	VEMULA ANWAR
3	U14CS158	SAMPA PARH
4	U14CS164	SAURAV KUMAR
5	U14CS104	MOLUGURI PRADEEP CHANDRA
6	U14CS105	MOOTHI LAKSHMI PRASANNA
7	U14CS084	LAKKAMPALLY SHIVA KUMAR
8	U14CS067	KARTHICK.K
9	U14CS041	CHINTLA VENKATESH
10	U14CS042	CHUDAAMANI.V
11	U14CS044	DARA DEEPTHI
12	U14CS053	GODJSELA SRINATH
13	U14CS231	GYANA PRASANNA
14	U15CS003	ABHISHEK KUMAR SINGH
15	U15CS015	ARYAN SAHU
16	U15CS028	BONALA SRIDHAR RAO
17	U15CS029	BRYAN STEVE PUSHPARAJ I
18	U15CS112	MAILE ARUN KUMAR
19	U15CS113	MAMUNDURU BHARATH KUMAR
20	U15CS124	MOHANKUMAR J
21	U15CS010	DIVYA
22	U15CS149	P.KHAJA KHAN
23	U15CS154	PERAM ANTONY
24	U15CS155	PERAM VENKATA KRISHNA REDDY
25	U15CS156	PERURI V S V KRISHNA MOHAN

26	U15CS184	S. SAI SHRUTHI
27	U15CS185	SADHOLLA PRANAY REDDY
28	U15CS186	SAI RAMANA S M
29	U15CS192	SESHA SRUJAN.B
30	U15CS193	SHAIK AFRIDI
31	U15CS194	SHAIK SABIR
32	U15CS195	SHAIK YASMEEN
33	U15CS218	VETCHA VENKATA KRISHNA TEJA
34	U15CS219	VISNESH.B
35	U15CS240	YUGESH.S
36	U16CS014	SOMA BHARATH KUMAR
37	U16CS015	B J JAISON
38	U16CS033	POOJALAKSHMI N
39	U16CS055	MEGANATHAN G
40	U16CS097	KISHAN KUMAR
41	U16CS099	GANGUMALLA GANGA SUNIL
42	U16CS100	GALLA BHUCHANDRA
43	U16CS158	NIMBAGALLU KURUBA GURUMURTHY
44	U16CS159	JANA ARAVIND KUMAR
45	U16CS189	CHAUHAN MAYANK SUNILKUMAR
46	U16CS204	GADDALA UDAY KIRAN

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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CERTIFICATE COURSE ON INTRODUCTION TO ARTIFICIAL INTELLIGENCE

COURSE COORDINATOR

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Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

CHUDAAMANI.V (U14CS042)

For actively participating in the value added course " Introduction to Artificial Intelligence " Conducted by School of Computing, BIHER from 12.12.2021 to 21.01.2021.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

Chennai-600 073. INDIA

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		I					
Course Number							
Course Title		Introduction to Artificial Intelligence					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80		80-100	✓
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6	✓	6-8		8-10	

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	yes
	(iii)	Had to pickup relevant additional topics through concurrent study	yes
	(iv)	Have no exposure to the background material	yes.
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**	

HEAD OF THE DEPARTMENT

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COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		II					
Course Number							
Course Title		Introduction to AI					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80		80-100	✓
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6	✓	6-8		8-10	

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	yes
	(iii)	Had to pickup relevant additional topics through concurrent study	yes
	(iv)	Have no exposure to the background material	yes
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	

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**	

HEAD OF THE DEPARTMENT

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BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 01.12.2021

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value-added course on **"DATA STRUCTURES"** - Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on **"DATA STRUCTURES"** in our campus premises on **12.12.2021**, students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Submitted to Principal for approval to organize this value-added course.

HOD

DEAN ENGINEERING

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

07.12.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **DATA STRUCTURES**for the benefit of II, III and IV year students. This course is scheduled from 12.12.2021 for 30hours which includes theory and practical. The timings are 4:00 PM to 5:00 PM

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.C.Nalini	Professor
2	Mrs.C.Anuradha	Professor

Head of Department

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

To

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INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE DATA STRUCTURES
Date of Introduction of the Course: 12.12.2021

The timings are

Time Table & Lesson plan

CLASS	DATE	TOPIC
1,2	12.12.2021 13.12.2021	**1. MODULE 1:** Introduction of data Structures, Data Abstraction and Algorithm Analysis, Data types/objects/structures, Abstract definition of data structures, Representation and implementation, Time requirements of algorithms, Space requirements of algorithms.
3,4	14.12.2021 15.12.2021	**2. MODULE 2:** Review of Linear Data Structures, Array application and representation, Polynomials, Sparse matrices, String-pattern Matching.
5,6	16.12.2021 19.12.2021	**3. MODULE 3:** Stack and Queues, Needs and justification of the study of the structures, Representation and implementation, multiple stacks and queues, Implementation of recursion using stack.
7,8	20.12.2021 21.12.2021	**4. MODULE 4:** Linked Lists, Needs for the structure and justification of the study, Representation and Implementation, Doubly linked list, Circular linked list.
9,10	22.12.2021 23.12.2021	**MODULE 5:** Linked list application, Memory Management, Static memory management, Dynamic memory management.
11,12	26.12.2021 27.12.2021	**6. MODULE 6:** Nonlinear Data Structures, Trees, Definitions, terminologies and properties, Binary tree representation, traversals and applications.
13,14	28.12.2021 29.12.2021	**7. MODULE 7:** Threaded binary trees, Binary Search Trees, AVL Trees, M-way Search Trees, B-trees, B*-trees, B+-trees.
		8. MODULE 8:

15,16	30.12.2021 02.01.2022	Optimum binary search trees, Multidimensional binary search tree.
17,18	3.1.2022 4.1.2022	**9. MODULE 9:** Graphs, Definition, terminologies and properties, Graph representations, Minimum spanning trees.
19,20	5.1.2022 6.1.2022	**10. MODULE 10:** The searching techniques using for Depth-first search, Breadth-first search, Networks.
21,22	9.1.2022 10.1.2022	**11. MODULE 11:** The searching techniques using for Priority Queues, Heap Structures, Binomial Heaps, Leftist Heaps.
23,24	11.1.2022 12.1.2022	**12. MODULE 12:** The sorting techniques using for Sort and Search Algorithms, Heap sort, Merge sort, Quick-sort
25,26	19.1.2022 20.1.2022	**13. MODULE 13:** Hashing General radix sort Symbol tables Sequential search, l2021y search, Interpolation search, Tries.
27,28	23.1.2022 24.1.2022	**14. MODULE 14:** XML Parser uses tree algorithms. Decision-based algorithm is used in machine learning which works upon the algorithm of tree. Databases also uses tree data structures for indexing. Domain Name Server (DNS) also uses tree structures.
29,30	25.1.2022 26.1.2022	**15. MODULE 15:** Some applications of a graph are: Facebook's Graph API uses the structure of Graphs. Google's Knowledge Graph also has to do something with Graph. Dijkstra algorithm or the shortest path first algorithm also uses graph structure to finding the smallest path between the nodes of the graph. PS navigation system also uses shortest path APIs.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg...
Bharath Institute of Higher Education & Research
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CERTIFICATE COURSE ON DATA STRUCTURES

Date of Introduction of the Course: 12.12.2021

COURSE SYLLABUS

1. MODULE 1:

Introduction of data Structures,Data Abstraction and Algorithm Analysis, Data types/objects/structures, Abstract definition of data structures, Representation and implementation, Time requirements of algorithms, Space requirements of algorithms.

2. MODULE 2:

Review of Linear Data Structures, Array application and representation, Polynomials, Sparse matrices, String-pattern Matching.

3. MODULE3:

Stack and Queues, Needs and justification of the study of the structures, Representation and implementation, multiple stacks and queues, Implementation of recursion using stack.

4. MODULE 4:

Linked Lists, Needs for the structure and justification of the study, Representation and Implementation, Doubly linked list, Circular linked list.

5. MODULE 5:

Linked list application, Memory Management, Static memory management, Dynamic memory management.

6. MODULE 6:

Nonlinear Data Structures, Trees, Definitions, terminologies and properties, Binary tree representation, traversals and applications.

.7. MODULE 7:

Threaded binary trees, Binary Search Trees, AVL Trees, M-way Search Trees, B-trees, B*-trees, B+-trees.

8. MODULE 8:

Optimum binary search trees, Multidimensional binary search tree.

9. MODULE 9:

Graphs, Definition, terminologies and properties, Graph representations, Minimum spanning trees.

10. MODULE 10:

The searching techniques using for Depth-first search, Breadth-first search, Networks.

11. MODULE 11:

The searching techniques using for Priority Queues, Heap Structures, Binomial Heaps, Leftist Heaps.

12. MODULE 12:

The sorting techniques using for Sort and Search Algorithms, Heap sort, Merge sort, Quick-sort

13. MODULE 13:

Hashing General radix sortSymbol tablesSequential search , Binary search, Interpolation search, Tries.

14. MODULE 14:

XML Parser uses tree algorithms. Decision-based algorithm is used in machine learning which works upon the algorithm of tree.Databases also uses tree data structures for indexing. Domain Name Server (DNS) also uses tree structures.

15. MODULE 15:

Some applications of a graph are: Facebook's Graph API uses the structure of Graphs.Google's Knowledge Graph also has to do something with Graph.Dijkstra algorithm or the shortest path first algorithm also uses graph structure to finding the smallest path between the nodes of the graph. PS navigation system also uses shortest path APIs.

COURSE OBJECTIVES

In this course we plan to give students an overview data structures: data abstraction, a survey of linear data structures, nonlinear data structures, a discussion of more advanced internal and external sort and search algorithms, and the trade-offs involved in the use of different data organizations. The algorithm analysis and trade-offs study shall be done. Implementations and their efficiency in either C or C++ shall be considered in the Lab.

Specifically, the course has the following objectives:

Students will learn

Upon completion of this course students should be able to fully understand and apply the following concepts in their computing related work environment.

1. Data abstraction and information hiding.
2. Linear data structures and their applications in problem solving and programming.
3. Nonlinear data structures and their applications in problem solving and programming.
4. Internal and external sort and search techniques.
5. Graphs, Priority Queues
6. Sort and Search applicationsin problem solving and programming

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON DATA STRUCTURES

Date of Introduction of the Course: 12.12.2021

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS166	SHAFAN HASIM.N
2	U14CS167	SHAIK AATIKA
3	U14CS168	SHAIK MEERA SHARIF
4	U14CS169	SHAIK YASMIN
5	U14CS170	SHANKAR KUMAR GUPTA
6	U14CS006	ABHIKAMALI .A
7	U14CS007	ABHISHEK MANDURI
8	U14CS008	AJAY.D
9	U14CS009	AKASH CHANDRA AMBASTHA
10	U14CS010	AKHIL REDDY.G
11	U14CS011	AKSHAY.R
12	U14CS165	SAURAV SINGH
13	U14CS224	R.SINDHU
14	U14CS228	ELACATI JAGANNADHA HARSHITHA
15	U14CS230	MARAM REDDY RAJASEKHAR
16	U14CS234	DANDU MOHAN RAJENDRA VARMA
17	U15CS055	GOLLAPUDI KALYAN KUMAR
18	U15CS056	GORRE THIRUPATHI REDDY
19	U15CS057	GUJJETI MAHESH
20	U15CS058	GUNDA VINAY KUMAR
21	U15CS121	MD MINHAZ RAZA HASHMI
22	U15CS123	MOHAMMAD ASLAM SHAREEF
23	U15CS124	MOHANKUMAR J
24	U15CS187	SANAYAGARI JAYA CHANDRA REDDY
25	U15CS188	SANDANAMUDI CHANDRA TEJA

26	U15CS189	SANTHOSH RAJ M
27	U15CS254	JAGATH RAJAH.R
28	U15CS255	ADITYA
29	U15CS701	PRAVEEN RAJ.V
30	U16CS001	SANTOSH B
31	U16CS002	APARNA V M
32	U16CS003	NALAMOTHU SRIKANTH
33	U16CS004	ABDUL KHADIR L
34	U16CS006	SARAVANAN R
35	U16CS007	SANAM NAGA VENKATA SAI KRISHNA
36	U16CS110	NARRAVULA TEJASREE
37	U16CS111	BODAKUNTLA AKHIL
38	U16CS112	INTURI RAGHU BABU
39	U16CS113	PALLE SUDHEER KUMAR REDDY
40	U16CS114	BANGARAPU MANOJ KUMAR REDDY
41	U16CS115	BHUMIRDDY MAHITHA
42	U16CS116	YELLAPUREDDY REPARENDAR REDDY
43	U16CS171	GOGA VAMSI
44	U16CS172	SEELAM HARITHA SAI PRIYA
45	U16CS173	NALLATI JAYA LAKSHMI DURGA
46	U16CS217	K NIVEDITHA
47	U16CS218	K DIVYA
48	U16CS219	HARINDRA REDDY
49	U16CS220	AFREEN

COURSE COORDINATOR

HEAD OF THE DEPART

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

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE COURSE ON DATA STRUCTURES

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

K DIVYA(REG NO:U16CS218)

For actively participating in the value added course **"DATA STRUCTURES "** Conducted by School of Computing, BIHER from 12.12.2021 to 21.01.2022.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021 – 2022					
Term		ODD					
Course Number							
Course Title		Data Structures					
Number of Credits		–					
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	

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**	

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		ODD					
Course Number							
Course Title		Data structures					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8		8-10	

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	

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	

HEAD OF THE DEPARTMENT

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Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date:07.12.2021

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject:Request of Permission to conduct a value-added course on **"Web Designing"** -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on **"Web Designing"** in our campus premises on **16.12.2016**, students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing 1:30 PM to 4:30 PM

Submitted to Principal for approval to organize this value-added course.

HOD

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

DEAN ENGINEERING

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

13.12.2021

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Web Designing** for the benefit of II, III and IV year students. This course is scheduled from 16.12.2021 for 30hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM

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.C.Nalini	Professor
2	Dr.C.Rajabhushanam	Professor

Head of Department

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

To

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CERTIFICATE COURSE ON WEB DESIGNING

Date of Introduction of the Course: 16.12.2021

COURSE SYLLABUS

1.Basics of Web Designing

How to design a website

- Creating different themes for different layouts
- How to design the look and feel of a website
- How to create and design banners, advertisements, etc.
- Learning about the tools and techniques of web design covers using software applications

2.Web Technologies

- How does a website work?
- Web standards and W3C elements
- Domains and Hosting
- Clients and Server Scripting Languages
- Responsive Web Designing

3. HTML

how HTML elaborates the general structure of a web page design ,tags and the concept of HTML files. hyperlinking and the tools use in a web page design process. HTML 5 with the tools featured on it.

4.CSS

The tools essential for web page designing, cascading style sheets CSS .CSS in adapting a webpage to different environments. CSS3 is replete with features .

5.JavaScript

logic-based language in programming and interactive websites with cool tabs, sliders, calls to action and other dynamic features made with JavaScript.

6.Bootstrap

Bootstrap is written in programming languages of HTML, CSS, and JavaScript. What it does turns a website into a responsive one. front-end development framework to furnish a better understanding of both web development as well as web design.

7.Adobe Dreamweaver

Adobe Dreamweaver. What's best about Adobe Dreamweaver. This software is a saviour for those creating multiple website designs at one time.

8.Adobe Flash

The central vector animation tool of Flash animations on a webpage. Adobe Flash isturns a website into an interactive one.

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of Web Designing and understand the principles of creating an effective web page, including an in-depth consideration of information architecture.Become familiar with graphic design principles that relate to web design and learn how to implement theories into practice.Develop skills in analyzing the usability of a web site.Understand how to plan and conduct user research related to web usability.Learn the language of the web: HTML and CSS.Learn CSS grid layout and flexbox.Learn techniques of responsive web design, including media queries.Develop skills in digital imaging (Adobe Photoshop.)Develop basic programming skills using JavascriptandjQuery.Be able to embed social media content into web pages.

