Bharath Institute of Higher Education and Research

[Declared Under Section 3 of UGC Act, 1956]

Chennai – 600 073

INTERNAL QUALITY ASSURANCE CELL (IQAC)

DOCUMENTS SUBMISSION FORM

Date of Submission	14/11/2020
Type of Documents	Value Added Course program Report (online)
Description	Setting up for PSCAD MATLAB Co-Simulation
Enclosures	a) Requisition Letter b) Circular c) Curriculam d) Schedule e) Attendance Sheet f) feed back form g) Certificals h) Image
No. of Pages	12
Submitted By	**Name** : R. Hariharan **Designation** : Assistent professor **Department** : Mechanical Engineering **Signature** :

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Verified By:	K. Sakthi vel	Sign:		Date: 14/11/2020
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IQAC - BIHER

Requisition Letter

Date: 14.10.2020

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 online Value added course – reg.

School of Mechanical Sciences has planned to conduct Value added course on "Setting up for PSCAD/MATLAB Co-simulation" on 1/11/2020. In this regard we kindly request you to grant permission for the same.

Thanking You

HOD/MECH

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

Dean Engineering

DEAN
BHARATH INSTITUTE OF HIGHER EDUCATION & RESEARCH
(Declared as Deemed to be University U/S 3 of UGC Act. 1956)
Chennai - 073, INDIA.

Date: 17.10.2020

Department of Mechanical Engineering

Circular

The of Department of Mechanical Engineering, BIHER glad to conduct on five days value added program on *"Setting up for PSCADMATLAB Co-simulation"* from 01.11.2020 for 30 hours. Those who are interested to participate do register your name to the program coordinator.
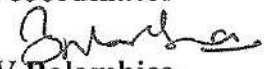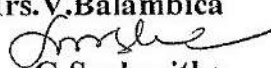
All reregistered students must attend all the classes without fail. The students who are completed the course successfully with good score will get the course completion certificate from the institute/Department.
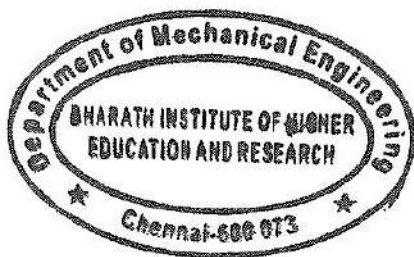
Resource person: Mr.D.Ravi and Mrs.C.M.Meenakshi

Maximum no. of registration Allowed – 60.

*First come first serve basis.

Program coordinator

Mrs.V.Balambica

G.Sucharitha

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Chennai-600 073

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Department of Mechanical Engineering

Setting up for PSCAD/MATLAB Co-simulation

OBJECTIVE:
- To demonstrate understanding of PSCAD.
- To demonstrate basic instructions for PSCAD-MATLAB Interfacing

MODULE I   PSCAD Help   (5Hrs)
[DAY: 1]

Detailed Mat lab procedures may be found in the PSCAD User's Guide or PSCAD On-line help, which may be accessed by pressing F1 in the PSCAD workspace.

MODULE II Setting up for PSCAD/MATLAB Co-simulation   (10Hrs)
[DAY: 2]

1. PSCAD-MATLAB interface is supported with the PSCAD Professional Edition and with the PSCAD Educational Edition.
2. The task of creating new components is supported with the PSCAD Professional Edition and the PSCAD Educational Edition.

3. MATLAB must be installed prior to PSCAD. If PSCAD was installed prior to MATLAB, PSCAD will likely need to be reinstalled so that it recognizes the links and dependencies to MATLAB, its libraries and paths.

4. A commercial compiler, such as the **Intel Fortran Compiler** (preferred) is required. The Intel Fortran Compiler also requires a suitable version of Microsoft Visual Studio. **Compaq Visual Fortran 6.0** or higher may be considered, however, this software has not been developed for years, so there might be some software compatibility and installation issues.

[DAY: 3]

5. A user-defined component must be created by the user, to use the MATLAB interface feature; a "MATLAB Interface" component is not available in the PSCAD Master Library.

