



V.S.B.COLLEGE OF ENGINEERING TECHNICAL CAMPUS

Coimbatore -642109.

CRITERION-2

**2.6.2 - Attainment of Programme
outcomes and course outcomes are
evaluated by the institution**



VSB College of Engineering Technical Campus

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INDEX

S.NO	DESCRIPTION	PAGE .NO
1.	Direct Assessment Tools	02
2.	Indirect Assessment Tools	03
3.	PO/PSO Attainment Process	04
4.	Procedure for Attainment of course outcomes (CO Attainment)	05
5.	Course Outcomes and CO-PO Correlation sample	07
6.	CO-PO/PSO Mapping of all courses	08
7.	CO Attainment Process	11
8.	IAT I&II Sample question papers (EE 8702 – PSOC)	18
9.	Assignment I&II Sample EE 8702 – PSOC)	21




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DIRECT ASSESMENT TOOLS

Assessment Tools		Description
Direct Assessment Tools	Internal Assessment Test	This assessment tool is carried out to attain the course outcome and subsequently the program outcome.
	Assignments	Assignments are a qualitative performance assessment tool designed to assess the student's knowledge of engineering practices and problemsolving.
	Seminar Presentation	To assess the learning ability, knowledge and communication skills.
	Quiz	Multiple Choice Question (MCQ) based evaluation to assess knowledge of Engineering practice.
	Mini Project	To assess the efficiency for using modern design tools to solve real world problem.
	Laboratory Works	The students are evaluated for their observation, problem solving capability and concluding the experiments based on objective and logical reasoning.
	Project Reviews	The students are evaluated for development and judgment for their own works.
	Model Examination	Laboratory assessment tool evaluate the students for one or more Lab experiments.
	University Examination	The End semester Examination is more focused on attainment of course outcomes using a descriptive examination.



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INDIRECT ASSESMENT TOOLS

Assessment Tools		Stakeholders	Frequency	Relevance
Indirect Assessment Tools	Senior Student Exit Survey	Senior Students	Once in a year	After the completion of 8 th semester the feedback is obtained from the students for the achievement of PO and PSOs
	Alumni Survey	Alumni	Once in a year	Alumni survey is done at the end of each academic year to collect the attainment of PO & PSOs
	Employer Survey	Employers	Twice in a year	Employer feedback is done through in a formal mode of communication to collect the attainment of PO and PSOs of our Alumni from employers.
	Target Details Statistics	Students	Twice in a month	For every fifteen days in month students participation report is developed in which the statistics of students who have participated in Professional Bodies/Students Chapters/Workshop attended/Seminar/Conference/Paper Presentation/Project Competitions/Internship/Industry visited was prepared. This statistics helps to indirectly asses the attainment of POs.