Specifically, the course has the following objectives:

Students will learn

1. Students will develop an understanding of the formalistic (aesthetic) aspects of design and visual communication.
2. Students will demonstrate cross-platform (web, mobile, broadcast, print) storytelling skills.
3. Students will become familiar with graphic design and/or game theory and be able to apply this theory to real world projects.
4. Students will develop and understanding of information design and usability as it applies to interactive media projects.
5. Students will utilize coding and software tools to analyze and present data in a professional manner that could be translated to web-based or app-based media.
6. Students will write at a level suitable for a public audience in an area related to interactive media (e.g., technical writing, game writing, writing for social media, presentation of a CV)

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

HEAD OF DEPARTMENT
Department of Computer Sci & 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 WEB DESIGNING

Date of Introduction of the Course: 16.12.2021

The timings are 1:30 PM to 4:30 PM

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	16-12-2021(AN)	**1.Basics of Web Designing** • How to design a website • Creating different themes for different layouts • How to design the look and feel of a website • How to create and design banners, advertisements, etc. • Learning about the tools and techniques of web design covers using software applications
3,4	17-12-2021(FN)	**2.Web Technologies** • How does a website work? • Web standards and W3C elements • Domains and Hosting • Clients and Server Scripting Languages
5,6	17-12-2021 (AN)	**3.HTML** how HTML elaborates the general structure of a web page design ,tags and the concept of HTML files. hyperlinking and the tools use in a web page design process. HTML 5 with the tools featured on it.

7,8	**23-12-2021 (AN)**	**3.HTML** how HTML elaborates the general structure of a web page design ,tags and the concept of HTML files. hyperlinking and the tools use in a web page design process. HTML 5 with the tools featured on it.
9,10	**24-12-2021 (FN)**	**4.CSS** The tools essential for web page designing, cascading style sheets CSS . CSS in adapting a webpage to different environments. CSS3 is replete with features
11,12	**24-12-2021 (AN)**	**5.JavaScript** logic-based language in programming and interactive websites with cool tabs, sliders, calls to action and other dynamic features made with JavaScript.
13,14	**30-12-2021 (AN)**	**5.JavaScript** logic-based language in programming and interactive websites with cool tabs, sliders, calls to action and other dynamic features made with JavaScript.

15,16	**31-12-2021 (FN)**	**6.Bootstrap** Bootstrap is written in programming languages of HTML, CSS, and JavaScript. What it does turns a website into a responsive one. front-end development framework to furnish a better understanding of both web development as well as web design.
17,18	**31-12-2021 (AN)**	**7.Adobe Dreamweaver** Adobe Dreamweaver. What's best about Adobe Dreamweaver. This software is a saviour for those creating multiple website designs at one time. .
19,20	**06-01-2022 (FN)**	**8.Adobe Flash** The central vector animation tool of Flash animations on a webpage. Adobe Flash isturns a website into an interactive one

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg..
Bharath Institute of Higher Education & Research
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CERTIFICATE COURSE ON WEB DESIGNING
Date of Introduction of the Course: 16.12.2021

School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS010	AKHIL REDDY.G
2	U14CS011	AKSHAY.R
3	U14CS012	AMAR BASUMATARY
4	U14CS013	ANDREW JOSEPH.V
5	U14CS014	ANGELIN .R
6	U14CS015	ANKITA
7	U14CS016	ANNILKRISHNAN .K
8	U14CS017	ASHUTOSH SRIVASTAVA
9	U14CS019	ARAMBAKAM,YASWANTH
10	U14CS021	AREEF SYED
11	U14CS022	ARUN KUMAR SINGH
12	U14CS023	ASIF NAZIR WANI
13	U14CS024	ATUL ANAND
14	U14CS025	BACHU HARISH
15	U14CS026	BALA MURUGAN .P
16	U14CS027	BALAJI SINGH. T
17	U14CS028	BALAJI.S
18	U14CS029	BALAKRISHNAN.T
19	U14CS031	BISHAL BANIK
20	U14CS032	BODA VEERA VENKATA RAVI TEJA
21	U14CS033	BOORAGADDA VAMSI KRISHNA
22	U14CS056	GOUTHAM KALYAN KUMAR .R
23	U14CS057	GOVIND KUMAR
24	U14CS058	HARI TEJA.G
25	U14CS059	HARISH.V

26	U14CS060	JASIMKHAN.J.
27	U14CS061	JENNIFER.S
28	U14CS062	JERIPOTHULA SURESH GOUD
29	U14CS063	JOHN DALTON .H
30	U14CS064	K. LAKSHMIKANTH REDDY
31	U14CS065	K. LAKSHMI NARAYANA REDDY
32	U14CS111	NAGINENI SRIKANTH CHOWDARY
33	U14CS112	NAGIREDDY MOHAN KRISHNA REDDY
34	U14CS113	NALLAJARLA CHAKRADHAR
35	U14CS114	NANDALA SWETHA
36	U14CS115	NANDIPALLI MOUNICA
37	U14CS116	NAYANA.P. BALA CHANDRAN
38	U14CS117	NEERAJAN SAHA
39	U14CS118	NETHI MUKESH
40	U14CS120	NIRUPAMA CHAKRABORTY .S
41	U14CS121	NITISH SINGH CHAUHAN
42	U14CS133	PRATEEP ANAND
43	U14CS134	PRINCE RAJ
44	U14CS135	RAGAVENDRAN.R
45	U14CS136	RAHUL GOUD.P
46	U14CS137	RAHUL HAWAIBAM
47	U14CS138	RAHUL KUMAR
48	U14CS139	RAHUL KUMAR SINGH
49	U14CS141	RAHUL SARDAR
50	U14CS142	RAJA S.V
51	U14CS143	RAJNISH RANJAN PANDEY
52	U14CS209	YASVAND CUMAAR .S
53	U14CS210	YELLALA SANTHOSH REDDY
54	U14CS213	AKULA MOHITH
55	U14CS214	PRASANTH KUMAR .P
56	U14CS215	PRANJAL BHASHKAR
57	U14CS506	I.SUKAPATLA AVINASH

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

RAHUL GOUD.P

For actively participating in the value added course **"WEB DESIGNING"**
Conducted by School of Computing, BIHER from 16.12.2021 to 06.01.2022.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		ODD					
Course Number							
Course Title		Web Designing					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	✓

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**	

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term		ODD					
Course Number							
Course Title		Web Designing					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	✓

3.	**Preparation for the course by the student:**		
	(i)	Have done part of this course earlier	Yes
	(ii)	Has adequate prior exposure to the prerequisites	Yes
	(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**	

HEAD OF THE DEPARTMENT

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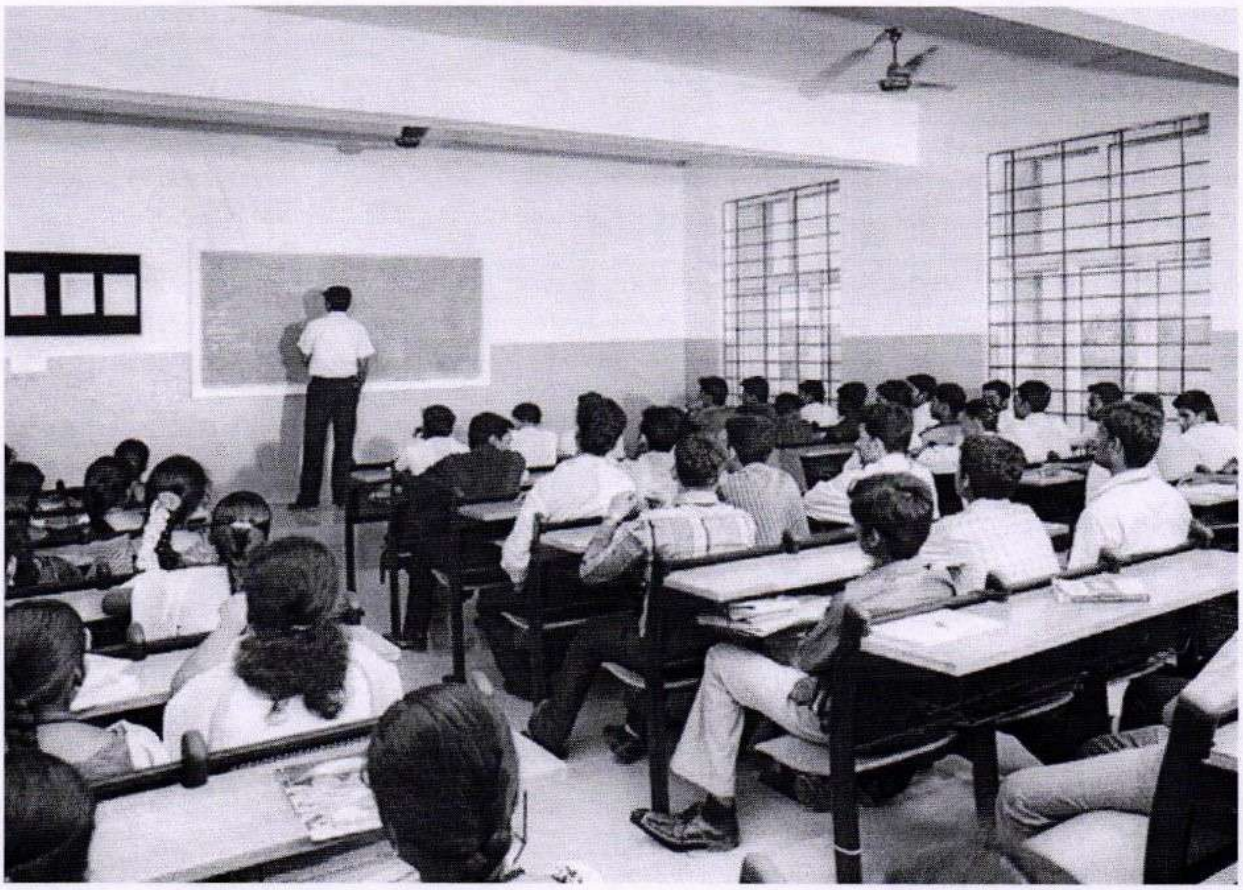
CERTIFICATE COURSE ON WEB DESIGNING



COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: **14.03.2022**

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value-added course on "**Security in Google Cloud Platform**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course "**Security in Google Cloud Platform**" -Reg in our campus premises on **17.03.2022**, students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing: 9:30 AM to 12:30 PM (FN) and 1:30 PM to 4:30 PM(AN)

Submitted to Principal for approval to organize this value-added course.

HOD

DEAN ENGINEERING

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

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CIRCULAR

14.03.2022

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Security in Google Cloud Platform** for the benefit of students. This course is scheduled from 17.03.2022 which includes theory and practical. The timings are 9:30 AM to 12:30 PM (FN) and 1:30 PM to 4:30 PM (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.C.Rajabhushanam	Professor.
2.	Mr.M.Rammamorthy	Assistant Professor.

Head of Department

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073, INDIA

To

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INSTITUTE OF HIGHER EDUCATION AND RESEARCH
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CERTIFICATE COURSE ON SECURITY IN GOOGLE CLOUD PLATFORM

Date of Introduction of the Course: 17.03.2022

COURSE SYLLABUS

1. Google Cloud Platform (GCP) Infrastructure

To manage GCP using console and Command Line tool – Cloud Shell, Gcloud, Gsutil. Also, you will learn how to install and configure Cloud SDK

2. GCP Networking Services

The GCP networking concept and how-to setup network topology, how to connect different GCP resources with each other and isolating them using network policies and firewall.

3. GCP IAM and Security Services

To Identity and Access management with several management tools that GCP offers.

4. GCP Compute Services

To create/manage Virtual machines and work with Compute engine.

5. GCP Storage & Database Services

The different data storage services offered by GCP.

6. Containers

To Deploy, manage, and scale containerized applications on Kubernetes.

7. Cloud Dataflow for Data Processing

To develop and execute a variety of data processing patterns using Dataflow processing and how to manage cluster using Dataproc service.

8. GCP APIs & Development Services

To use GCP for application development, deployment, debugging and monitoring.

9. GCP DevOps Services

To use GCP DevOps service for CI/CD using Jenkins and how to do debugging using Stackdriver in DevOps environment.

10. Designing & Implementing GCP Migration

To check different metrics and take decision to migrate to GCP.

11. GCP Cloud Architect Exam Case Studies

The official case studies provided by Google for GCP Architect exam, and practice on these case studies with sample exam problem statements.

COURSE OBJECTIVES

This course helps to understand about Regions, Zones and Projects that make up the GCP environment. It also helps to understand What is Cloud computing, Overview of different cloud computing services, Understand GCP environment Different Compute, Storage, Big Data and AI resources which GCP offers and Google Network Service Offerings with Setup GCP account.

Specifically, the course has the following objectives:

Students will learn

1. To understand GCP environment and Setup GCP account.
2. To use Cloud Shell to manage GCP environment and Install/Configure cloud SDK.
3. To use VPC, Create/Manage VPN, Work with Routes Configure and Deploy Endpoints.
4. To understand Identity and Access Management, Create and manage permissions for Google Cloud Platform resources.
5. To learn and implement Compute options (vCPU and Memory) specific to workload with Common Compute Engine actions.
6. To understand Cloud Storage Nearline, Coldline and Integration with on premises/multi-cloud environment.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON SECURITY IN GOOGLE CLOUD PLATFORM

Date of Introduction of the Course: 17.03.2022

The timings are 9:30 AM to 12:30 PM (FN) and 1:30 PM to 4:30 PM(AN)

Time Table & Lesson plan

CLASS	DATE	TOPIC
1	17-03-2022(FN) Friday	**1. Google Cloud Platform (GCP) Infrastructure** To manage GCP using console and Command Line tool Cloud Shell, Gcloud, Gsutil. Also, you will learn how to install and configure Cloud SDK
2	18-03-2022 (AN) Saturday	**2. GCP Networking Services** The GCP networking concept and how-to setup network topology, how to connect different GCP resources with each other and isolating them using network policies and firewall.
3,4	20-03-2022 (FN) Monday	**3. GCP IAM and Security Services** To Identity and Access management with several management tools that GCP offers
5	21-03-2022(FN) Tuesday	**4. GCP Compute Services** To create/manage Virtual machines and work with Compute engine.
6	22-03-2022 (FN) 22-03-2022 (AN) Wednesday	**5. GCP Storage & Database Services** The different data storage services offered by GCP
7,8	23-03-2022 (FN) Thursday	**6. Containers** To Deploy, manage, and scale containerized applications on Kubernetes.
9	24-03-2022 (FN) 24-03-2022 (AN) Friday	**7. Cloud Dataflow for Data Processing** To develop and execute a variety of data processing patterns using Dataflow processing and how to manage cluster using Dataproc service.

Bharath Institute of Science and Technology

Department of Computer Science and Engineering

School of Computing

SECURITY IN GOOGLE CLOUD PLATFORM

Registered Students Name List

S.No	RegNo	Student Name
1	U16CS001	SANTOSH B
2	U16CS002	APARNA V M
3	U16CS003	NALAMOTHU SRIKANTH
4	U16CS004	ABDUL KHADIR L
5	U16CS006	SARAVANAN R
6	U16CS007	SANAM NAGA VENKATA SAI KRISHNA
7	U16CS008	CHEEMIREDDIGARI ANKITHAREDDY
8	U16CS009	RITIK RAJ
9	U16CS010	JOHAN KIRUBHAHAR P P
10	U16CS011	RAVURI MOUNIKA
11	U16CS012	FAYAZ AKIL S
12	U16CS013	SURYA SUNDARRAJ SRIRAM
13	U16CS014	SOMA BHARATH KUMAR
14	U16CS015	B J JAISON
15	U16CS016	SARAVANAKUMAR S
16	U16CS017	VARUN KANNA A
17	U16CS018	JUPAKA SAIVARUN
18	U16CS019	PYDI VENKATA PRITHEESH NIHAR
19	U16CS020	R MAHESH
20	U16CS021	DHRUBAJYOTI MAJI
21	U16CS024	SRIMATHI S
22	U16CS025	SANTHOSHKUMAR S
23	U16CS026	AJAY KUMAR R
24	U16CS027	GARLAPATI RAGHURAM
25	U16CS028	PADILAM JAYANTH YADAV
26	U16CS029	MOHAMMED KHIZER HUSSAIN N
27	U16CS030	JEEVAMEDHA M
28	U16CS031	SYED HAFEEZ HUSSAIN
29	U16CS032	MUGESH P
30	U16CS033	POOJALAKSHMI N

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

Bharath UNIVERSITY

பாரத் பல்கலைக்கழகம்

BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed-to-be-University, u/s 3 of the UGC Act, 1956)

34 YEARS OF EXCELLENCE

CERTIFICATE OF PARTICIPATION

Ms. APARNA V M

For actively participating in the value added course **"Security in Google Cloud Platform "**Conducted by School of Computing, BIHER on 17.03.2022.