6. Before starting to run a PSCAD-MATLAB interface simulation, PSCAD should be directed to the MATLAB shared library folder. The shared libraries of MATLAB R200X are located at: %MatlabRoot%\extern\lib\win32\microsoft .In order to specify the above path for PSCAD, select Version 5 under Workspace Settings | MATLAB | Installed Version. Then enter the **complete**   path   of   the   shared   libraries.   (e.g.   C:\Program files\Matlab\R2008a\extern\lib\win32\microsoft) under 'Library Path'.

7. If you are creating a new model which uses the MATLAB interface function, your model must be linked to the installed MATLAB libraries by activating the corresponding checkbox on Project Settings

MODULE II   Simple PSCAD-MATLAB Interfacing Examples   (10 Hrs)

[DAY: 4]

A few PSCAD-MATLAB interfacing examples are provided in "%PSCAD FOLDER%\examples\matlab". In each of those cases, locate a block specified as "New Matlab Interface". The key subroutine for using the MATLAB interface feature is 'MLAB_INT' (see PSCAD/EMTDC User's Guide).

[DAY: 5]

Also, proper use of 'STORF' and 'STORI' is required for exchanging variables between EMTDC and the MATLAB workspace. I personally found the user's guide and the provided examples very helpful when I was trying to create my first PSCAD-MATLAB Interface case. So, please first try the instructions and examples. I recommend that you explore the corresponding script code blocks in the given examples. If you still encounter ambiguities, our Support Desk will be glad to assist you (support@pscad.com).

MODULE III   Applications   (5 Hrs)

[DAY: 6]

PSCAD Simulation: This includes custom component design and assisting users with the analysis of specific simulation models.

- AC transients
- Fault and protection
- Transformer saturation
- Wind power
- FACTS
- Power quality

Department of Mechanical Engineering
One Week Value added Program on "*Setting up for PSCAD/MATLAB Co-simulation*"
1ˢᵗ Nov to 7ᵗʰ Nov 2020

Date	Morning Session (9 AM – 12 PM)	Afternoon Session (1:30 PM – 3:30 PM)
01 – 11 – 2020	**Program Inauguration** **Mr.D.Ravi** *Introduction to PSCAD*	**Mrs.C.M.Meenakshi** PSCAD Help: *Detailed Mat lab procedures may be found in the PSCAD User's Guide or PSCAD On-line help, which may be accessed by pressing F1 in the PSCAD workspace.*
02 – 11 – 2020	**Mrs.C.M.Meenakshi** **Setting up for PSCAD/MATLAB Co-simulation:** *1. PSCAD-MATLAB interface is supported with the PSCAD Professional Edition and with the PSCAD Educational Edition.* *2. The task of creating new components is supported with the PSCAD Professional Edition and the PSCAD Educational Edition.*	**Mr.D.Ravi** *3. MATLAB must be installed prior to PSCAD. If PSCAD was installed prior to MATLAB, PSCAD will likely need to be reinstalled so that it recognizes the links and dependencies to MATLAB, its libraries and paths.* *4. A commercial compiler, such as the Intel Fortran Compiler (preferred) is required. The Intel Fortran Compiler also requires a suitable version of Microsoft Visual Studio. Compaq Visual Fortran 6.0 or higher may be considered, however, this software has not been developed for years, so there might be some software compatibility and installation issues.*
03 – 11 – 2020	**Mr.D.Ravi** *5. A user-defined component must be created by the user, to use the MATLAB interface feature; a "MATLAB Interface" component is not available in the PSCAD Master Library.* *6. Before starting to run a PSCAD-MATLAB interface simulation, PSCAD should be directed to the MATLAB shared library folder. The shared libraries of MATLAB R200X are located.*	**Mrs.C.M.Meenakshi** *7. If you are creating a new model which uses the MATLAB interface function, your model must be linked to the installed MATLAB libraries by activating the corresponding checkbox on Project Settings*
04 – 11 – 2020	**Mrs.C.M.Meenakshi** *A few PSCAD-MATLAB interfacing examples are provided in "%PSCAD FOLDER%\examples\matlab". In each of those cases, locate a block specified as "New Matlab Interface".*	**Mr.D.Ravi** *The key subroutine for using the MATLAB interface feature is 'MLAB_INT' (see PSCAD/EMTDC User's Guide).*
05 – 11 – 2020	**Mr.D.Ravi** *proper use of 'STORF' and 'STORI' is required for exchanging variables between EMTDC and the MATLAB workspace.*	**Mrs.C.M.Meenakshi** *Practical Session- PSCAD*
07 – 11 – 2020	**Mrs.C.M.Meenakshi** PSCAD Simulation: *This includes custom component design and assisting users with the analysis of specific simulation models.*	*Quiz/ Feedback / valedictory Session*

