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

Requisition Letter

Date: 24.05.2022

From

The HOD,

Department of Mechanical Engineering,

Bharath Institute of Higher Education and Research,

Selaiyur, Chennai.

To

The Dean Engineering,

Bharath Institute of Higher Education and Research,

Selaiyur, Chennai.

Respected Sir,

Sub: Requisition for conducting Value added course – reg.

School of Mechanical Sciences has planned to conduct Value added course on "Course on Industrial Automation and FMS" on 16-06-2022. In this regard we kindly request you to grant permission for the same.

Thanking You

HOD/MECH

Dean Engineering

Head of the Department
Department of Mechanical Engineering
Bharath Institute of Higher Education and Research
(Dec.u/s 3 of UGC Act.1956)
Selaiyur, Chennai-600 073

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

Date: 25.05.2022

Department of Mechanical Engineering

Circular

The of Department of Mechanical Engineering, BIHER glad to conduct on six days value added program on "***Course on Industrial Automation and FMS***" from **16.06.2022** for 30 hours. Those who are interested to participate do register your name to the program coordinator.

All reregistered students must attend all the classes without fail. The students who are completed the course successfully with good score will get the course completion certificate from the institute/Department.

Resource person: Mr.R J Golden Renjith Nimal and Mr.R.Hariharan

Maximum no. of registration Allowed – 60.

***First come first serve basis.**

Program coordinator

Mr.Arun V Rejus Kumar

Mr.S.Manavalan

Department of Mechanical Engineering
BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH
Chennai-600 073

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

Department of Mechanical Engineering

Course on Industrial Automation and FMS

OBJECTIVE:

- To impart the necessary basic concepts of industrial automation, FMS and control methods and to apply them to various manufacturing problems.

OUTCOME:

- The students should apply industrial automation, robotics, and control techniques to manufacturing systems, cellular manufacturing systems, and flexible manufacturing systems.

[DAY: 1]

MODULE 1 Automated manufacturing systems **(5Hrs)**

Fixed/Programmable/Flexible Automation, need; Basic elements of automated systems- program and control; advanced automation functions, Levels of automation, industrial control systems in process and discrete manufacturing industries, Continuous and discrete control; Low cost automation, Economic and social aspects of automation. Transfer Lines: Fundamentals, Configurations, Transfer mechanisms, storage buffers, control, applications; Analysis of transfer lines without and with storage buffers.

[DAY: 2]

MODULE II Inspection Technologies **5 Hrs)**

Automated Inspection, Coordinate Measuring Machines Construction, operation &Programming, Software, Application & Benefits, Flexible Inspection System, Inspection Probes on Machine Tools, Machine Vision, Optical Inspection Techniques & Non-contact Non-optical Inspection Technologies

[DAY: 3]

MODULE III Manufacturing Support System **(5Hrs)**

Process Planning, Computer Aided Process Planning, Concurrent Engineering & Design for Manufacturing, Advanced Manufacturing Planning, Just-in Time Production System, Basic concepts of lean and Agile manufacturing.

DAY: 4]

MODULE IV Assembly Automation **(5Hrs)**

Types and configurations, Parts delivery at workstations- Various vibratory and non-vibratory devices for feeding and orientation, Calculations of feeding rates, Cycle time for single station assembly machines and partially automated systems; Product design for automated assembly.

[DAY: 5]

MODULE V Group Technology & Flexible Manufacturing Systems **(5 Hrs)**

Part Families, Parts Classification and coding, Production Flow Analysis, Cellular Manufacturing, Flexible Manufacturing Systems: What is an FMS, FMS Components, FMS Applications & Benefits, and FMS Planning & Implementation Issues.

[DAY: 6]

MODULE VI Quality Control Systems **(5 Hrs)**

Traditional and Modern Quality Control Methods, Taguchi Methods in Quality Engineering. Introduction to SQC Tools.

]

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

Department of Mechanical Engineering
One Week Value added Program on "*Course on Industrial Automation and FMS*"
16th June to 22nd June 2022

Date	Morning Session (9 AM – 12 PM)	Afternoon Session (1:30 PM – 3:30 PM)
16 – 06 – 2022	Program Inauguration **Mr.R J Golden Renjith Nimal** , Assistant professor, BIHER ***Introduction:*** *Automated manufacturing systems*	**Mr.R.Hariharan** , Assistant professor, BIHER ***Transfer Lines:*** *Fundamentals, Configurations, Transfer mechanisms, storage buffers, control, applications; Analysis of transfer lines without and with storage buffers.*
17 – 06 – 2022	**Inspection Technologies: Mr.R.Hariharan** *Automated Inspection, Coordinate Measuring Machines Construction, operation &Programming, Software, Application & Benefits,*	**Inspection Technologies Mr.R J Golden Renjith Nimal** *Flexible Inspection System, Inspection Probes on Machine Tools, Machine Vision, Optical Inspection Techniques & Non-contact Non-optical Inspection Technologies*
19 – 06 – 2022	**Manufacturing Support System: Mr.R J Golden Renjith Nimal** *Process Planning, Computer Aided Process Planning, Concurrent Engineering & Design for Manufacturing,*	**Manufacturing Support System: Mr.R.Hariharan** *Advanced Manufacturing Planning, Just-in Time Production System, Basic concepts of lean and Agile manufacturing.*
20 – 06 – 2022	**Assembly Automation: Mr.R.Hariharan** *Types and configurations, Parts delivery at workstations-Various vibratory and non-vibratory devices for feeding and orientation*	**Assembly Automation: Mr.R J Golden Renjith Nimal** *Calculations of feeding rates, Cycle time for single station assembly machines and partially automated systems; Product design for automated assembly.*
21 – 06– 2022	**Group Technology: Mr.R J Golden Renjith Nimal** *Part Families, Parts Classification and coding, Production Flow Analysis, Cellular Manufacturing*	**Flexible Manufacturing Systems Mr.R.Hariharan** *Flexible Manufacturing Systems: What is an FMS, FMS Components, FMS Applications & Benefits, and FMS Planning & Implementation Issues.*
22 – 06 – 2022	**Quality Control Systems: Mr.R.Hariharan** *Traditional and Modern Quality Control Methods, Taguchi Methods in Quality Engineering. Introduction to SQC Tools.*	***Quiz/ Feedback / valedictory Session***