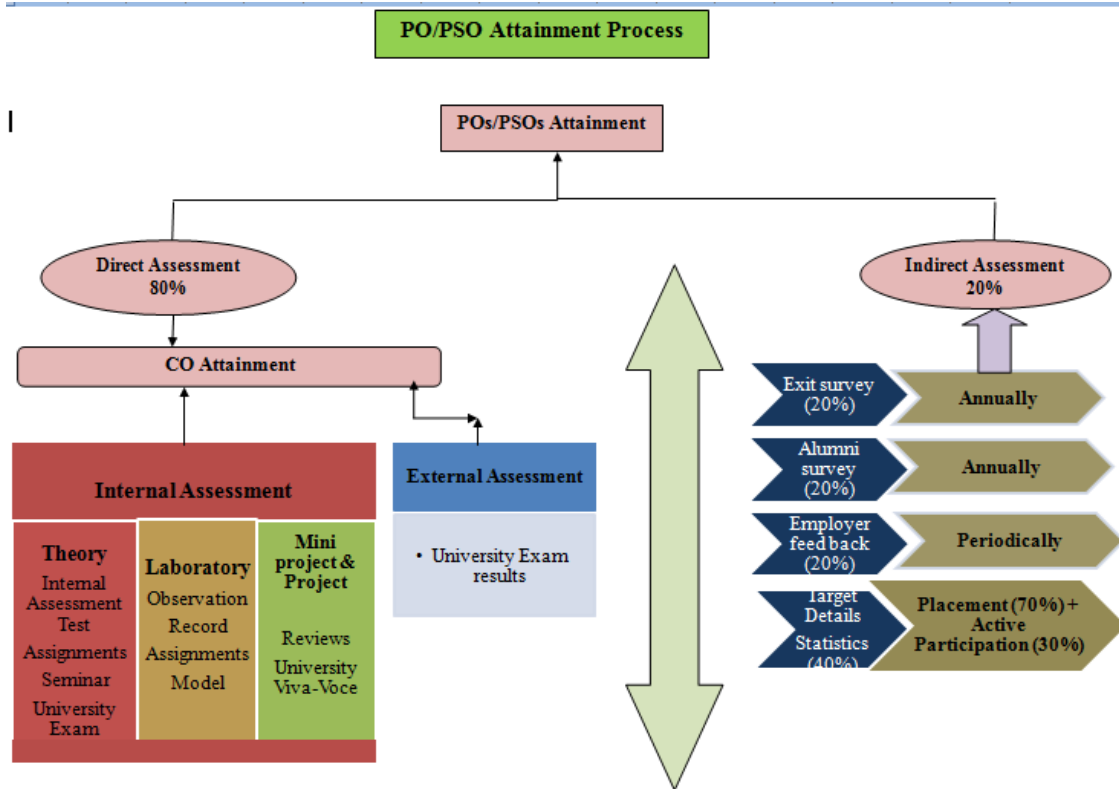



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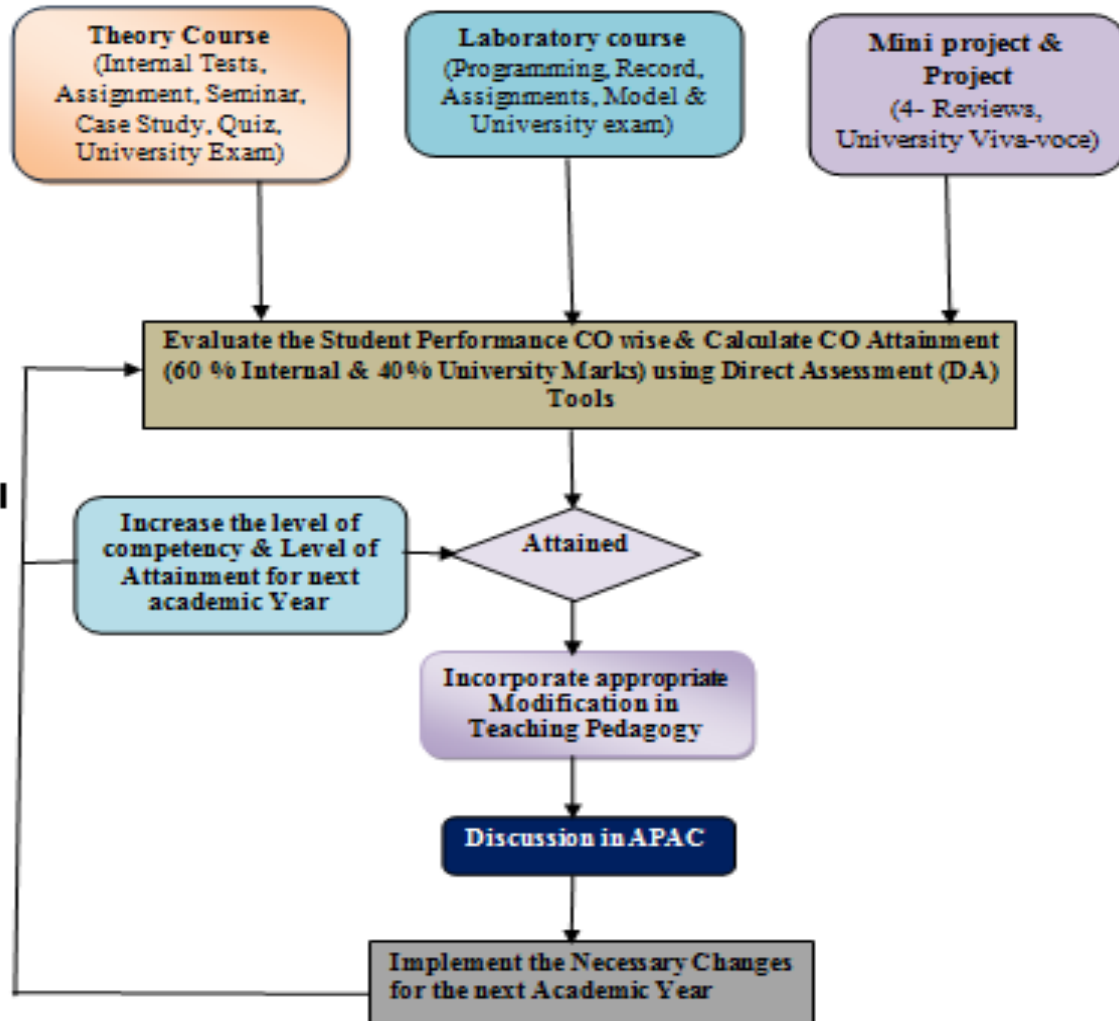
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Procedure For Attainment Of Course Outcomes (CO Attainment)