Program Coordinator:
Mrs.V.Balambica
Mrs. G.Sucharitha
Assistant Professor,
E-Mail: balambicavenkatesan.d2624@gmail.com
saisuchi2002@gmail.com

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Setting up for PSCAD/MATLAB Co-simulation

Attendance sheet

S.No	Reg.No	Name	Department
1.	U13ME022	AMAN KUMAR	Mechanical Engineering
2.	U13ME023	AMARJEET KUMAR PATEL	Mechanical Engineering
3.	U13ME024	AMIT KUMAR PRASAD	Mechanical Engineering
4.	U13ME026	AMITH SHIL	Mechanical Engineering
5.	U13ME088	JACOB EVANSON SOLOMON E	Mechanical Engineering
6.	U13ME089	JAGAN S	Mechanical Engineering
7.	U13ME090	JAYAKRISHNAN K	Mechanical Engineering
8.	U13ME091	JEGAN A	Mechanical Engineering
9.	U13ME222	UTTAM KUMAR	Mechanical Engineering
10.	U13ME223	VAKIL KUMAR	Mechanical Engineering
11.	U14ME347	SURAJ KUMAR PRASAD	Mechanical Engineering
12.	U14ME348	SURCHIT GUPTA	Mechanical Engineering
13.	U14ME349	SURESH KUMAR.M	Mechanical Engineering
14.	U14ME350	SURIYA.R.	Mechanical Engineering
15.	U14ME351	SURLA BHEEMESWARA RAO	Mechanical Engineering
16.	U14ME420	VIKASH YADAV	Mechanical Engineering

No.	Roll No.	Name	Department
17.	U14ME421	VAIRAMANIKANDAN.G S	Mechanical Engineering
18.	U14ME422	YADUVENDRA PRATAP SINGH	Mechanical Engineering
19.	U14ME501	THILLAI CHANDRAN .R	Mechanical Engineering
20.	U14ME502	VELIDI JNANA BHARGAV RAM	Mechanical Engineering
21.	U14ME724	SOUNDARRAJAN S	Mechanical Engineering
22.	U14ME725	JEGATHALAPRATHABAN L	Mechanical Engineering
23.	U14ME726	ABDUL SAMAD	Mechanical Engineering
24.	U14ME407	ZEYA MAHAMOOD	Mechanical Engineering
25.	U14ME408	ZISHAN ALI KHAN	Mechanical Engineering
26.	U14ME409	SHRI ANJAN TYOTI BORUAH	Mechanical Engineering
27.	U14ME410	VIGNESH AUROSHIKHAN. P	Mechanical Engineering
28.	U14ME337	SRAVAN KUMAR K	Mechanical Engineering
29.	U14ME338	SRIN A TH PAPA RAO.P.V.N.	Mechanical Engineering
30.	U14ME339	SRINATH.K	Mechanical Engineering
31.	U15ME003	ABISHEK A	Mechanical Engineering
32.	U15ME004	ABISHEK AHI A	Mechanical Engineering
33.	U15ME005	ADHAV KRISHNA B	Mechanical Engineering
34.	U15ME006	ADHITHYAN V	Mechanical Engineering
35.	U15ME018	ANISH A S	Mechanical Engineering
36.	U15ME019	ANKIT PAL	Mechanical Engineering
37.	U15ME020	ANUP KUMAR SRIVASTAWA	Mechanical Engineering
38.	U15ME083	JAVID AMEEN A	Mechanical Engineering