Course Coordinator

Head of the Department

Director

COURSE FEEDBACK FORM

Academic Year		2021-2022					
Term							
Course Number		-					
Course Title		Security in Google cloud Platform					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	✓

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**	

HEAD OF THE DEPARTMENT

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Department of Computer Sci... & Engg..
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Chennai-600 073. INDIA

COURSE FEEDBACK FORM

Academic Year		2021–22					
Term		–					
Course Number		–					
Course Title		Security in google cloud platform					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8		8-10	✓

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	

HEAD OF THE DEPARTMENT

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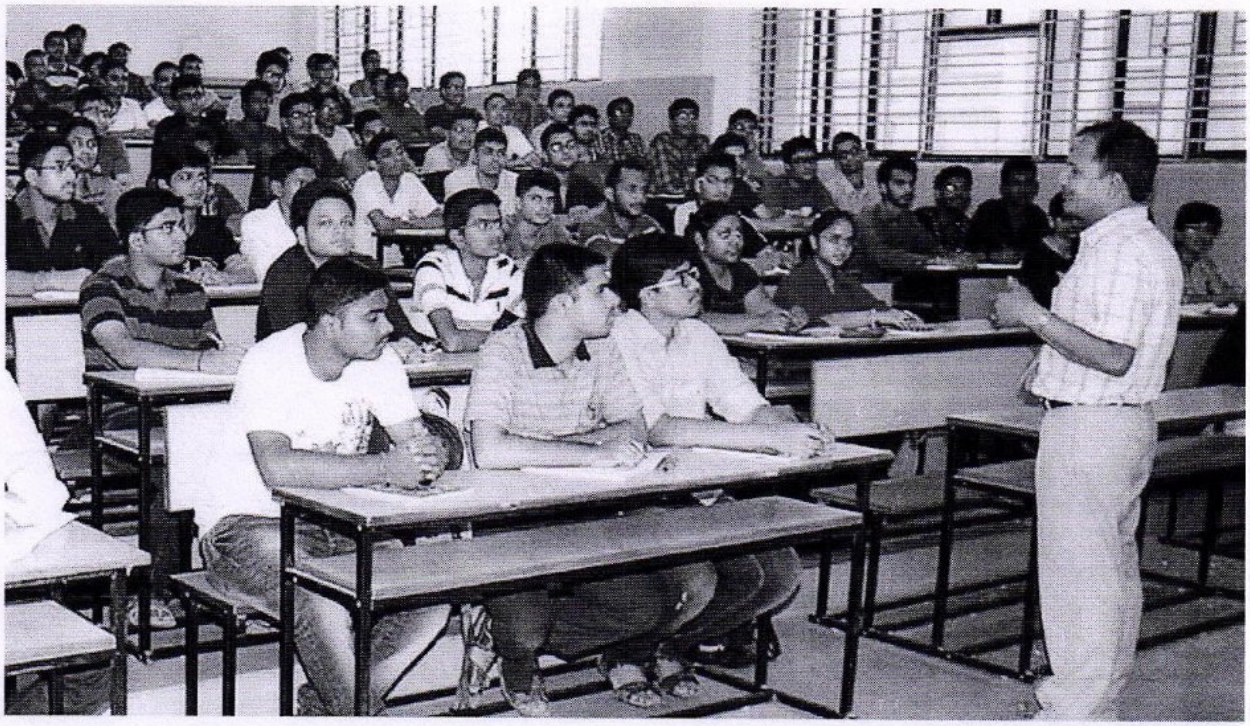
CERTIFICATE COURSE ON SECURITY IN GOOGLE CLOUD PLATFORM

Introduction of the Course: 17.03.2022



Course Coordinator

Head of the Department

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Bharath
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NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

From
Dr. K.P Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

Date: 27.02.2022

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject :Request of Permission to conduct a value added course on "**IMAGE PROCESSING FEATURES AND SEGMENTATION**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**IMAGE PROCESSING FEATURES AND SEGMENTATION**" in our campus premises on **17/03/2022**.Students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: CSE Smart Room

Timing : 1:30P.M-4.30PM

9.30A.M-4.30PM.

Submitted to Principal for approval to organize this value added course.

HOD

DEAN ENGINEERING

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
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CIRCULAR

14.03.2022

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **IMAGE PROCESSING FEATURES AND SEGMENTATION** for the benefit of II, III and IV year students. This course is scheduled from 17-03-2022 for 30hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM

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.C.Nalini	Professor
2	Dr.C.Rajabhushanam	Professor

Head of Department

To

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Department of Com
Bharath Institute of
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Act, 1956)

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CERTIFICATE COURSE ON IMAGE PROCESSING FEATURES AND SEGMENTATION

Date of Introduction of the Course: 17-03-2022

COURSE SYLLABUS

1. **REVIEW OF DIGITAL IMAGE PROCESSING**
   Steps in digital image processing-Elements of visual perception- Connectivity and Relations between Pixels.- brightness adaptation,Simple Operations- Arithmetic, Logical, Geometric Operations. Mathematical Preliminaries - 2D Linear Space Invariant Systems - 2D Convolution - Correlation 2D Random Sequence - 2D Spectrum.Mach band effect.Image enhancement in spatial and frequency domain, Histogram equalization.

2. **Image transforms**
   Image 2D Orthogonal and Unitary Transforms-Properties and Examples. 2D DFT- FFT – DCT - Hadamard Transform - Haar Transform - Slant Transform - KL Transform - Properties And Examples.

3.Enhancement Image Transforms

ImageEnhancement:- Histogram Equalization Technique- Point Processing-Spatial Filtering-In Space And Frequency - Nonlinear Filtering-Use Of Different Masks.

4. Image Segmentation

Edge detection, Thresholding, Region growing, Fuzzy clustering, Watershed algorithm, Active contour models, Texture feature based segmentation, Graph based segmentation, Wavelet based Segmentation - Applications of image segmentation.

Line Detection - Curve Detection - Edge Linking And Boundary Extraction, Boundary Representation, Region Representation And Segmentation, Morphology-Dilation, Erosion, Opening And Closing. Hit And Miss Algorithms Feature Analysis

5.FEATURE EXTRACTION

First and second order edge detection operators, Phase congruency, Localized feature extraction -detecting image curvature, shape features, Hough transform, shape skeletonization, Boundary descriptors, Moments, Texture descriptors- Autocorrelation, Co-occurrence features, Runlength features, Fractal model based features, Gabor filter, wavelet features.

6. Image restoration and construction

Image Restoration: Image Observation And Degradation Model, Circulant And Block Circulant Matrices and Its Application In Degradation Model - Algebraic Approach to Restoration- Inverse By Wiener Filtering - Generalized Inverse-SVD And Interactive Methods - Blind Deconvolution-Image Reconstruction From Projections.

7. Image compression

Image Compression: Redundancy And Compression Models -Loss Less And Lossy. Loss Less-Variable-Length, Huffman, Arithmetic Coding - Bit-Plane Coding, Loss Less Predictive Coding, Lossy Transform (DCT) Based Coding, JPEG Standard - Sub Band Coding.

8. Image Segmentation

Edge Detection - Line Detection - Curve Detection - Edge Linking And Boundary Extraction, Boundary Representation, Region Representation And Segmentation, Morphology-Dilation, Erosion, Opening And Closing. Hit And Miss Algorithms Feature Analysis.

9. REGISTRATION

Registration - Preprocessing, Feature selection - points, lines, regions and templates Feature correspondence - Point pattern matching, Line matching, Region matching, Template matching.Transformation functions - Similarity transformation and Affine Transformation. Resampling – NearestNeighbour and Cubic Splines.

10. IMAGE FUSION

Image Fusion - Overview of image fusion, pixel fusion, wavelet based fusion -region based fusion.

11.Image compression & segmentation

Image Compression:Redundancy And Compression Models -Loss Less And Lossy. Loss Less-Variable-Length, Huffman, Arithmetic Coding - Bit-Plane Coding, Loss Less Predictive Coding, Lossy Transform (DCT) Based Coding, JPEG Standard - Sub Band Coding. Image Segmentation: Edge Detection - Line Detection - Curve Detection - Edge Linking And Boundary

Extraction, Boundary Representation, Region RepresentationAnd Segmentation, Morphology-Dilation, Erosion, Opening And Closing. Hit And Miss Algorithms Feature Analysis.

12.**Color**

Color Image-Processing Fundamentals, RGB Models, HSI Models, Relationship Between Different Models.

13.**Multispectral image processing**

Multispectral Image Analysis - Color Image Processing Three Dimensional Image Processing-Computerized Axial Tomography-Stereometry-Stereoscopic Image Display-Shaded Surface Display.

14.**3D Image Visualization**

Sources of 3D Data sets, Slicing the Data set, Arbitrary section planes, The use of color, Volumetric display, Stereo Viewing, Ray tracing, Reflection, Surfaces, Multiple connected surfaces, Image processing in 3D, Measurements on 3D images.

15.Image Quality

Natural scene statistics, quality assessment based on structural and statistical approaches, blind quality assessment

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of Image Processing, features and Segmentation will gain hands-on experience in solving relevant problems through projects that will utilize existing public tools monitoring one's progress. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1) The fundamental ideas behind,Image Processing, features and Segmentation, the evolution of the paradigm, its applicability; Benefits, as well as current and future challenges;

2) The basic ideas and principles ofImage Processing, features and Segmentationis the subjectivity of consciousness and professional activity.

deployment considerations;

3) To understand the challenges in extracting objects/regions of interest from a given images providing user-friendly Web interfaces, curriculum materials, and professional development

4) Engaging with authentic scientific tools and practices such as controlling remote laboratory experiments or telescopes can build science inquiry skills, improve conceptual understanding, and increase motivation

5) The variety of programming models and develop working experience in several of them.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
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CERTIFICATE COURSE ON IMAGE PROCESSING FEATURES AND SEGMENTATION

Date of Introduction of the Course: 17.03.2022

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	17-03-2022(AN)	**1. REVIEW OF DIGITAL IMAGE PROCESSING** Steps in digital image processing-Elements of visual perception- Connectivity and Relations between Pixels.- brightness adaptation, Simple Operations- Arithmetic, Logical, Geometric Operations. Mathematical Preliminaries - 2D Linear Space Invariant Systems - 2D Convolution - Correlation 2D Random Sequence - 2D Spectrum. Mach band effect. Image enhancement in spatial and frequency domain, Histogram equalization.
3,4	17-03-2022(AN) 18-03-2022(FN)	**2. Image transforms** Image 2D Orthogonal and Unitary Transforms-Properties and Examples. 2D DFT- FFT – DCT - Hadamard Transform - Haar Transform - Slant Transform - KL Transform -Properties And Examples
5,6	17-03-2022(FN)	**3.Enhancement Image Transforms** Image Enhancement:- Histogram Equalization Technique- Point Processing-Spatial Filtering-In Space And Frequency - Nonlinear Filtering-Use Of Different Masks
7,8	17-03-2022 (FN) 17-03-2022(AN)	**4.Image Segmentation** Edge detection, Thresholding, Region growing, Fuzzy clustering, Watershed algorithm, Active contour models, Texture feature based segmentation, Graph based segmentation, Wavelet based Segmentation - Applications of image segmentation. Line Detection - Curve Detection - Edge Linking And Boundary Extraction, Boundary Representation, Region Representation And

		Segmentation, Morphology-Dilation, Erosion, Opening And Closing. Hit And Miss Algorithms Feature Analysis
9,10	**17-03-2022 (AN)**	**5.FEATURE EXTRACTION** First and second order edge detection operators, Phase congruency, Localized feature extraction -detecting image curvature, shape features, Hough transform, shape skeletonization, Boundary descriptors, Moments, Texture descriptors-Autocorrelation, Co-occurrence features, Runlength features, Fractal model based features, Gabor filter, wavelet features.
11,12	**17-03-2022 (AN)**	**6.Image restoration and construction** Image Restoration: Image Observation And Degradation Model, Circulant And Block Circulant Matrices and Its Application In Degradation Model - Algebraic Approach to Restoration- Inverse By Wiener Filtering - Generalized Inverse-SVD And Interactive Methods - Blind Deconvolution-Image Reconstruction From Projections
13,14	**17-03-2022 (AN) 18-03-2022 (FN)**	**7.Image compression** Image Compression: Redundancy And Compression Models -Loss Less And Lossy. Loss Less- Variable-Length, Huffman, Arithmetic Coding - Bit-Plane Coding, Loss Less Predictive Coding, Lossy Transform (DCT) Based Coding, JPEG Standard - Sub Band Coding.
15,16	**18-03-2022 (FN)**	**8.Image Segmentation** Edge Detection - Line Detection - Curve Detection - Edge Linking And Boundary Extraction, Boundary Representation, Region Representation And Segmentation, Morphology-Dilation, Erosion, Opening And Closing. Hit And Miss Algorithms Feature Analysis.
17,18	**18-03-2022 (FN) 18-03-2022 (AN)**	**9.REGISTRATION** Registration - Preprocessing, Feature selection - points, lines, regions and templates Feature correspondence - Point pattern matching, Line matching, Region matching, Template matching.Transformation functions - Similarity transformation and Affine Transformation. Resampling – NearestNeighbour and Cubic Splines.
19,20	**18-03-2022 (AN)**	**10.. IMAGE FUSION** Image Fusion - Overview of image fusion, pixel fusion, wavelet based fusion -region based fusion.
21,22	**18-03-2022 (AN)**	**11.. Image compression & segmentation** Image Compression:Redundancy And Compression Models -Loss Less And Lossy. Loss

		Less- Variable-Length, Huffman, Arithmetic Coding - Bit-Plane Coding, Loss Less Predictive Coding, Lossy Transform (DCT) Based Coding, JPEG Standard - Sub Band Coding. Image Segmentation: Edge Detection - Line Detection - Curve Detection - Edge Linking And Boundary Extraction, Boundary Representation, Region RepresentationAnd Segmentation, Morphology-Dilation, Erosion, Opening And Closing. Hit And Miss Algorithms Feature Analysis.
	18-03-2022 (AN) 24-03-2022 (FN)	**12.Color** Color Image-Processing Fundamentals, RGB Models, HSI Models, Relationship Between Different Models
25,26	**24-03-2022 (FN)**	**13. Multispectral image processing** Multispectral Image Analysis - Color Image Processing Three Dimensional Image Processing-Computerized Axial Tomography-Stereometry-Stereoscopic Image Display-Shaded Surface Display.
27,28	**24-03-2022 (FN) 25-03-2022 (AN)**	14.**3D Image Visualization** Sources of 3D Data sets, Slicing the Data set, Arbitrary section planes, The use of color, Volumetric display, Stereo Viewing, Ray tracing, Reflection, Surfaces, Multiple connected surfaces, Image processing in 3D, Measurements on 3D images.
29,30	**25-03-2022 (AN)**	**15.Image Quality** Natural scene statistics, quality assessment based on structural and statistical approaches, blind quality assessment

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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CERTIFICATE COURSE ON IMAGE PROCESSING FEATURES AND SEGMENTATION

Date of Introduction of the Course: 17.03.2022

School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS111	NAGINENI SRIKANTH CHOWDARY
2	U14CS112	NAGIREDDY MOHAN KRISHNA REDDY
3	U14CS113	NALLAJARLA CHAKRADHAR
4	U14CS114	NANDALA SWETHA
5	U14CS115	NANDIPALLI MOUNICA
6	U14CS116	NAYANA.P. BALA CHANDRAN
7	U14CS117	NEERAJAN SAHA
8	U14CS118	NETHI MUKESH
9	U14CS120	NIRUPAMA CHAKRABORTY .S
10	U14CS121	NITISH SINGH CHAUHAN
11	U14CS122	NITYANAND BHARDWAJ
12	U14CS123	PANKAJ SARKAR
13	U14CS124	PARVATHA NIRANJAN REDDY
14	U14CS126	PAYAL SINGH
15	U14CS127	PELVIN CHRISTY
16	U14CS128	PENAGALAPATI MARUTHI RAO
17	U14CS129	PIYALI CHAKRABORTHY.M
18	U14CS130	POOJA KUMARI
19	U14CS131	PRAGYA ADITI
20	U14CS132	PRASHANTH.B
21	U14CS166	SHAFAN HASIM.N
22	U14CS167	SHAIK AATIKA
23	U14CS168	SHAIK MEERA SHARIF
24	U14CS169	SHAIK YASMIN

25	U14CS170	SHANKAR KUMAR GUPTA
26	U14CS171	SHARSHI KANT PRASAD
27	U14CS172	SHASHI BHUSHAN BHAGAT
28	U14CS173	SHEKH ADNAN NIYARIYA
29	U14CS174	SHIVANI GUPTA.M
30	U14CS175	SHUBHAM
31	U14CS176	SIREESHA.M
32	U14CS178	SK MD TAUQEER
33	U14CS179	SNEHA ROY
34	U14CS180	SABUJ BARMAN
35	U14CS181	SOURABH PRIYADARSHI
36	U14CS182	SRI DHARSHINI .P
37	U14CS183	SULEKHA KUMARI
38	U14CS184	SUNITA.S
39	U14CS185	SURENDAR.K
40	U14CS186	SURIYA.A.
41	U14CS187	SURYA.A
42	U14CS188	SUSINDHAR .P
43	U14CS190	SWEETY SHIMAL
44	U14CS192	THARIGOPULA LOKESH
45	U14CS193	THEJA.T

COURSE COORDINATOR

HOD

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
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Bharath

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

Pooja kumari

For actively participating in the value added course **"IMAGE PROCESSING FEATURES AND SEGMENTATION**

Conducted by School of Computing, BIHER from 17.03.2022 to 25.03.2022

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2022					
Term		Even					
Course Number							
Course Title		IMAGE PROCESSING, FEATURES & SEGMENTATION					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8		8-10	

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	

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	

HEAD OF THE DEPARTMENT

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COURSE FEEDBACK FORM

Academic Year		2022					
Term		Even					
Course Number							
Course Title		IMAGE PROCESSING, FEATURES & SEGMENTATION					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8	✓	8-10	

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	

HEAD OF THE DEPARTMENT

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

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE COURSE ON IMAGE PROCESSING FEATURES AND SEGMENTATION

Date of Introduction of the Course: 14.03.2022

School of Computing

COURSE CO ORDINATOR

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 22.08.2022

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**IBM AI Engineering**" - Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**IBM AI Engineering**" in our campus premises on **28/08/2022**.