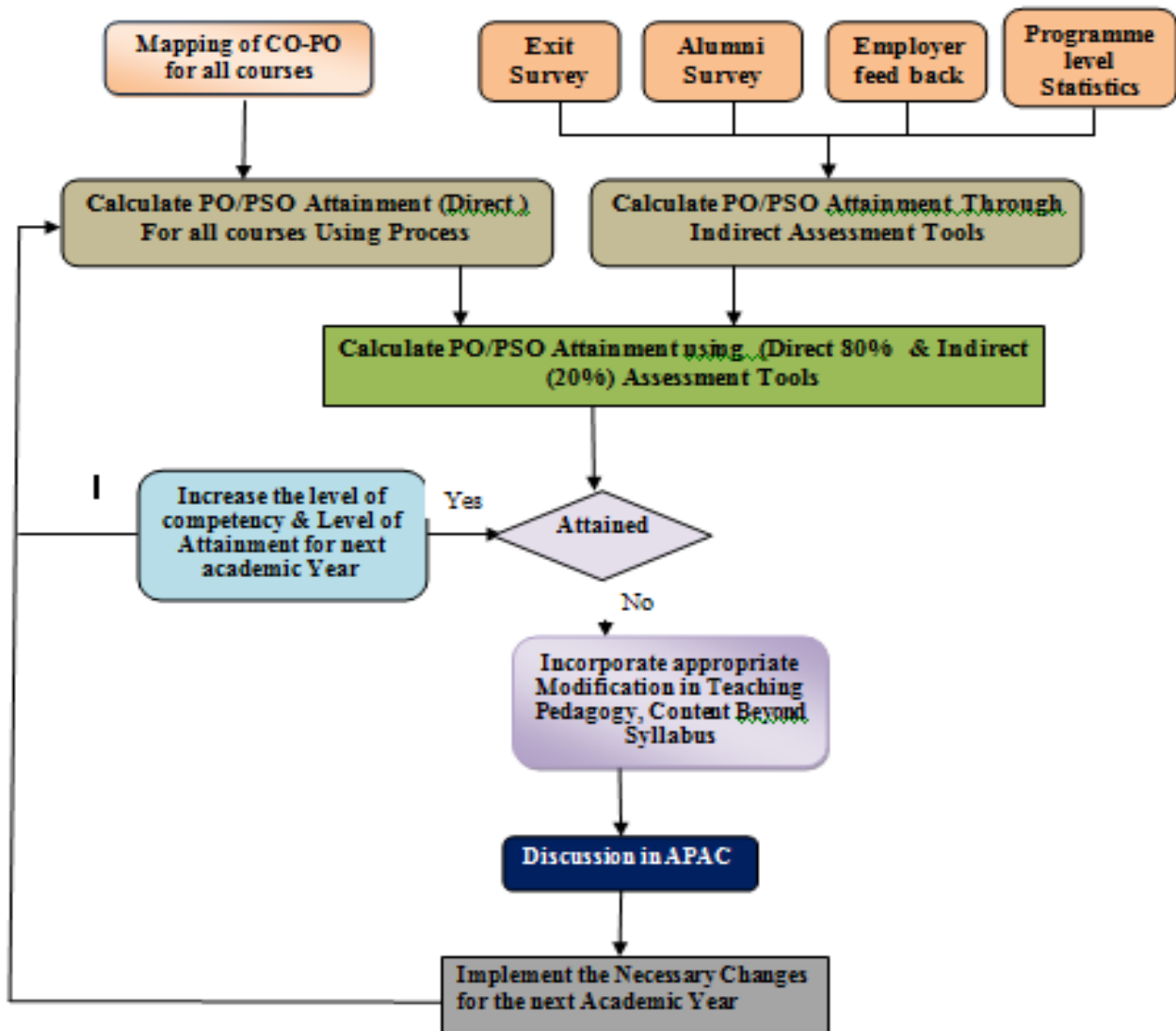

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Procedure For Attainment of Pos and PSO Attainment



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Course Name- C402 (EE8702 Power System Operation and Control) Year of study : 2022-23

COURSE CODE	COURSE OUTCOMES
	On successful completion of the course, students will be able to
C402.1	Ability to understand the day to day operation of electric power system
C402.2	Ability to analyze the control actions to be implemented on the system to meet the minute-to-minute variation of system demand.
C402.3	Understand the reactive power voltage interaction.
C402.4	To understand the significance of power system operation and control.
C402.5	Explain the need of computer controls to energy management using SCADA

Course Name- C402 (EE8702 Power System Operation and Control) Year of study : 2022-23

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
C402.1	3	2	0	2	1	0	0	0	0	2	0	0	0	3
C402.2	2	3	1	1	0	2	0	0	0	2	1	1	3	2
C402.3	1	3	1	1	0	2	0	0	0	2	1	1	3	2
C402.4	2	3	2	0	1	0	0	1	0	2	0	1	2	1
C402.5	1	3	2	0	1	0	0	1	0	2	0	1	2	1




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CO-PO/PSO Mapping of all Courses