39.	U15ME239	SRI HARI PRASATH R	Mechanical Engineering
40.	U15ME240	SRIRAM K	Mechanical Engineering
41.	U15AM028	TARIGOPPALA NITHIN KUMAR	Automobile Engineering
42.	U15AM029	VIGNESH	Automobile Engineering
43.	U15AM030	VISHANTH	Automobile Engineering
44.	U15AM031	SURYA NARAYANAN	Automobile Engineering
45.	U15AM032	SATHIYANARAYANAN	Automobile Engineering
46.	U15AM033	PRAKASH	Automobile Engineering
47.	U15AM034	DERIN	Automobile Engineering
48.	U15AM501	MOHIT	Automobile Engineering
49.	U15AM502	AKASHARAVIND	Automobile Engineering
50.	U15AM503	VISHNUPRIYAN	Automobile Engineering
51.	U15MT008	OVIAN NICHOLA	Mechatronics
52.	U15MT010	TADIKONDA SAI TEJA	Mechatronics
53.	U15MT011	VIJAY	Mechatronics
54.	U15MT012	MOHAMMED MOIDEEN RIYAZ	Mechatronics
55.	U15MT013	RAJ KUMAR	Mechatronics

FEEDBACK FORM

❖ As part of a continuing improvement process, our college appreciates suggestions and inputs regarding the institution. We request you to sincerely answer these questions under assurance of complete confidentiality. Your interest in making our institution better is greatly appreciated.

Name of Department : MECHANICAL ENGINEERING

Date : 01.11.2020

Event / Speaker Name : Setting up for PS – CAD/ MATLAB Co-Simulation

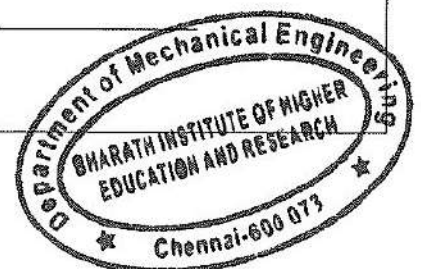• Please rate the session on the scale indicated. Your comments are most appreciated.

S.NO	Parameters	Below Average	Average	Good	Excellent	Outstanding
1.	**The Topic**					
	The choice of topic was relevant to me				✓	
2.	**The Lecturer / Speaker**					
	Self-confidence			✓		
	Communication skills				✓	
	Doubts/ queries were answered satisfactorily				✓	
3.	**The Content (Topic)**					
	Refers to latest developments in the field			✓		
	Career oriented				✓	
	Innovative learning, if any				✓	

• Overall, how would you rate this Guest Lecture / Workshop / Seminar / Event/Value added course?

1. Below Average	2. Average	3. Good	4. Excellent	5. Outstanding
			✓	

• Comments (If any): Excellent presentation

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FEEDBACK FORM

❖ As part of a continuing improvement process, our college appreciates suggestions and inputs regarding the institution. We request you to sincerely answer these questions under assurance of complete confidentiality. Your interest in making our institution better is greatly appreciated.

Name of Department : Mechanical Engineering

Date : 1/11/2020

Event / Speaker Name : Setting up for PS - CAD / MATLAB Core simulation

• Please rate the session on the scale indicated. Your comments are most appreciated.

S.NO	Parameters	Below Average	Average	Good	Excellent	Outstanding
1.	**The Topic**			✗		
	The choice of topic was relevant to me			✓		
2.	**The Lecturer / Speaker**					
	Self-confidence				✓	
	Communication skills				✓	
	Doubts/ queries were answered satisfactorily				✓	
3.	**The Content (Topic)**					
	Refers to latest developments in the field				✓	
	Career oriented				✓	
	Innovative learning, if any				✓	

• Overall, how would you rate this Guest Lecture / Workshop / Seminar / Event/Value added course?

1. Below Average	2. Average	3. Good	4. Excellent	5. Outstanding
			✓	

• Comments (If any): The Lecture is good and is very relevant to our course.

Certificate

Bharath Institute of Higher Education and Research

DEPARTMENT OF MECHANICAL ENGINEERING

Certificate of Participation

This is to certify that

Javid Ameen A

has attended the value-added program on "Setting up for PSCAD/MATLAB Co-simulation" organized by the Department of Mechanical Engineering, Bharath Institute of Higher Education and Research, Chennai on November (1-7), 2020

Mrs V.Balambica	Mrs. G.Suchantha		Mr.D.Ravi	Mrs.C.M.Meenakshi
	Coordinators			Resource Persons