43 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

HEAD OF DEPARTMENT
Department of Computer Sci & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

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CIRCULAR

25.08.2022

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **IBM AI Engineering** for the benefit of II, III and IV year students. This course is scheduled from 28.08.2022 for 30 hours which includes theory and practical. The timings are 9:30 AM to 12:30 PM

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.C.Nalini	Professor
2	Mrs.C.Anuradha	Assistant Professor

Head of Department

To

Copy to CSE

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HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
Bharath Institute of Higher Education & Research
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CERTIFICATE COURSE ON IBM AI ENGINEERING

Date of Introduction of the Course: 28.08.2022

COURSE SYLLABUS

1.Introduction: Philosophy of AI, Production systems

Introduction to AI-Problem formulation, Problem Definition, Production systems, Control strategies, Search strategies. Problem characteristics, Production system characteristics, Specialized production system.

2.Modeling a Problem as Search Problem, Uninformed Search

Problem solving methods, Problem graphs,Uninformed Search, Divide and Conquer, Greedy, Branch and Bound, Gradient Descent.

3.Heuristic Search, Domain Relaxations

Informed Search, Pure Heuristic Search, Best First Search, A* Search, AO* Search.

4.Local Search, Genetic Algorithms

Local Search Algorithms and Optimization Problems, Hill-climbing search, Simulated annealing search, Local beam search, Genetic algorithms, Ant Colony Optimization, Tabu Search.

5.Adversarial Search

Adversarial Search, Game Types, Problem Formalization, Game Tree, Zero Sum Game.

6.Constraint Satisfaction

Searching with Partial Observations, Constraint Satisfaction Problems, Constraint Propagation, Backtracking Search.

7.Game Playing

Game Playing, Optimal Decisions in Games, Min-Max Games, Alpha – Beta Pruning, Stochastic Games

8. Knowledge Representation

Knowledge representation using Predicate logic, Introduction to predicate calculus, Resolution, Use of predicate calculus, Knowledge representation using other logic, Structured representation of knowledge.

9.Knowledge Inference

Inference Rules, Production based system, Frame based system, Backward chaining, Forward chaining, Rule value approach.

10. Planning

Basic plan generation systems, Strips, Advanced plan generation systems, K strips, Strategic explanations, Why, Why not and how explanations.

11.Uncertainty in AI, Bayesian Networks

Fuzzy reasoning, Certainty factors, Bayesian Theory, Bayesian Network, Dempster – Shafer theory.

12.Markov Decision Processes

Markov Decision Processes, Dynamic programming, Linear programming, FMDP.

13. Expert Systems

Expert systems – Architecture, Roles of expert systems, Knowledge Acquisition, Meta knowledge, Typical expert systems, Expert systems shells.

14.Reinforcement Learning

RL Framework, Tabular methods, Q-networks, Policy Optimization, Model based RL.

15.Introduction to Deep Learning

Introduction to Tensorflow, Deep Neural Network, Recurrent neural networks, Convolutional neural networks, Applications.

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of Artificial Intelligence Engineering, and an in-depth study into its enabling technologies and main building blocks. Students will gain hands-on experience solving relevant problems through projects that will utilize existing public cloud tools. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1) To have an appreciation for and understanding of both the achievements of AI and the theory underlying those achievements. To have an appreciation for the engineering issues underlying the design of AI systems.

2) To have a basic proficiency in a traditional AI language including an ability to write simple to intermediate programs and an ability to understand code written in that language.

3) To have an understanding of the basic issues of knowledge representation and blind and heuristic search, as well as an understanding of other topics such as minimax, resolution, etc. that play an important role in AI programs.

4) To have a basic understanding of some of the more advanced topics of AI such as learning, natural language processing, agents and robotics, expert systems, and planning.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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CERTIFICATE COURSE ON IBM AI ENGINEERING

Date of Introduction of the Course: 28.08.2022

The timings are 9:30 AM to 12:30 PM from Friday (AN) and Saturday (FN&AN).

Time Table & Lesson plan

CLASS	DATE	TOPIC
1,2	28-08-2022(FN)	**1.Introduction: Philosophy of AI, Production systems** Introduction to AI-Problem formulation, Problem Definition, Production systems, Control strategies, Search strategies. Problem characteristics, Production system characteristics, Specialized production system.
3,4	01-09-2022 (FN) 02-09-2022 (FN)	**2. Modeling a Problem as Search Problem, Uninformed Search** Problem solving methods, Problem graphs, Uninformed Search, Divide and Conquer, Greedy, Branch and Bound, Gradient Descent.
5,6	02-09-2022(AN) 08-09-2022(FN)	**3. Heuristic Search, Domain Relaxations** Informed Search, Pure Heuristic Search, Best First Search, A* Search, AO* Search.
7,8	09-09-2022(FN) 09-09-2022(AN)	**4. Local Search, Genetic Algorithms** Local Search Algorithms and Optimization Problems, Hill-climbing search, Simulated annealing search, Local beam search, Genetic algorithms, Ant Colony Optimization, Tabu Search.
9,10	15-09-2022(FN)	**5. Adversarial Search** Adversarial Search, Game Types, Problem Formalization, Game Tree, Zero Sum Game.
11,12	16-09-2022(FN)	**6. Constraint Satisfaction** Searching with Partial Observations, Constraint Satisfaction Problems, Constraint Propagation, Backtracking Search.
13,14	16-09-2022(AN)	**Game Playing** Game Playing, Optimal Decisions in Games, Min-Max Games, Alpha – Beta Pruning, Stochastic Games

15,16	22-09-2022(FN) 23-09-2022(FN)	**8. Knowledge Representation** Knowledge representation using Predicate logic, Introduction to predicate calculus, Resolution, Use of predicate calculus, Knowledge representation using other logic, Structured representation of knowledge.
17,18	23-09-2022(AN)	**9. Knowledge Inference** Inference Rules, Production based system, Frame based system, Backward chaining, Forward chaining, Rule value approach
19,20	29-09-2022(FN)	**10. Planning** Basic plan generation systems, Strips, Advanced plan generation systems, K strips, Strategic explanations, Why, Why not and how explanations.
21,22	30-09-2022(FN)	**11. Uncertainty in AI, Bayesian Networks** Fuzzy reasoning, Certainty factors, Bayesian Theory, Bayesian Network, Dempster – Shafer theory.
23,24	30-09-2022(FN)	**12. Markov Decision Processes** Markov Decision Processes, Dynamic programming, Linear programming, FMDP.
25,26	30-09-2022(AN) 06-10-2022(FN)	**13. Expert Systems** Expert systems – Architecture, Roles of expert systems, Knowledge Acquisition, Meta knowledge, Typical expert systems, Expert systems shells.
27,28	07-10-2022(FN)	**14. Reinforcement Learning** RL Framework, Tabular methods, Q-networks, Policy Optimization, Model based RL.
29,30	07-10-2022(AN)	**15. Introduction to Deep Learning** Introduction to Tensorflow, Deep Neural Network, Recurrent neural networks, Convolutional neural networks, Applications.

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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Department of Computer Sci & Engg.,
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CERTIFICATE COURSE ON IBM AI ENGINEERING

Date of Introduction of the Course: 28.08.2022

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U15CS009	ANNADI DHANUSH
2	U15CS011	ANUMOLU YESWANTH
3	u15CS012	A sivavinaya
4	U15CS013	Aravindhan.KR
5	U15CS180	RAVURI SRIKANTH
6	U15CS182	RICHARD WUMBRAND J
7	U15CS183	S. PUNITHA
8	U15CS200	SITAROJ SRIKANTH
9	U15CS201	SMITHA C.S
10	U15CS202	SODISETTY SANDEEP
11	U15CS203	SUBASH CHANDRAN.V
12	U15CS204	SUBHAM RAY
13	U14CS024	ATUL ANAND
14	U14CS025	BACHU HARISH
15	U14CS026	BALA MURUGAN .P
16	U14CS029	BALAKRISHNAN.T
17	U14CS055	GOTTIPATI KARTHIK
18	U14CS702	S.KUMARAN
19	U14CS514	SATHISH RAJ
20	U14CS057	GOVIND KUMAR
21	U14CS058	HARI TEJA.G
22	U14CS059	HARISH.V
23	U14CS062	JERIPOTHULA SURESH GOUD
24	U14CS063	JOHN DALTON .H
25	U14CS064	K. LAKSHMIKANTH REDDY
26	U14CS067	KARTHICK.K
27	U14CS074	KESHAVAPRIYA .S

28	U14CS075	KEVIN ARNOLD THAKUR
29	U14CS080	KOVURI BALASUBHAKAR REDDY
30	U14CS082	KRISHNANDAN YADAV
31	U14CS086	LOKESHWARAN.A.
32	U14CS089	MADIYAL ANJAY
33	U14CS092	MANDELA SAIKIRAN
34	U14CS102	MOHAMMED AABID
35	U14CS104	MOLUGURI PRADEEP CHANDRA
36	U14CS109	N.UMA VENKATA MAHESHWARA SWAMY
37	U14CS222	M.GANESH RAJAN
38	U14CS503	ARJHUN KUMAR.K
39	U14CS508	INDHU GOPALAKRISHNAN
40	U14CS710	SHOPMINISTER
41	U14CS113	NALLAJARLA CHAKRADHAR
42	U14CS114	NANDALA SWETHA
43	U14CS115	NANDIPALLI MOUNICA

COURSE COORDINATOR

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CERTIFICATE COURSE ON IBM AI ENGINEERING

COURSE CO-ORDINATOR

HEAD OF THE DEPARTMEMNT

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Department of Computer Sci... & Engg.,
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CERTIFICATE OF PARTICIPATION

This certificate is presented to

RAKESH KUMAR

For actively participating in the value added course **"IBM AI Engineering"**
Conducted by School of Computing, BIHER from 28.08.2022 to 07.10.2022.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2022					
Term		Even					
Course Number							
Course Title		IBM AI Engineering					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8	✓	8-10	

3. **Preparation for the course by the student:**

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

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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COURSE FEEDBACK FORM

Academic Year		2022					
Term		Even					
Course Number							
Course Title		IBM AI ENGINEERING					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8	✓	8-10	

3. **Preparation for the course by the student:**

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

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	

HEAD OF THE DEPARTMENT

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Department of Computer Science & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Requisition Letter

Date: 08.04.2022

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Laptop Assembling and Disassembling**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Laptop Assembling and Disassembling**" in our campus premises on **15/04/2022**.

45 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
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CIRCULAR

11.04.2022

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on Laptop Assembling And Disassembling for the benefit of II, III and IV year students. This course is scheduled from 15.04.2022 for 30hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM

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.KP.Kaliyamurthie	Professor
2	Mrs.C.Anuradha	Assistant Professor

Head of Department

HEAD OF DEPARTMENT
Department of Computer Sci... Engg.,
Bharath Institute of Higher Education & Research
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To

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CERTIFICATE COURSE ON LAPTOP ASSEMBLING AND DISASSEMBLING

Date of Introduction of the Course: 15-04-2022

COURSE SYLLABUS

1. **Computer Basics – Introduction and History**
   Introduction & Definition of Computer, Block Diagram of computer, Classification of computer, Characteristics of Computers, Types of Languages and language translators, History and Generation of computers, Memory, Computer Software, Types of Softwares.
2. **Components and its parts** - Identifying the Important Hardware Components of PC.i.e., CPU, Motherboard, RAM, HDD, ODD,SMPS, K/B, Mouse, Monitor, Functions of above said components.
3. **Tools and Equipment** - Tools and equipment like brush, screw driver, air blower, voltage tester and pliers required for servicing computer.
4. **Fundamentals of Electricity** - About AC and DC, How AC is converted into DC in a Computer.
5. **SMPS** - About SMPS, Types of SMPS, Power stored in UPS, Components and Circuits inside the SMPS Unit.
6. **UPS (Uninterrupted Power Supply)** - Types of UPS (Offline/Line Interactive & Online), Working Principle of each type of UPS. Connecting, Maintenance and Troubleshooting.
7. **Assembling and dissembling PCs** - Assembling and Disassembling a PC, Precautions to be taken while assembling the PC.
8. **Introduction to BIOS / CMOS Setup, POST (Power on Self-Test)** - Introduction to BIOS/CMOS Setup, POST (Power On Self-Test), Demonstration of BIOS/CMOS Configuration (Date, Time, Enable/Disable Devices), Dual BIOS Feature, BIOS/CMOS Setup, Booting Sequence/Boot Order.
9. **Introduction to Operating System** - Definition and types of Operating Systems - MSDOS, Windows 9x/XP/Vista/7/8, Linux, MAC OS, Android, Process of Booting the Operating System, Win XP/Win 7. Activation and Automatic Updating procedures.

10. **Partitioning** - Partitioning of Hard Drive - Primary, Extended, Logical partitions using Partition Tools.
11. **Installation of Drivers and Software** - Installation of Operating System - Win XP/Win 7, Activation and Automatic Updating procedures, Device Driver Installation, Task Manager, Windows Registry, Control Panel, MS Config Utility, Windows Startup Applications Management, Installation of Application Softwares , Tools, Utilities, Uninstalling Applications / Softwares.
12. **Mother Board** - Definition, Architecture, Compatibility with CPU's, Chipsets and Brands,what is Chipset, what is FSB, what is Bus, CPU Sockets, Interface Ports used to connect different Peripherals, I/O Ports (PS/2, Serial, Parallel, USB, VGA, HDMI, Audio, Ethernet, etc.) Identifying Expansion Slots (PCI, AGP etc.), Power Form Factor.
13. **CPU** - Definition, Architecture, Speed, Types of CPU (XT and AT technologies) 32/64 Bit, Types processor technologies like Clock speed, Bus speed, Cache memory, Threading technologies, core technologies, IRQ & DMA Technologies Brands (Intel/AMD), CPU Series - x86, Pentium Series (4004,8008, 8085, 8086, 8088,80286,80386,80486,P1,P2,P3,P4),
14. **RAM / ROM** - Introduction to RAM, ROM, Cache Memory, Buffer Memory, Virtual Memory, Timeline (EDO, NON-EDO, SD, RD, DDR, DDR2, DDR3), Hybrid MemoryComparing and Installing RAM, Memory Module Form Factor.
15. **Hard Disk Drive** - Introduction to HDD, Types of HDD, Functioning of HDD, Interface Types (IDE or PATA, SATA, SCSI, SSD, PATA), Data storage technique (Tracks, Sectors, Cylinders,Cluster MBR, FAT Area, DIR Area, Zero Track,).

COURSE OBJECTIVES

In this course we plan to give students an overview of basic concepts and terminology related to Laptop Assembling AndDisassembling and an in-depth study into its enabling technologies to design and implement hardware. The main **objective** of this course is to introduce PC maintenance, upgrading, ... a system to help them determine the cause of a problem and how to **repair** it. ... Optical storage technologies to date; **Laptops** and their Technologies.Ourstudents will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1. 1. Installation of all the Softwares with cope with different operating system.
2. Develop computer system configuration
3. Conduct diagnostics - testing and inspection
4. Have Knowledge of hardware components and latest development in the field

5. Conduct repair and maintenance of PC's Carry out installation of operating system and applications and have knowledge of Networking and system connectivity.