Program Coordinator:

Mr.Arun V Rejus Kumar

Mr.S.Manavalan

Assistant Professor,

E-Mail:rejus10.mech@gmail.com

manavalan.mech@bharathuniv.ac.in

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

16-06-2022

Course on Industrial Automation and FMS

Attendance sheet

S.No	Reg.No	Name	Department
1.	U16ME057	AMIT PRAKASH	Mechanical Engineering
2.	U16ME058	RAHUL	Mechanical Engineering
3.	U16ME060	PUCHAKAYALA HARI BABU	Mechanical Engineering
4.	U16ME061	KONAKALLA	Mechanical Engineering
5.	U16ME063	GAJULA AKHIL RAGHU SAI	Mechanical Engineering
6.	U16ME065	KOTAPURI MASTAN BABU	Mechanical Engineering
7.	U16ME067	DEVANAMAINA	Mechanical Engineering
8.	U16ME068	PULUSU	Mechanical Engineering
9.	U16ME069	GOLLAGUTHI RAMANJANEYA	Mechanical Engineering
10.	U16ME070	VEERAPANENI	Mechanical Engineering
11.	U15ME139	MOHAMED AZHARUDEEN	Mechanical Engineering
12.	U15ME140	MOHAMED FAZIL	Mechanical Engineering
13.	U15ME142	MOHAMED IRFAN	Mechanical Engineering
14.	U15ME143	MOHAMED MARZOOK	Mechanical Engineering
15.	U15ME144	MOHAMMAD	Mechanical Engineering
16.	U15ME146	MOHD	Mechanical Engineering

17.	U15ME147	MRIGEN	Mechanical Engineering
18.	U15ME150	MUNGARA MADINI BABU	Mechanical Engineering
19.	U15ME151	MURUGESAN	Mechanical Engineering
20.	U15ME152	NANDHA KUMAR	Mechanical Engineering
21.	U16MT003	DINESH	Mechatronics
22.	U16MT004	SRINATH	Mechatronics
23.	U16MT005	DHANASEKAR	Mechatronics
24.	U16MT006	GOUTHAM	Mechatronics
25.	U16MT007	SATHIYASEELAN	Mechatronics
26.	U16MT008	RAKESH	Mechatronics
27.	U16MT009	ABDUL FAHEEM	Mechatronics
28.	U16MT010	SAKTHI	Mechatronics
29.	U16MT011	MELVINE ROHAN	Mechatronics
30.	U16MT014	SARATHKUMAR	Mechatronics
31.	U15MT014	PADIYACHI MONISH DANASEKAR	Mechatronics
32.	U15MT501	NAREN KUMAR	Mechatronics
33.	U15MT503	MUGILVARMA	Mechatronics
34.	U15MT702	NEELAM	Mechatronics
35.	U15MT703	MOHANAKUMARESAN	Mechatronics
36.	U15AM006	GIRIDAAR	Automobile Engineering
37.	U15AM007	EDULA VISHNU GOVARDHAN	Automobile Engineering
38.	U15AM008	GANNI VINEETH	Automobile Engineering

39.	U15AM009	GOKULPRASHANTH	Automobile Engineering
40.	U15AM010	HASHIM JAWAD MELEDATH	Automobile Engineering
41.	U15AM011	INNAMULHASAN	Automobile Engineering
42.	U15AM012	MANIKANDAN	Automobile Engineering
43.	U15AM013	MARIA SUBITCHAM VINITH	Automobile Engineering
44.	U15AM014	MATHAN KUMAR	Automobile Engineering
45.	U15AM015	MOHAMED ASHIF	Automobile Engineering

Certificate

Bharath Institute of Higher Education and Research

DEPARTMENT OF MECHANICAL ENGINEERING

Certificate of Participation

This is to certify that

NANDHA KUMAR

of

Bharath Institute of Higher Education and Research

has attended the value added program on "Course on Industrial Automation and FMS" organized by the Department of Mechanical Engineering, Bharath Institute of Higher Education and Research, Chennai on June (16-22), 2022

Mr. Arun V Rejin Kumar — Mr.S.Manavalan — Coordinators

Mr.R J Golden Renith Nimal — Mr.R.Hariharan — Resource Persons

Feedback Form

Course Name: Course on Industrial Automation & PMS

COURSE FEEDBACK FORM

Name : Rahul Date: 16/06/2022

Reg.No: U16MB058

I.	About the Course Information on the Respondent: (Tick (√) Appropriately)					
Depth of Coverage						
UG level		Graduate level	√	Advance level		
Standard of test and assignments						
High	√	Normal		Easy		

	A	B	C	D	E
Coverage of the syllabus	√				
Organisation of the Course	√				
Emphasis on fundamentals	√				
Emphasis of fundamentals	√				
Coverage of modern/advanced topics		√			
Availability of text books/study materials		√			
Usefulness of tests and assignments	√				
Overall rating of the Course	√				
What benefit you derived from the course?	√				

Course Name: Course on Educational Automation & Apps

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	

Course on Industrial Automation and FMS – Image