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON LAPTOP ASSEMBLING AND DISASSEMBLING

Date of Introduction of the Course: 15-04-2022

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	15-04-2022(AN)	**1.Computer Basics – Introduction and History** Introduction & Definition of Computer, Block Diagram of computer, Classification of computer, Characteristics of Computers, Types of Languages and language translators, History and Generation of computers, Memory, Computer Software, Types of Softwares.
3,4	21-04-2022(AN)	**2. Components and its parts** - Identifying the Important Hardware Components ofPC. i.e., CPU, Motherboard, RAM, HDD, ODD,SMPS, K/B, Mouse, Monitor, Functions of above said components.
5,6	22-04-2022(FN)	**3 Tools and Equipment** - Tools and equipment like brush, screw driver, air blower, voltage tester and pliers required for servicing computer
7,8	22-04-2022(AN)	**4.Fundamentals of Electricity** - About AC and DC, How AC is converted into DC in a Computer.
9,10	28-04-2022(AN)	**5.SMPS**- About SMPS, Types of SMPS, Power stored in UPS, Components and Circuits inside the SMPS Unit.
11,12	29-04-2022(FN)	**6. UPS (Uninterrupted Power Supply)** - Types of UPS (Offline/Line Interactive & Online), Working Principle of each type of UPS. Connecting, Maintenance and Troubleshooting.
13,14	29-04-2022(AN)	**7 Assembling and dissembling PCs** - Assembling and Disassembling a PC, Precautions to be taken while assembling the PC
15,16	05-05-2022(AN)	**8 Introduction to BIOS / CMOS Setup, POST (Power on Self-Test)** - Introduction to BIOS/CMOS Setup, POST (Power On Self-Test), Demonstration of BIOS/CMOS Configuration (Date, Time, Enable/Disable Devices), Dual BIOS Feature, BIOS/CMOS Setup, Booting Sequence/Boot Order.

17,18	**06-05-2022(FN)**	**9.Introduction to Operating System** - Definition and types of Operating Systems - MSDOS, Windows 9x/XP/Vista/7/8, Linux, MAC OS, Android, Process of Booting the Operating System, Win XP/Win 7. Activation and Automatic Updating procedures.
19,20	**06-05-2022(AN)**	**10.Partitioning-** Partitioning of Hard Drive - Primary, Extended, Logical partitions using Partition Tools.
21,22	**12-05-2022(AN)**	**11.Installation of Drivers and Software** - Installation of Operating System - Win XP/Win 7, Activation and Automatic Updating procedures, Device Driver Installation, Task Manager, Windows Registry, Control Panel, MS Config Utility, Windows Startup Applications Management, Installation of Application Softwares , Tools, Utilities, Uninstalling Applications / Softwares.
23,24	**13-05-2022(FN)** **13-05-2022(AN)**	**12.Mother Board** - Definition, Architecture, Compatibility with CPU's, Chipsets and Brands,what is Chipset, what is FSB, what is Bus, CPU Sockets, Interface Ports used to connect different Peripherals, I/O Ports (PS/2, Serial, Parallel, USB, VGA, HDMI, Audio, Ethernet, etc.) Identifying Expansion Slots (PCI, AGP etc.), Power Form Factor.
25,26	**19-05-2022(AN)** **20-05-2022(FN)**	**13.CPU** - Definition, Architecture, Speed, Types of CPU (XT and AT technologies) 32/64 Bit, Types processor technologies like Clock speed, Bus speed, Cache memory, Threading technologies, core technologies, IRQ & DMA Technologies Brands (Intel/AMD), CPU Series - x86, Pentium Series (4004,8008, 8085, 8086, 8088,80286,80386,80486, P1, P2, P3, P4),
27,28	**20-05-2022(AN)** **26-05-2022(AN)**	**14.RAM / ROM** - Introduction to RAM, ROM, Cache Memory, Buffer Memory, Virtual Memory, Timeline (EDO, NON-EDO, SD, RD, DDR, DDR2, DDR3), Hybrid Memory Comparing and Installing RAM, Memory Module Form Factor
29,30	**27-05-2022(FN)**	**15.Hard Disk Drive** - Introduction to HDD, Types of HDD, Functioning of HDD, Interface Types (IDE or PATA, SATA, SCSI, SSD, PATA), Data storage technique (Tracks, Sectors, Cylinders, Cluster MBR, FAT Area, DIR Area, Zero Track,).

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON LAPTOP ASSEMBLING AND DISASSEMBLING
Date of Introduction of the Course: 15-04-2022
School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS004	ABDUL RAZVI .M.K
2	U14CS015	ANKITA
3	U14CS023	ASIF NAZIR WANI
4	U14CS048	DIVYA RUPINI.B
5	U14CS085	LAKSHMI PRIYA.A
6	U14CS106	MUGANTH.R.
7	U14CS229	INDHU GOPALAKRISHNAN
8	U14CS705	SHABEEK ABUTHAHIR.S
9	U14CS114	NANDALA SWETHA
10	U14CS129	PIYALI CHAKRABORTHY.M
11	U14CS137	RAHUL HAWAIBAM
12	U14CS151	RAVIPATI SUBBARAYUDU
13	U14CS175	SHUBHAM
14	U14CS188	SUSINDHAR .P
15	U14CS202	VEMULA ANWAR
16	U15CS093	KM AYUSHI JAISWAL
17	U15CS094	KOLUKULURI ADITHYA RAGHAV VARMA
18	U15CS095	KONATALA PUSHPA
19	U15CS096	KONDURU PREM KUMAR
20	U15CS097	KONGARA KIRAN KUMAR
21	U15CS098	KOPPA SEKHAR SAI VISWAM
22	U15CS099	KOTHAPALLI ARYAN VARMA
23	U15CS100	KOTIPALLI SRI SAI SURYA PRASANTH
24	U15CS154	PERAM ANTONY

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25	U15CS155	PERAM VENKATA KRISHNA REDDY
26	U15CS156	PERURI V S V KRISHNA MOHAN
27	U15CS157	POORVISHA M
28	U15CS159	PRADEEP YADAV
29	U15CS160	PRASAD ABHISHEK KUMAR
30	U15CS161	PRASHANT PATHAK
31	U15CS162	PRATHI VENKAT RANJITH KUMAR
32	U15CS164	PUJALA NARENDRA BABU
33	U15CS165	PULAGAM SAI PRATHAP REDDY
34	U15CS166	PULIMUNI HIMAJA
35	U15CS167	PULUKURI SASIDHAR
36	U15CS168	PUPPALLA SANDEEP KUMAR
37	U15CS169	PUTLURI ANURADHA
38	U15CS214	VEERELLA RUPAS CHOWDARY
39	U15CS215	VEESA SUDDEP
40	U15CS216	VEMSETTY ARUN SAHADEV
41	U15CS217	VERISETTY SUBBARAO
42	U15CS218	VETCHA VENKATA KRISHNA TEJA
43	U15CS219	VISNESH.B
44	U15CS220	VIGNESH KUMAR R.J
45	U15CS221	VIGNESHWARAN.M

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CERTIFICATE COURSE ON LAPTOP ASSEMBLING AND DISASSEMBLING

COURSE COORDINATOR

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

BHARATHI.V

For actively participating in the value added course **"Laptop Assembling And Disassembling"** Conducted by School of Computing, BIHER from 15.04.2022 to 27.05.2022.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2022					
Term		Even Sem					
Course Number							
Course Title		Laptop Assembling and Disassembling					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80		80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6	✓	6-8		8-10	

3.	**Preparation for the course by the student:**		
	(i)	Have done part of this course earlier	yes
	(ii)	Has adequate prior exposure to the prerequisites	yes
	(iii)	Had to pickup relevant additional topics through concurrent study	yes
	(iv)	Have no exposure to the background material	yes
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	

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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COURSE FEEDBACK FORM

Academic Year		2022					
Term		Even Sem					
Course Number							
Course Title		Laptop assembling and Disassembling					
Number of Credits							
Type of Course	Regular		Elective		Add-on		

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60	✓	60-80		80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	

3.	**Preparation for the course by the student:**		
	(i)	Have done part of this course earlier	Yes
	(ii)	Has adequate prior exposure to the prerequisites	Yes
	(iii)	Had to pickup relevant additional topics through concurrent study	Yes
	(iv)	Have no exposure to the background material	Yes
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	

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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NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

Date: 08.04.2022

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Computer Vision Basics**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Computer Vision Basics**" in our campus premises on **15/04/2022**.

50 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

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CIRCULAR

11.04.2022

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **"Computer Vision Basics"** for the benefit of II, III and IV year students. This course is scheduled from 15.04.2022 for 30 hours which includes theory and practical. The timings are 01:30 PM to 04:30 PM

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.KP.Kaliyamurthie	Professor
2	S.Pothumani	Assistant Professor

Head of Department

To

Copy to CSE

Copy to IT

HEAD OF DEPARTMENT
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CERTIFICATE COURSE ON COMPUTER VISION BASICS

Date of Introduction of the Course: 15.04.2022

COURSE SYLLABUS

1.Introduction to computer vision

Introduction to Digital Image Processing and Machine Learning, Visualization Techniques, Image Processing and Analysis.

2.Image Formation and Filtering

Cameras and Optics, Image Enhancement and Enlargement, Pixel Representation.

3.Light and Color and Image Filtering

Thinking in Frequency, Image Processing Algorithms, Image Filtering Techniques.

4.Feature Detection and Matching

Interest points and corners, Local image features,Model fitting, Hough Transform, RANSAC and transformations.

5.Multiple Views and Motion

Stereo intro and Camera Calibration, Epipolar Geometry and Structure from Motion, Stereo Correspondence and Optical Flow.

6.Recognition

Machine learning crash course and recognition overview, Recognition and Bag of Words.

7.Large-scale retrieval

Spatial Verification, TF-IDF, Query Expansion, feature encoding, Large-scale category recognition and advanced feature encoding,

8. Detection with sliding windows

Viola Jones, DalalTriggs and Pascal VOC

9.Big Data

Big Data Tools-hadoop,Informatica, Crowdsourcing and Human Computation.

10. Deep Learning

Neural networks Basics and Convolutional Networks, Object Detectors Emerge in Deep Scene CNNs and Deeper Deep Architectures,Structured Output from Deep Network.

11. Image Acquisition

Image Sensing, X-Ray Image, Image acquisition using Radiography application.

12.Image Representation and Analysis

Colour Representation, Colour and Geometric Transformation, Edge Detection,

13. Features and ObjectRecognition

Image Colorization, Objectives of Object Recognition Task, Information Extraction from Image, Recognition of color and object in Image.

14.Image Segmentation

K-means Clustering, Edge and Contour Detection, Background Subtraction for Video.

15.Image Captioning

CNN, RNN, LSTM Implementation for Caption Generation.

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of Image Procession and Computer Vision, and an in-depth study into its enabling technologies and main building blocks. Students will gain hands-on experience solving relevant problems through projects that will utilize existing public cloud tools. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1) To be familiar with both the theoretical and practical aspects of computing with images;
2) To describe the foundation of image formation, measurement, and analysis;
3) To implement common methods for robust image matching and alignment;
4) To understand the geometric relationships between 2D images and the 3D world;
5) To be exposure to object and scene recognition and categorization from images;
6) To grasp the principles of state-of-the-art deep neural networks; and
7) To develop the practical skills necessary to build computer vision applications.

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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CERTIFICATE COURSE ON COMPUTER VISION BASICS

Date of Introduction of the Course:15.04.2022

The timings are 01:30 AM to 04:30 PM Friday (AN) and Saturday (FN&AN).

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	15.04.2022 (AN)	**1. BASICS OF JAVA** History and Features of Java, C++ vs Java, Hello Java Program, Internal How to set the path?, JDK, JRE, and JVM (Java Virtual Machine),JVM Memory Management,Internal details of JVM, Unicode System, Operators, Keywords, and Control Statements like if-else, For loop, while loop, etc.
3,4	21-04-2022(AN)	**2. CLASS, OBJECT, AND TYPES OF CLASSES** Classes, Objects, and Features, Object declaration and initialization, Life cycle of an object, Anonymous object in Java, Classes and Objects in java with Realtime examples
5,6	22-04-2022(FN)	**3.PACKAGES IN JAVA** Package naming conventions, Sub packages, Types of packages such as user-defined packages, built-in packages, Importing packages in Java
7,8	22-04-2022(AN)	**4. DATA TYPES IN JAVA** Data types in Java - Primitive data types, Non-primitive data types, Memory allocation of primitive and non-primitive data types, etc.
9,10	28-04-2022(AN)	**5.VARIABLES, CONSTANTS, AND LITERALS** Variable declaration & initialization - Naming convention, Types of variables such as local variables, instance variables, and static variables, Scope and memory allocation of variables.
11,12	29-04-2022(FN)	**6. METHODS IN JAVA** Methods in Java - Use of method in Java, Method declaration, method signature, Types of methods in Java: predefined method, user-defined methods: instance method, static method, Calling of method, Java main method, Return type in Java.
13,14	29-04-2022(AN) 05-05-2022(AN)	**7. CONSTRUCTOR IN JAVA** What is Constructor in Java? ,Types of constructors: Default and Parameterized constructors, Java constructor overloading, Constructor chaining in java, Copy constructor in Java

15,16	06-05-2022AN) 12-05-2022(FN)	**8. INNER CLASSES AND WRAPPER CLASSES** Introduction, Member Inner Class, Static Inner Class, Local Inner Class, Anonymous Inner Class, Introduction, Byte, Short, Integer, Long, Float, Double, Character, Boolean classes
17,18	13-05-2022(FN)	**9. COLLECTION FRAME WORK** Introduction, Util Package interfaces, List, Set, Map, List Interface 7 Its Classes, Set Interface & Its Classes, Map Interface & Is Classes
19,20	13-05-2022(AN)	**10. AWT** Introduction, Components, Event-Delegation-Model, Listeners, Layouts, Individual Components Lable, Button, Check Box, Radio Button,Choice, List, Menu, Text Field, Text Area
21,22	19-05-2022(AN)	**11. SWING (JFC)** Understanding Session Hijacking, Phases involved in Session Hijacking, Types of Session Hijacking, Session Hijacking Tools - Introduction Diff B/W AWT and SWING, Hierarchy, Individual Swings components J Label, JButton, JTextField, JTextAres
23,24	20-05-2022(FN)	**12. WEB SERVER AND APPLICATION SERVER** Tomcat-Introduction, Overview, installation, Configuring Tomcat, Jboss server-Introduction, Overview, Installation and Configuration, Comparison
25,26	20-05-2022(AN)	**13. SQL and JDBC** 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
27,28	26-05-2022(AN)	**14. SERVLETS** Introduction, Web application Architecture, HTTP Protocol & HTTP Methods, Web Server & Web Container, Servlet Interface, HTTPServlet, GenericServlet, Servlet Life Cycle, Servlet Config, Servlet Context, Servlet Communication
29,30	27-05-2022(FN)	**15. JSP** Introduction, JSP Life Cycle, JSP Implicit Objects & Scopes, JSP Directives

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CERTIFICATE COURSE ON COMPUTER VISION BASICS

Date of Introduction of the Course: 15.04.2022

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS148	RAMYA.B
2	U14CS177	K.SIVA SUBRAMANIAN
3	U14CS222	M.GANESH RAJAN
4	U14CS225	ARJHUN KUMAR.K
5	U14CS229	INDHU GOPALAKRISHNAN
6	U14CS703	VASANTHAN.N
7	U14CS705	SHABEEK ABUTHAHIR.S
8	U14CS710	SHOPMINISTER
9	U14CS047	DEVULAPALLY NAGARAJU
10	U14CS052	GARLAPATI HEMA SAI KRISHNA
11	U14CS053	GODJSELA SRINATH
12	U14CS054	GONTLA KARTHIK
13	U14CS175	SHUBHAM
14	U14CS176	SIREESHA.M
15	U14CS178	SK MD TAUQEER
16	U14CS179	SNEHA ROY
17	U14CS180	SABUJ BARMAN
18	U14CS181	SOURABH PRIYADARSHI
19	U14CS108	MURALI .S
20	U14CS156	SAGI AKSHAY KUMAR
21	U14CS157	SAJJA. SURENDRA PRASAD
22	U14CS158	SAMPA PARH
23	U14CS159	SANASAM VEDRAJ SINGH
24	U14CS160	SANDEEP INGUVA
25	U14CS161	SANJAY KUMAR YADAV
26	U14CS162	SANTHOSH KUMAR.N
27	U14CS163	SASHAANK.S

28	U14CS164	SAURAV KUMAR
29	U14CS165	SAURAV SINGH
30	U14CS224	R.SINDHU
31	U14CS234	DANDU MOHAN RAJENDRA VARMA
32	U14CS706	RAFTEN WANCHU
33	U14CS166	SHAFAN HASIM.N
34	U14CS167	SHAIK AATIKA
35	U14CS156	SAGI AKSHAY KUMAR
36	U14CS157	SAJJA. SURENDRA PRASAD
37	U15CS113	MAMUNDURU BHARATH KUMAR
38	U15CS114	MANCHALA ROHITH
39	U15CS115	MANCHIKANTI RAJITHA
40	U15CS117	MANOJ KUMAR R
41	U15CS118	MANUGUNTA BHARGAVI
42	U15CS119	MARRIBOYINA GOVARDHAN YADAV
43	U15CS120	MARRIPUDI KRISHNA CHAITANYA
44	U15CS121	MD MINHAZ RAZA HASHMI
45	U15CS247	CHIMALAMUDI VINEEL
46	U15CS248	SOMESH.C
47	U15CS249	SUBHAN KUMAR SHAH
48	U15CS250	MUTHULAKSHMI.M
49	U15CS253	JOEL PRAKASH.J
50	U15CS254	JAGATH RAJAH.R

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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Department of Computer Sci & Engg.,
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CERTIFICATE COURSE ON COMPUTER VISION BASICS

COURSE CO-ORDINATOR

HEAD OF THE DEPARTMEMNT

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

R.MANOJ KUMAR

For actively participating in the value added course "Certificate Course on Computer Vision Basics"

Conducted by School of Computing, BIHER from 15.04.2022 to 27.05.2022.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2022				
Term		Even Sem				
Course Number						
Course Title		Computer Vision				
Number of Credits						
Type of Course	Regular		Elective		Add-on	✓

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40	✓	40-60		60-80	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8	

3. **Preparation for the course by the student:**

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

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

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

About the Instructor: Information on the Respondent: (Tick (√) Appropriately)

		A	B	C	
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	

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COURSE FEEDBACK FORM

Academic Year		2022				
Term		Even Sem				
Course Number						
Course Title		Computer Vision				
Number of Credits						
Type of Course	Regular		Elective		Add-on	✓

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40	✓	40-60		60-80	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8	

3. **Preparation for the course by the student:**

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

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

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

About the Instructor: Information on the Respondent: (Tick (√) Appropriately)

		A	B	C	
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**	

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai . T.N - 600 073.

Requisition Letter

Date:08.05.2022

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value-added course on **"Introduction to Tensor flow for Artificial Intelligence, Machine Learning & Deep Learning"** -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on **"Introduction to Tensor flow for Artificial Intelligence, Machine Learning & Deep Learning"** in our campus premises on **12.05.2022**, students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing 1:30 PM to 4:30 PM(AN)

Submitted to Principal for approval to organize this value-added course.

HOD

DEAN ENGINEERING

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CIRCULAR

08-05-2022

The School of computing, BharathInstitute of Higher Education and Research is planned to conduct a certification value added course on "**Introduction to Tensor flow for Artificial Intelligence, Machine Learning, and Deep Learning** " for the benefit of II, III and IV year students. This course is scheduled from 12-05-2022 for 30 hours which includes theory and practical. The timings are I :30PM to 4:30 PM

All Registered Students must attend all the classes without fail. The following faculty members are assigned to handle the course

SNo	Name of the Faculty	Designation
1	Mr.K.Sivaraman	Assistant Professor
2	Mr,B.Sundarrajan	Assistant Professor

Head of Department

To

Copy to CSE

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CERTIFICATE COURSE ON INTRODUCTION TO TENSOR FLOW FOR ARTIFICIAL INTELLIGENCE, MACHINE LEARNING AND DEEP LEARNING

Date of Introduction of the Course: 12.05.2022

COURSE SYLLABUS

1.A New Programming Paradigm

Basics to Mastery of TensorFlow. We're excited you're here! In week 1 you'll get a soft introduction to what Machine Learning and Deep Learning are, and how they offer you a new programming paradigm, giving you a new set of tools to open previously unexplored scenarios. All you need to know is some very basic programming skills, and you'll pick the rest up as you go along. You'll be working with code that works well across both TensorFlow 1.x and the TensorFlow 2.0 alpha. To get started, check out the first video, a conversation between Andrew and Laurence that sets the theme for what you'll study.

2.Introduction to Computer Vision

Machine Learning and Deep Learning is a new programming paradigm. This week you're going to take that to the next level by beginning to solve problems of computer vision with just a few lines of code! Check out this conversation between Laurence and Andrew where they discuss it and introduce you to Computer Vision.

3.Enhancing Vision with Convolutional Neural Networks

Basic Neural Network for Computer Vision. It did the job nicely, but it was a little naive in its approach. This week we'll see how to make it better, as discussed by Laurence and Andrew here.

4.Using Real-world Images

Deep neural network using convolutions. It was a good start, but the data you used was very basic. What happens when your images are larger, or if the features aren't always in the same place? Andrew and Laurence discuss this to prepare you for what you'll learn this week: handling complex images

COURSE OBJECTIVES

This course is part of the upcoming Machine Learning in Tensorflow Specialization and will teach you best practices for using TensorFlow, a popular open-source framework for machine learning.

The Machine Learning course and Deep Learning Specialization from Andrew Ng teach the most important and foundational principles of Machine Learning and Deep Learning. This new deeplearning.ai TensorFlow Specialization teaches you how to use TensorFlow to implement those principles so that you can start building and applying scalable models to real-world problems. To develop a deeper understanding of how neural networks work, we recommend that you take the Deep Learning Specialization.

Specifically, the course has the following objectives:

Students will learn

1) Learn best practices for using TensorFlow, a popular open-source machine learning framework
2) Build a basic neural network in TensorFlow
3) Train a neural network for a computer vision application
4) Provide a pure Java AOP implementation, focused on solving common problems in J2EE
5) Understand how to use convolutions to improve your neural network

COURSE COORDINATOR

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CERTIFICATE COURSE ON INTRODUCTION TO TENSOR FLOW FOR ARTIFICIAL INTELLIGENCE, MACHINE LEARNING AND DEEP LEARNING

Date of Introduction of the Course: 12.05.2022

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	12-05-2022(AN)	1. **A New Programming Paradigm** Basics to Mastery of TensorFlow. We're excited you're here! In week 1 you'll get a soft introduction to what Machine Learning and Deep Learning are, and how they offer you a new programming paradigm, giving you a new set of tools to open previously unexplored scenarios.
3,4	13-05-2022(FN)	2.Basic programming skills To get started, check out the first video, a conversation between Andrew and Laurence that sets the theme for what you'll study.
5,6	13-05-2022(AN)	3. **Introduction to Computer Vision** Machine Learning and Deep Learning is a new programming paradigm.
7,8	19-05-2022(AN)	4. **Computer Vision** This week you're going to take that to the next level by beginning to solve problems of computer vision with just a few lines of code! Check out this conversation between Laurence.

9,10	20-05-2022(AN)	5. **introduce you to Computer Vision.** Andrew where they discuss it and introduce you to Computer Vision.
11,12	20-05-2022(FN)	6. **Enhancing Vision** basic Neural Network for Computer Vision. It did the job nicely, but it was a little naive in its approach.
13,14	26-05-2022(AN)	7. **Convolutional Neural Networks** This week we'll see how to make it better, as discussed by Laurence and Andrew here.
15,16	27-05-2022(AN)	8. **Using Real-world Images** deep neural network using convolutions. It was a good start, but the data you used was very basic.
17,18	27-05-2022(AN)	9. **Real-world Images** . What happens when your images are larger, or if the features aren't always in the same place?
19,20	02-06-2022(FN)	10. complex images Andrew and Laurence discuss this to prepare you for what you'll learn this week: handling complex images
21,22	03-06-2022(AN)	11. programming skills All you need to know is some very basic programming skills, and you'll pick the rest up as you go along.
23,24	03-06-2022(AN)	12. TensorFlow You'll be working with code that works well across both TensorFlow 1.x and the TensorFlow 2.0 alpha.
25,26	09-06-2022(AN)	13. **Real-world Images** . What happens when your images are larger, or if the features aren't always in the same place?
27,28	10-06-2022(FN)	14. programming skills All you need to know is some very

		basic programming skills, and you'll pick the rest up as you go along
29,30	**10-06-2022(AN)**	**15. Using Real-world Images** deep neural network using convolutions. It was a good start, but the data you used was very basic.

COURSE COORDINATOR

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CERTIFICATE COURSE ON INTRODUCTION TO TENSOR FLOW FOR ARTIFICIAL INTELLIGENCE , MACHINE LEARNING , AND DEEP LEARNING

Date of Introduction of the Course: 12.05.2022

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS001	AADHITYA MALLIKA ARJUN
2	U14CS002	AAVULA DIXITH REDDY
3	U14CS003	ABDUL RAHIM.M
4	U14CS004	ABDUL RAZVI .M.K
5	U14CS005	ABDUR RASEED
6	U14CS006	ABHIKAMALI .A
7	U14CS007	ABHISHEK MANDURI
8	U14CS008	AJAY.D
9	U14CS009	AKASH CHANDRA AMBASTHA
10	U14CS010	AKHIL REDDY.G
11	U14CS011	AKSHAY.R
12	U14CS012	AMAR BASUMATARY
13	U14CS013	ANDREW JOSEPH.V
14	U14CS015	ANKITA
15	U14CS016	ANNILKRISHNAN .K
16	U14CS017	ASHUTOSH SRIVASTAVA
17	U14CS019	ARAMBAKAM,YASWANTH
18	U14CS021	AREEF SYED
19	U14CS022	ARUN KUMAR SINGH
20	U14CS023	ASIF NAZIR WANI
21	U14CS024	ATUL ANAND
22	U14CS025	BACHU HARISH
23	U14CS027	BALAJI SINGH. T
24	U14CS029	BALAKRISHNAN.T

25	U14CS031	BISHAL BANIK
26	U14CS033	BOORAGADDA VAMSI KRISHNA
27	U14CS034	BOYAPATI VINAY
28	U14CS035	BYSANI VENKAT SANDEEP
29	U14CS038	CHIDIRALA.SAI SHANKAR
30	U14CS040	CHINTAPANTI SRIKANTH
31	U14CS042	CHUDAAMANI.V
32	U14CS045	DEEPAKSANKAR REDDY.M
33	U14CS046	DEVARAPALLI HIMAKAR
34	U14CS047	DEVULAPALLY NAGARAJU
35	U14CS048	DIVYA RUPINI.B

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

DIVYA RUPINI.B

For actively participating in the value added course on **" Introduction to Tensor flow for Artificial Intelligence, Machine Learning and Deep Learning "**Conducted by School of Computing, BIHER from 12.05.2022 to 10.06.2022 .

COURSE COORDINATORS
DIRECTOR

HEAD OF THE DEPARTMENT

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COURSE FEEDBACK FORM

Academic Year		2022					
Term		–					
Course Number							
Course Title		Introduction to Tensor flow for AI & machine learning & Deep learning					
Number of Credits		-					
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	✓

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**	

HEAD OF THE DEPARTMENT

COURSE FEEDBACK FORM

Academic Year		2022					
Term		-					
Course Number		-					
Course Title		Introduction to Tensor flow for AI & machine learning & Deep learning.					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	✓

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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BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date:30.05.2022

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject:Request of Permission to conduct a value-added course on **"Computational Mathematics with Excel"** -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on **"Computational Mathematics with Excel"** in our campus premises on **06.06.2022**, students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing: 3:30 PM to 5:30 PM

Submitted to Principal for approval to organize this value-added course.

HOD

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Department of Computer Sci... & Engg..
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DEAN ENGINEERING

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CIRCULAR

05.06.2022

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **Computational Mathematics with Excel**for the benefit of II, III and IV year students. This course is scheduled from 06.06.2022for 30hours which includes theory and practical. The timings are 3:30 PM to 5:30 PM from Monday to Friday.

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.C.Nalini	Professor
2	Dr.C.Rajabhushanam	Professor

Head of Department

HEAD OF DEPARTMENT
Department of Computer Sci... & Engg.,
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To

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CERTIFICATE COURSE ON COMPUTATIONAL MATHEMATICS WITH EXCEL

Date of Introduction of the Course:06.06.2022

COURSE SYLLABUS

1. Declining Prices, Profits and Graphing

Graphof afunction max/min suits

2. Price Data and Trendlines

Data Fitting, Least squares

3. Price Data forTwo Markets and Linear Estimation

Functions of 2variables, Data Fitting in 2variables

4. PropertyAppraisal and Linear Estimation

functions ofseveral variablesbest fits withoutgraphing

5. Savings Plansand First-Order Finite Differences

Finite Differenceequations, Financial Modelling, Exact solution todifference equations

6. Loans and First OrderFinite Differences

Finite Differenceequations, Exact solution ofa linear difference equation

7. Cooling Modeland Euler Finite Difference Method

Physical Modelling, Differential equationas limit of difference equation, Closed form solution, Equilibrium

8. Population Modelsand Exponential Functions

Population Modeling, Differential equations, Closed-formsolutions, Exponential growth

9. Minimum cost of a display areaand derivatives

Optimization (max/min)constraint, max/min bydifferentiation

10. Profit from 2 markets and partial derivatives

Multivariate Optimization

11. AlcoholBreath Testing and Least Squares Data Fitting

least squares, Critique ofmathematical models

12. Population Growth: Raleigh and Wake County

Population models, Closed formsolutions of differential equationslogs

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of computational mathematics with excel, and an in-depth study into its enabling technologies and main building blocks. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1) Basic ways of working with data and mathematical models

2) Become competent at using spreadsheets and computer algebra systems

3) Solidify their understanding of the concepts in Calculus

4) Apply knowledge to real-world problems

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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CERTIFICATE COURSE ON COMPUTATIONAL MATHEMATICS WITH EXCEL

Date of Introduction of the Course:06.06.2022

The timings are 3:30 PM to 5:30 PM from Monday to Friday

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	06-06-2022	**1. Declining Prices, Profits and Graphing** Graph of a function max/min suits
3,4	07-06-2022	**2. Price Data and Trendlines** Data Fitting, Least squares
5,6	08-06-2022	**3. Price Data forTwo Markets and Linear Estimation** Functions of 2 variables, Data Fitting in 2 variables
7,8	09-06-2022	**4. Property Appraisal and Linear Estimation** functions of several variables best fits without graphing
9,10	12-06-2022	**5. Savings Plansand First-Order Finite Differences** Finite Difference equations, Financial Modelling, Exact solution to difference equations
11,12	13-06-2022	**6. Loans and First OrderFinite Differences** Finite Difference equations, Exact solution of a linear difference equation
13,14	14-06-2022	**7. Cooling Modeland Euler Finite Difference Method** Physical Modelling, Differential equation as limit of difference equation, Closed form solution, Equilibrium
15,16	15-06-2022	**8. Population Modelsand Exponential Functions** Population Modeling, Differential equations, Closed-formsolutions, Exponential growth

17,18	**16-06-2022**	**9. Minimum cost of a display areaand derivatives** Optimization (max/min)constraint, max/min bydifferentiation
19,20	**19-06-2022**	**9. Minimum cost of a display areaand derivatives** Optimization (max/min)constraint, max/min bydifferentiation
21,22	**20-06-2022**	**10. Profit from 2 markets and partial derivatives** Multivariate Optimization
23,24	**21-06-2022**	**10. Profit from 2 markets and partial derivatives** Multivariate Optimization
25,26	**22-06-2022**	**11. AlcoholBreath Testing and Least Squares Data Fitting** least squares, Critique ofmathematical models
27,28	**23-06-2022**	**12. Population Growth: Raleigh and Wake County** Population models, Closed formsolutions of differential equationslogs
29,30	**26-06-2022**	**12. Population Growth: Raleigh and Wake County** Population models, Closed formsolutions of differential equationslogs

COURSE COORDINATOR

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CERTIFICATE COURSE ON COMPUTATIONAL MATHEMATICS WITH EXCEL

Date of Introduction of the Course: 06.06.2022

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS056	GOUTHAM KALYAN KUMAR .R
2	U14CS057	GOVIND KUMAR
3	U14CS058	HARI TEJA.G
4	U14CS059	HARISH.V
5	U14CS060	JASIMKHAN.J.
6	U14CS061	JENNIFER.S
7	U14CS062	JERIPOTHULA SURESH GOUD
8	U14CS063	JOHN DALTON .H
9	U14CS064	K. LAKSHMIKANTH REDDY
10	U14CS065	K. LAKSHMI NARAYANA REDDY
11	U14CS066	KARAN KUMAR CHETTRI
12	U14CS058	KARTHIKEYAN.J
13	U14CS067	KARTHICK.K
14	U14CS069	KARTHIKEYAN.J
15	U14CS071	KARTIK YADAV
16	U14CS072	KATKURI.KUMAR
17	U14CS073	KATTA DINESH KUMAR
18	U14CS074	KESHAVAPRIYA .S
19	U14CS075	KEVIN ARNOLD THAKUR
20	U14CS076	KILARI LAXMI SUDHA
21	U14CS077	KISHORE KUNAL
22	U14CS078	KODALI AKHIL
23	U14CS079	KOUSHIK SUBRAMANIAM.Y
24	U14CS080	KOVURI BALASUBHAKAR REDDY
25	U14CS081	KRISHNA SRIVASTAV.S.K

26	U14CS082	KRISHNANDAN YADAV
27	U14CS084	LAKKAMPALLY SHIVA KUMAR
28	U14CS085	LAKSHMI PRIYA.A
29	U14CS086	LOKESHWARAN.A.
30	U14CS088	MADDIPATI BHARAT
31	U15CS127	MUPPALLA SURENDRA
32	U15CS128	MURARI KUMAR CHAUDHARY
33	U15CS129	N SWAPNA RAAGA
34	U15CS130	NAGANNAGARI JAGADISH
35	U15CS133	NALLURI AKHIL BABU
36	U15CS134	NAMBURI VIJAY KUMAR
37	U15CS135	NARENDULA NIREESHA
38	U15CS136	NARESH K
39	U15CS138	NEELA SAI KUMAR
40	U15CS139	NIKHIL KUMAR
41	U15CS140	NIRANJAN S
42	U15CS141	NITIN SINGH
43	U15CS142	NUKALA BHODANANDA CHARAN
44	U15CS143	OLIVER S
45	U15CS144	OMPRAKASH YADAV
46	U15CS001	ABHIJEET KUMAR
47	U15CS002	ABHIJIT KUMAR GUPTA
48	U15CS003	ABHISHEK KUMAR SINGH
49	U15CS004	ALLU SAI SIVA PRIYANKA NAIDU
50	U15CS005	AMBIKE KUMAR SINGH
51	U15CS006	ANBUMANI S
52	U15CS007	ANJAR ALI
53	U15CS008	ANKAM MANJUNATH
54	U15CS009	ANNADI DHANUSH
55	U15CS011	ANUMOLU YESWANTH
56	U15CS012	ARAVAPALLI SIVA VINAYA
57	U15CS013	ARAVINDHAN K R
58	U15CS014	ARVIND KUMR YADAV
59	U15CS015	ARYAN SAHU
60	U15CS017	ASHISH RANJAN

COURSE COORDINATOR

HEAD OF THE DEPARTMENT

HEAD OF DEPARTMENT
Department of Computer Science & Engg.,
Bharath Institute of Higher Education & Research
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Chennai-600 073. INDIA

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

HARISH. V

For actively participating in the value added course **"Computational Mathematics with Excel"** Conducted by School of Computing, BIHER from 06.06.2022 to 26.06.2022.

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2022					
Term		ODD					
Course Number							
Course Title		Computational Mathematics with Excel					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80		80-100	✓

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8		8-10	

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	

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	

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2022					
Term		ODD					
Course Number							
Course Title		Computational Mathematics with Excel					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80		80-100	✓

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8		8-10	

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	

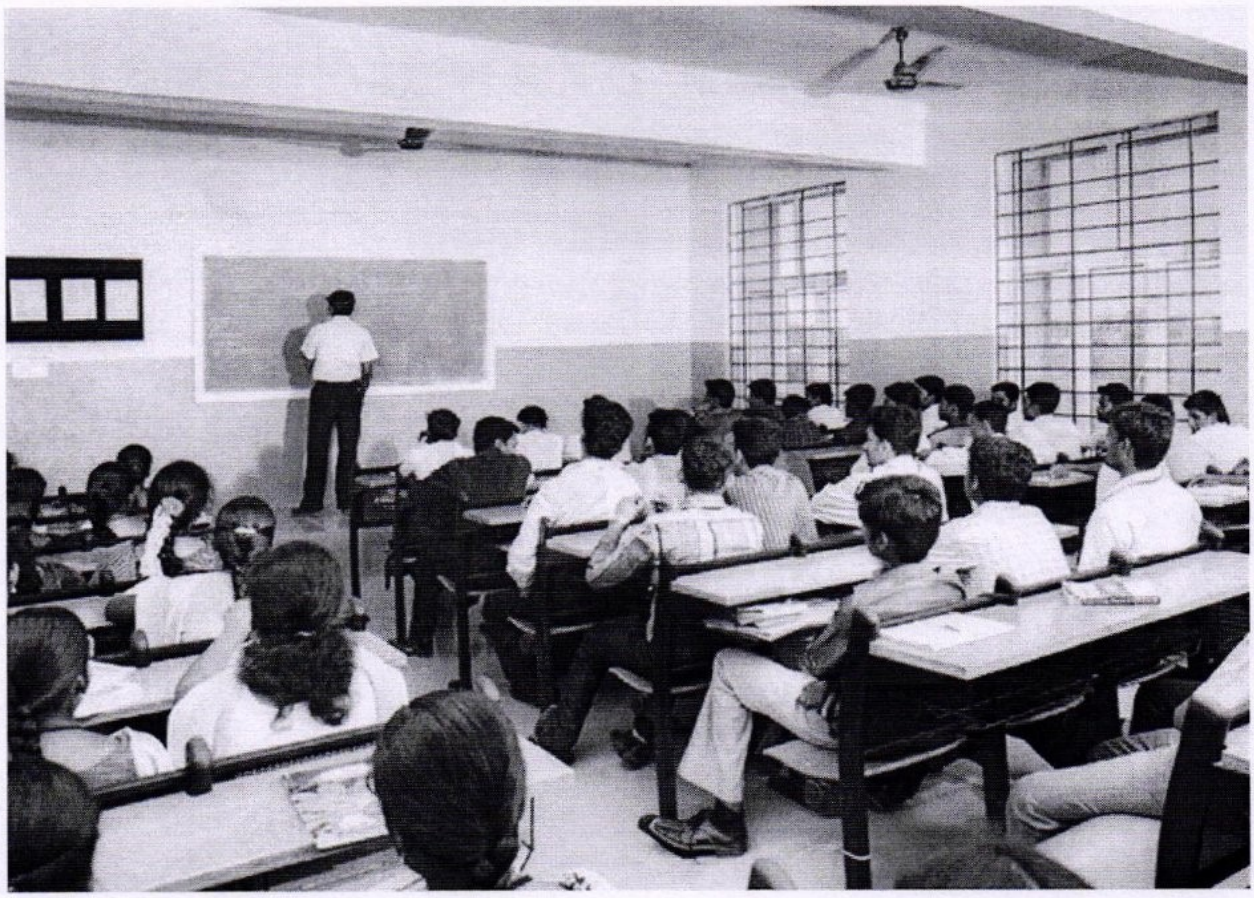
HEAD OF THE DEPARTMENT

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE COURSE ON COMPUTATIONAL MATHEMATICS WITH EXCEL



COURSE COORDINATOR

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

From
Dr. K.P Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

Date: 31.03.2022

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject :Request of Permission to conduct a value added course on "**TRAINING PROGRAM ON DESKTOP PUBLISHING**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**TRAINING PROGRAM ON DESKTOP PUBLISHING**" in our campus premises on **06/06/2022**.Students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: CSE Smart Room

Timing : 1:30P.M-4.30PM

9.30A.M-4.30PM.

Submitted to Principal for approval to organize this value added course.

HOD

DEAN ENGINEERING

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

01.06.2022

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **TRAINING PROGRAM ON DESKTOP PUBLISHING** for the benefit of II, III and IV year students. This course is scheduled from 06-06-2022 for 30hours which includes theory and practical. The timings are 1:30 PM to 4:30 PM

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.C.Nalini	Professor
2	Dr.C.Rajabhushanam	Professor

Head of Department

To

Copy to CSE

Copy to IT

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON TRAINING PROGRAM ON DESKTOP PUBLISHING

Date of Introduction of the Course: 06-06-2022

COURSE SYLLABUS

1. **Fundamentals of DTP**
   Importance and Advantages of DTP, DTP Software and Hardware, Commercial DTP Packages, Page Layout Programs, Introduction to Word Processing, Commercial DTP Package, Difference between DTP Software and Word Processing Software.

2. **Computer Graphics**
   Types of Graphics, Uses of Computer Graphics Introduction to Graphics Programs, Font and Typefaces, Types of Fonts, Creation of Fonts (Photographer), Anatomy of Typefaces, Printers, Types of Printers used in DTP, Plotter, Scanner.

3. **Positioning Ruler Guides**
   History andVersions of Page Maker, Creating a new Page, document setup dialog box, paper size, page orientation, margins, different methods of placing text ad graphics in a document. Master Page, story editor, formatting of text, indent, leading, hyphenation, spelling check, creating index, text wrap, position (Superscript/subscript), control palette.

4. **MULTIMEDIA**
   History, multimedia elements; text, images, sound, animation and video. Text, Concept of plain text and formatted text, RTF & HTML text, image, importance of graphicisin, multimedia, image capturing methods, scanner, digital camera, Sound -sound and its effect in Multimedia, analog and digital sound, animation, basics, principles and use of animation, video, basics of video, analog and digital video.

5. **Features for a Multimedia System**

   Features of multimedia, overview of multimedia, multimedia software tools, multimedia authoring –Production and presentation, graphic file formats, MIDI –Overview, concepts, structure of MIDI, MIDI Devices, MIDI Messages

6. Vector based software

Introduction to Adobe Illustrator-Tools and its Applications18 Hrs.Familiarization of:-Adobe Illustrator for Windows& MAC-Interface-Practice on Tools-Practice on Menus-Practice on Palettes-Practice on Short cuts-Advanced concept of drawing,-Emphasis on design and-composition and experimentaltechniques in different media-Use of selection Tool-objects attributes-Working with Groups and Layers

7.Introduction PDF

Introduction to PDF Generators-Permission and rights in PDF-Introduction to Abode Acrobat Professional-Protecting file with various rights-Colour separations-Merits and demerits of PDF format filesOther PDF Generators-Downloading free PDF generators-Converting files to different formats8 Hrs.Familiarization of Adobe Acrobat Professional-Familiarization of Freeware PDF-Generatorsand its conversions.-Conversion from PDF to word/word processors and Excel/spread sheets.-Integrating text and graphics in PDF file

8.On Demand Printing

Basic concept ,Digital Press:--Electrostatic, Inkjet and thermal printing from digital Master-PS interpreter & raster image processing (RIP) and its function16 Hrs.Familiarization of:-Adobe In-Design for Windows& MAC-Document setup-Use of rules, guides, snap to guides-Formatting paragraphs, text blocks-Placing graphics, resizing and text wrap-Editing stories and spell checking-Setting of templates and style palettes-Grouping and aligning objects-Mulitple paste with "step & repeat"-Colour libraries and separations-Styles and custom style palettes-Drop caps, page numberring and inserting of special symbols-Printing solutions and PPD's and PDFs

9.Post Script (PS) and Page Description Languages (PDL)

PS printer description file, PS Level 1,2,3-PS resources, imaging text and graphics-vector drawing, character drawing-EPS file, PS colour processing , PS output devices,Difference between PS and PDF

10. Introduction to e-Publishing

Software tools required-Web publishing-Digital distribution platform-Online publishing -Online distribution-Open access (publishing)-Pay-per-view-Print on demand

11.Guidance for preparing a publication

typesetting-proofing-printing-binding a publication.

COURSE OBJECTIVES

In this course we plan to give students an overview of the field of Training Program on Desktop Publishing will gain hands-on experience in solving relevant problems through projects that will utilize existing public tools monitoring one's progress. It is our objective that students will develop the skills needed to become a practitioner or carry out research projects in this domain.

Specifically, the course has the following objectives:

Students will learn

1) The fundamental ideas behind,Training Program on Desktop Publishing, it is essential to have in depth knowledge set which enables analyzing the given job and subsequent detail planning. Benefits, as well as current and future challenges;

2) The basic ideas and principles of Training Program on Desktop Publishingis the subjectivity of consciousness and professional activity.

deployment considerations;

3) To understand the challenges in extracting objects/regions of interest from a given task.To transfer skill the practical know how is most important criteria as in ITI system skill is the ultimate requirement. To perform a task/job both theoretical and practical knowledge are very much needed. Thus Trade Technology is regarded as basic/hard skills which are base of all skill based training.

4)It is the skills, Knowledge and Attitude which enables comprehending the given job and subsequent planning to complete the task/job.Engaging with authentic scientific tools and practices such as improve conceptual understanding, and increase motivation

5) The variety of programming models and develop working experience in several of them.

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON TRAINING PROGRAM ON DESKTOP PUBLISHING

Date of Introduction of the Course: 06.06.2022

The timings are 1:30 PM to 4:30 PM

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	06-06-2022(AN)	**1. Fundamentals of DTP** Importance and Advantages of DTP, DTP Software and Hardware, Commercial DTP Packages, Page Layout Programs, Introduction to Word Processing, Commercial DTP Package, Difference between DTP Software and Word Processing Software
3,4	09-06-2022(AN) 10-06-2022(FN)	**2. Computer Graphics** Types of Graphics, Uses of Computer Graphics Introduction to Graphics Programs, Font and Typefaces, Types of Fonts, Creation of Fonts (Photographer), Anatomy of Typefaces, Printers, Types of Printers used in DTP, Plotter, Scanner.
5,6	10-06-2022(FN)	**3.Positioning Ruler Guides** History andVersions of Page Maker, Creating a new Page, document setup dialog box, paper size, page orientation, margins, different methods of placing text ad graphics in a document. Master Page, story editor, formatting of text, indent, leading, hyphenation, spelling check, creating index, text wrap, position (Superscript/subscript), control palette
7,8	10-06-2022 (FN) 10-06-2022(AN)	**4.MULTIMEDIA** History, multimedia elements; text, images, sound, animation and video.Text, Concept of plain text and formatted text, RTF & HTML text, image, importanceofgraphics in multimedia, image capturing methods, scanner, digital camera, Sound -sound its effect in Multimedia, analog digital sound, animation, basics, principles and use of animation,video,basicsofvideo,analog,digital video

9,10	**10-06-2022 (AN)**	**5.Features for a Multimedia System** Features of multimedia, overview of multimedia, multimedia software tools, multimedia authoring –Production and presentation, graphic file formats, MIDI –Overview, concepts, structure of MIDI, MIDI Devices, MIDI Messages
11,12	**10-06-2022 (AN)**	**6.Vector based software** Introduction to Adobe Illustrator-Tools and its Applications18 Hrs.Familiarization of:-Adobe Illustrator for Windows& MAC-Interface-Practice on Tools-Practice on Menus-Practice on Palettes-Practice on Short cuts-Advanced concept of drawing,-Emphasis on design and-composition and experimentaltechniques in different media-Use of selection Tool-objects attributes-Working with Groups and Layers
13,14	**10-06-2022 (AN)** **16-06-2022 (FN)**	**7.Introduction PDF** Introduction to PDF Generators-Permission and rights in PDF-Introduction to Abode Acrobat Professional-Protecting file with various rights-Colour separations-Merits and demerits of PDF format filesOther PDF Generators-Downloading free PDF generators-Converting files to different formats.Familiarization of Adobe Acrobat Professional-Familiarization of Freeware PDF-Generatorsand its conversions.-Conversion from PDF to word/word processors and Excel/spread sheets.-Integrating text and graphics in PDF file .
15,16	**16-06-2022 (FN)**	**8.Introduction PDF** Familiarization of Adobe Acrobat Professional-Familiarization of Freeware PDF-Generatorsand its conversions.-Conversion from PDF to word/word processors and Excel/spread sheets.-Integrating text and graphics in PDF file .
17,18	**16-06-2022 (FN)** **16-06-2022 (AN)**	**9.On Demand Printing** Basic concept ,Digital Press:--Electrostatic, Inkjet and thermal printing from digital Master-PS interpreter & raster image processing (RIP) and its function16 Hrs.Familiarization of:-Adobe In-Design for Windows& MAC-Document setup-Use of rules, guides
19,20	**16-06-2022 (AN)**	**10.On Demand Printing** Formatting paragraphs, text blocks-Placing graphics, resizing and text wrap-Editing stories and spell checking-Setting of templates and style

		palettes-Grouping and aligning objects-Mulitple paste with "step & repeat"-Colour libraries and separations-Styles and custom style palettes-Drop caps, page numberring and inserting of special symbols-Printing solutions and PPD's and PDFs
21,22	**16-06-2022 (AN)**	**11.On Demand Printing** Formatting paragraphs, text blocks-Placing graphics, resizing and text wrap-Editing stories and spell checking-Setting of templates and style palettes-Grouping and aligning objects-Mulitple paste with "step & repeat"-Colour libraries and separations-Styles and custom style palettes-Drop caps, page numberring and inserting of special symbols-Printing solutions and PPD's and PDFs
	16-06-2022 (AN) 17-06-2022 (FN)	**12.Post Script (PS) and Page Description Languages (PDL)** PS printer description file, PS Level 1,2,3-PS resources, imaging text and graphics-vector drawing, character drawing
25,26	**17-06-2022 (FN)**	13. **Post Script (PS) and Page Description Languages (PDL)** EPS file, PS colour processing , PS output devices,Difference between PS and PDF
27,28	**17-06-2022 (FN) 23-06-2022 (AN)**	14.**Introduction to e-Publishing** Software tools required-Web publishing-Digital distribution platform-Online publishing -Online distribution-Open access (publishing)-Pay-per-view-Print on demand
29,30	**23-06-2022 (AN)**	15.**Guidance for preparing a publication** typesetting-proofing-printing-binding a publication.

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON TRAINING PROGRAM ON DESKTOP PUBLISHING

Date of Introduction of the Course: 06.06.2022

School of Computing
Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U16CS001	SANTOSH B
2	U16CS002	APARNA V M
3	U15CS007	ANJAR ALI
4	U15CS008	ANKAM MANJUNATH
5	U15CS009	ANNADI DHANUSH
6	U15CS011	ANUMOLU YESWANTH
7	U16CS014	SOMA BHARATH KUMAR
8	U16CS015	B J JAISON
9	U16CS016	SARAVANAKUMAR S
10	U16CS017	VARUN KANNA A
11	U16CS018	JUPAKA SAIVARUN
12	U16CS019	PYDI VENKATA PRITHEESH NIHAR
13	U16CS020	R MAHESH
14	U14CS182	SRI DHARSHINI .P
15	U14CS183	SULEKHA KUMARI
16	U14CS184	SUNITA.S
17	U14CS185	SURENDAR.K
18	U14CS186	SURIYA.A.
19	U14CS187	SURYA.A
20	U14CS188	SUSINDHAR .P
21	U14CS190	SWEETY SHIMAL
22	U14CS192	THARIGOPULA LOKESH
23	U14CS193	THEJA.T
24	U15CS039	D N S HRUDAY BHARADWAJ

25	U15CS040	DADAM CHAITHRA
26	U15CS041	DEEPAK KUMAR SINGH
27	U15CS042	DILLIGANESH V
28	U15CS044	DIVYA VANI T
29	U15CS045	DODDI PUJITHA
30	U15CS046	DOOLIGANTI AKHIL REDDY
31	U15CS047	DUPUGUNTLA BHANU SIVA KASINADH
32	U15CS048	GANDLUR REDDY GREESHMA
33	U15CS049	GANESH BAG
34	U15CS050	GANGARAJU RAHUL
35	U15CS032	CHANDRA KANT CHOUDHARY

COURSE COORDINATOR

HOD

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

COURSE FEEDBACK FORM

Academic Year		2022					
Term							
Course Number							
Course Title		TRAINING PROGRAM ON DESKTOP PUBLISHING					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60		60-80	✓	80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8		8-10	

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	

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	

HEAD OF THE DEPARTMENT

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

COURSE FEEDBACK FORM

Academic Year		2022					
Term							
Course Number							
Course Title		TRAINING PROGRAM ON DESKTOP PUBLISHING					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I.	**Information on the Respondent: (Tick (√) Appropriately)**									
1.	**Percentage of classes attended**									
	0-20		20-40		40-60		60-80	✓	80-100	
2.	**Number of hours per week spent on the course (Other than lecture hours)**									
	0-2		2-4		4-6		6-8		8-10	

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	

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**	

HEAD OF THE DEPARTMENT

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

Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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

CERTIFICATE OF PARTICIPATION

This certificate is presented to

V.DILI GANESH

For actively participating in the value added course **"TRAINING PROGRAM ON DESKTOP PUBLISHING"** Conducted by School of Computing, BIHER from 06.06.2022 to 23.06.2022

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON TRAINING PROGRAM ON DESKTOP PUBLISHING

Date of Introduction of the Course: 06.06.2022

School of Computing

COURSE CO ORDINATOR

HEAD OF THE DEPARTMENT

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Requisition Letter

Date: 08.06.2022

From
Dr. K.P.Kaliyamurthie,
Professor & Head,
Department of CSE,
Bharath Institute of Higher Education and Research,
Chennai

To
The Dean Engineering,
Bharath Institute of Higher Education and Research,
Chennai

Respected sir

Subject: Request of Permission to conduct a value added course on "**Data Structures and Algorithms Specialization**" -Reg

With reference to above subject, I would like to bring to your kind notice that, our department interested to organize value added course on "**Data Structures and Algorithms Specialization**" in our campus premises on **16/06/2022**.

35 students would be participating in this course. We request you kindly to give permission to organize this event.

Venue: **CSE Smart Room**

Timing : **9 am to 4.30 pm**

Submitted to Principal for approval to organize this value added course.

HOD/CSE

DEAN ENGINEERING

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CIRCULAR

12.06.2022

The School of computing, Bharath Institute of Higher Education and Research is planned to conduct a certification value added course on **DATA STRUCTURES AND ALGORITHMS SPECIALIZATION** for the benefit of II, III and IV year students. This course is scheduled from 16.06.2022 for 30hours which includes theory and practical. The timings are 3:00 PM to 5:00 PM

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	E.Fathima	Assistant Professor
2	C.Rajabhushanam	Assistant Professor

Head of Department

To

Copy to CSE

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

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON DATA STRUCTURES AND ALGORITHMS SPECIALIZATION

Date of Introduction of the Course:16.06.2022

COURSE SYLLABUS

1.INTRODUCTION TO OOPS

Introduction to object oriented programming through stacks, queues and linked lists.

2.HASHING TECHNIQUES

Dictionaries: skip-lists, hashing, analysis of collision resolution techniques.

3.TREES

Trees, traversals, binary search trees, optimal and average.

4.BINARY SEARCH TREE

BST's trees and red-black trees.

5.QUEUE

Tries and pattern matching. Priority queues and binary heaps.

6.SORTING AND SELECTION

Sorting: merge, quick, radix, selection, heap.

7.BFS

Introduction to Graphs, Breadth first search and connected components.

8. DFS

Depth first search in directed and undirected graphs and strongly connected components.

9.SPANNING TREES

Prim's and Kruskal's algorithm, union-find datastructure.

10. ACYCLIC GRAPHS

Dijkstra's algorithm for shortest path. shortest path tree. Shortest and longest paths in directed acyclic graphs.

11. GRAPHS

Matrix Representation of Graphs, List Structures, Other Representations of Graphs, Breadth First Search, Depth First Search, Spanning Trees.

12. DIRECTED GRAPHS

Types of Directed Graphs; Binary Relation As a Digraph; Euler's Digraphs; Matrix Representation of Digraphs.

13. SORTING

Divide and Conquer Divide and Conquer Strategy; Binary Search; Max. And Min.; Merge sort; Quick sort.

14. GREEDY ALGORITHM

Greedy Method Greedy Method Strategy; Optimistic Storage on Tapes; Knapsack Problem; Job Sequencing with Deadlines; Optimal Merge Pattern; Single Source Shortlist Paths.

15. DYNAMIC PROGRAMMING

Dynamic Programming Strategy; Multistage Graphs; All Pair Shortest Paths; Travelling Salesman Problems.

Course Objective:

1. To understand the various algorithm design and analysis techniques
2. To learn tree data structures – lists, stacks, and queues
3. To learn different sorting and searching algorithms
4. To understand Tree and Graph data structures
5. To learn Greedy algorithms and Dynamic programming

COURSE COORDINATOR **HEAD OF THE DEPARTMENT**

Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act 1956)

CERTIFICATE COURSE ON DATA STRUCTURES AND ALGORITHMS SPECIALIZATION

Date of Introduction of the Course:16.06.2022

The timings are 3 PM to 5 PM from Friday (AN) and Saturday (FN&AN).

Time Table& Lesson plan

CLASS	DATE	TOPIC
1,2	16-06-2022(AN)	**1.INTRODUCTION TO OOPS** Introduction to object oriented programming through stacks, queues and linked lists.
3,4	17-06-2022(FN)	**2.HASHING TECHNIQUES** Dictionaries: skip-lists, hashing, analysis of collision resolution techniques.
5,6	17-06-2022(AN)	**3.TREES** Trees, traversals, binary search trees, optimal and average.
7,8	23-06-2022(AN)	**4.BINARY SEARCH TREE** BST's trees and red-black trees.
9,10	24-06-2022(FN)	**5.QUEUE** Tries and pattern matching. Priority queues and binary heaps.
11,12	24-06-2022(AN)	**6.SORTING AND SELECTION** Sorting: merge, quick, radix, selection, heap.
13,14	30-06-2022(AN)	**7.BFS** Introduction to Graphs, Breadth first search and connected components.

15,16	**01-07-2022(FN)**	**8. DFS** Depth first search in directed and undirected graphs and strongly connected components
17,18	**01-07-2022 (AN)**	**9.SPANNING TREES** Prim's and Kruskal's algorithm, union-find datastructure.
19,20	**07-07-2022 (AN)**	**10. ACYCLIC GRAPHS** Dijkstra's algorithm for shortest path. shortest path tree. Shortest and longest paths in directed acyclic graphs.
21,22	**08-07-2022 (FN)**	**11. GRAPHS** Matrix Representation of Graphs, List Structures, Other Representations of Graphs, Breadth First Search, Depth First Search, Spanning Trees.
23,24	**08-07-2022 (AN)**	**12. DIRECTED GRAPHS** Types of Directed Graphs; Binary Relation As a Digraph; Euler's Digraphs; Matrix Representation of Digraphs.
25,26	**14-07-2022 (AN)**	**13. SORTING** Divide and Conquer Divide and Conquer Strategy; Binary Search; Max. And Min.; Merge sort; Quick sort.
27,28	**15-07-2022(FN)**	**14. GREEDY ALGORITHM** Greedy Method Greedy Method Strategy; Optimistic Storage on Tapes; Knapsack Problem; Job Sequencing with Deadlines; Optimal Merge Pattern; Single Source Shortlist Paths.
29,30	**15-07-2022(AN)**	**15. DYNAMIC PROGRAMMING** Dynamic Programming Strategy; Multistage Graphs; All Pair Shortest Paths; Travelling Salesman Problems.

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CERTIFICATE COURSE ON DATA STRUCTURES AND ALGORITHMS SPECIALIZATION

Date of Introduction of the Course: 16.06.2022

School of Computing

Registered Students Name List

S.NO	REG.NO	NAME OF THE STUDENT
1	U14CS035	BYSANI VENKAT SANDEEP
2	U14CS090	MAL REDDY GANESH REDDY
3	U14CS151	RAVIPATI SUBBARAYUDU
4	U14CS153	RONU SHARMA
5	U14CS155	TAMMINANA SAGAR
6	U14CS157	SAJJA. SURENDRA PRASAD
7	U14CS166	SHAFAN HASIM.N
8	U14CS170	SHANKAR KUMAR GUPTA
9	U14CS178	SK MD TAUQEER
10	U14CS181	SOURABH PRIYADARSHI
11	U14CS185	SURENDAR.K
12	U14CS199	VAMMARVALLI RAJA
13	U14CS207	VIVEK KUMAR
14	U14CS210	YELLALA SANTHOSH REDDY
15	U15CS144	OMPRAKASH YADAV
16	U15CS147	PALEPU SIVA MANIKANTA CHARI
17	U15CS148	PARTHIBAN S
18	U15CS710	JAYANTHI..S
19	U15CS194	SHAIK SABIR
20	U15CS196	SHARYARAI.S
21	U15CS197	SHATRUGHAN SUHAN.S
22	U15CS201	SMITHA C.S
23	U15CS255	ADITYA
24	U15CS701	PRAVEEN RAJ.V
25	U15CS502	DANIEL BRITTO
26	U15CS702	GOWTHAMAN.S
27	U16CS025	SANTHOSHKUMAR S
28	U16CS099	GANGUMALLA GANGA SUNIL
29	U16CS101	NITHISHVAR S
30	U16CS152	NALLAPU RAJESH
31	U16CS162	YEMIREDDY SRINIVASA REDDY
32	U16CS169	RAVILLA HARSHITHA
33	U16CS192	GANTLA VASU
34	U16CS197	PRAVEENRAJ R M
35	U16CS210	TANIRU SATISH

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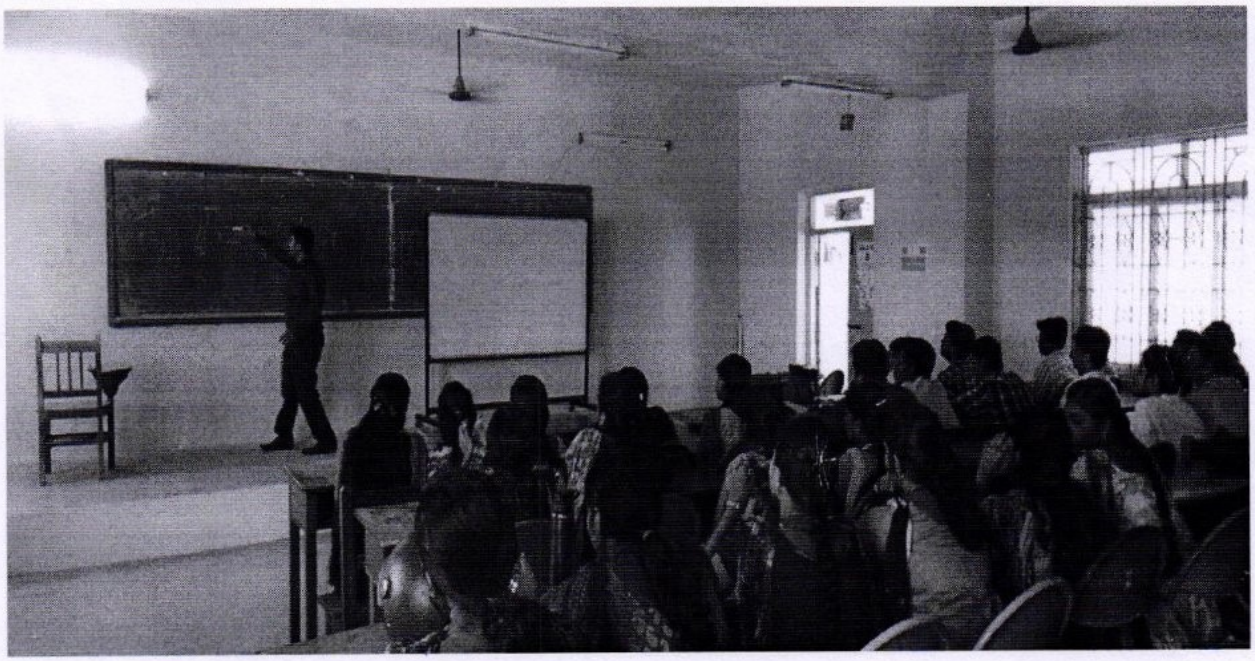
CERTIFICATE COURSE ON DATA STRUCTURES AND ALGORITHMS SPECIALIZATION



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Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

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CERTIFICATE OF PARTICIPATION

This certificate is presented to

S.NITHISTVAR (REG NO:U16CS101)

For actively participating in the value added course **"DATA STRUCTURES AND ALGORITHMS SPECIALIZATION "** Conducted by School of Computing, BIHER from 16.06.2022 to 15.07.22

COURSE COORDINATORS

HEAD OF THE DEPARTMENT

DIRECTOR

COURSE FEEDBACK FORM

Academic Year		2022					
Term		Odd Sem					
Course Number							
Course Title		Data Structures and Algorithms Specialization					
Number of Credits							
Type of Course	Regular		Elective		Add-on	✓	

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60	✓	60-80		80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6	✓	6-8		8-10	

3. **Preparation for the course by the student:**

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

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	

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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COURSE FEEDBACK FORM

Academic Year	2022
Term	Odd Sem
Course Number	
Course Title	Data Structures & algorithm Specialization
Number of Credits	

Type of Course	Regular		Elective		Add-on	✓

I. Information on the Respondent: (Tick (√) Appropriately)

1. **Percentage of classes attended**

0-20		20-40		40-60	✓	60-80		80-100	

2. **Number of hours per week spent on the course (Other than lecture hours)**

0-2		2-4		4-6		6-8	✓	8-10	

3. **Preparation for the course by the student:**

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

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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