Sub.code	Name of the Subject	COURSE CODE	Mapping of attainment Cos Vs Pos													
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
HS8151	Communicative English	C101	-	-	-	-	-	-	-	2.00	2.00	2.40	-	2.40	-	2.20
MA8151	Engineering Mathematics - I	C102	2.00	2.00	2.00	2.00	2.00	-	-	-	-	-	-	2.60	1.80	2.00
PH8151	Engineering Physics	C103	3.00	3.00	3.00	3.00	2.00	2.00	-	-	1.00	1.40	-	2.00	1.00	1.00
CY8151	Engineering Chemistry	C104	3.00	1.80	2.20	0.80	-	0.80	0.60	-	-	2.00	-	1.60	2.00	2.00
GE8151	Problem solving and python programming	C105	2.00	1.00	1.00	1.00	-	-	-	-	-	1.00	-	1.00	1.00	2.00
GE8152	Engineering Graphics	C106	2.00	1.00	-	-	-	-	-	-	-	2.40	-	1.00	-	2.00
GE8161	Problem solving and python programming Laboratory	C107	2.00	1.00	1.00	1.00	-	-	-	-	2.00	2.00	-	2.40	-	2.20
BS8162	Physics and Chemistry Laboratory	C108	2.00	2.00	1.00	-	-	-	-	-	2.00	1.00	-	1.00	2.00	2.00
HS8251	Technical English	C109	-	-	-	-	-	-	2.00	-	-	2.40	3.00	2.00	1.00	2.00
MA8251	Engineering Mathematics - II	C110	2.00	2.00	2.00	2.00	2.00	-	-	-	-	-	-	2.60	1.60	1.80
PH8253	Physics for Electronics Engineering	C111	3.00	3.00	3.00	3.00	1.00	1.00	-	-	1.00	1.00	-	2.00	2.00	2.00
BE8252	Basic Civil and Mechanical Engineering	C112	3.00	2.00	2.00	-	-	-	-	-	-	2.00	-	2.00	-	2.00
EE8251	Circuit Theory	C113	2.20	2.00	1.80	2.00	-	-	-	-	-	2.00	-	2.00	-	2.00
GE8291	Environmental Science and Engineering	C114	2.40	2.20	1.80	-	-	-	2.00	-	-	2.00	-	1.00	2.00	2.00
GE8261	Engineering Practices Laboratory	C115	3.00	2.00	1.00	-	-	-	-	-	2.00	1.00	-	2.00	1.00	2.00
EE8261	Electric Circuits Laboratory	C116	3.00	2.00	3.00	1.00	-	-	-	-	2.00	-	2.00	2.00	2.00	2.00
MA8353	Transforms and Partial Differential Equations	C201	2.00	2.00	2.20	-	2.00	-	-	-	-	2.00	-	2.60	-	2.00
EE8351	Digital Logic Circuits	C202	3.00	2.00	2.40	2.50	1.00	-	-	-	-	1.20	-	2.00	1.00	2.00
EE8391	Electromagnetic Theory	C203	3.00	2.80	2.00	2.00	-	-	-	-	-	2.00	-	2.00	2.00	2.00
EE8301	Electrical Machines - I	C204	3.00	3.00	2.00	-	1.00	-	-	-	1.00	2.00	-	2.00	2.00	3.00
EC8353	Electronic Devices and Circuits	C205	2.00	2.00	1.33	1.80	-	-	-	-	-	2.00	-	2.00	2.00	2.00
ME8792	Power Plant Engineering	C206	2.20	1.60	2.60	-	-	-	-	-	-	1.00	1.00	2.00	-	2.00
EC8311	Electronics Laboratory	C207	2.60	1.60	1.60	-	-	-	-	-	2.00	1.00	-	2.00	2.00	2.00
EE8311	Electrical Machines Laboratory-I	C208	2.20	2.40	2.40	-	-	-	-	-	2.00	2.00	-	2.00	1.60	2.00
MA8491	Numerical Methods	C209	2.00	2.00	2.00	-	2.00	-	-	-	-	1.00	-	3.00	1.00	2.00
EE8401	Electrical Machines - II	C210	3.00	3.00	3.00	-	-	1.00	-	-	-	2.00	-	2.00	2.00	3.00
EE8402	Transmission and Distribution	C211	3.00	2.00	2.00	1.00	2.00	-	-	-	-	2.00	2.00	2.00	-	2.00
EE8403	Measurements and Instrumentation	C212	2.80	2.80	2.00	2.00	1.00	-	-	-	-	2.00	-	2.00	1.00	2.00
EE8451	Linear Integrated Circuits and Applications	C213	2.17	0.99	2.57	-	-	0.99	-	0.99	-	1.97	0.99	1.97	-	1.97
IC8451	Control Systems	C214	2.80	2.00	2.00	1.60	0.60	-	-	0.20	1.00	0.60	1.60	1.20	2.00	2.20
EE8411	Electrical Machines Laboratory -II	C215	3.00	3.00	3.00	-	-	-	-	-	3.00	1.00	1.00	2.00	-	2.00
EE8461	Linear and Digital Integrated Circuits Laboratory	C216	3.00	3.00	2.00	3.00	3.00	-	-	-	2.00	1.00	2.00	1.00	2.00	2.00
EE8412	Technical Seminar	C217	3.00	2.00	2.00	1.00	-	2.00	2.00	1.00	2.00	2.00	-	2.00	2.00	2.00



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EE8501	Power System Analysis	C301	3.00	3.00	1.00	1.00	-	2.00	-	-	-	1.00	-	2.00	1.00	2.00
EE8551	Microprocessors and Microcontrollers	C302	3.00	3.00	3.00	3.00	3.00	-	2.00	-	-	2.00	-	2.00	1.00	2.00
EE8552	Power Electronics	C303	2.00	1.80	2.00	2.00	-	-	1.60	-	-	2.00	3.00	2.00	2.00	2.00
EE8591	Digital Signal Processing	C304	2.20	1.80	2.00	1.00	-	2.00	-	-	-	2.00	1.00	2.00	2.00	2.00
CS8392	Object Oriented Programming	C305	2.19	2.38	2.58	-	2.98	-	-	0.99	0.99	1.99	-	1.99	1.99	1.99
OAN551	Sensors and Transducer	C306	3.00	2.00	2.00	0.60	2.00	1.80	-	-	-	-	2.20	2.40	2.40	2.40
EE8511	Control and Instrumentation Laboratory	C307	3.00	2.80	3.00	2.60	-	-	-	-	2.00	2.00	-	2.00	2.00	2.00
HS8581	Professional Communication	C308	2.00	-	3.00	-	2.00	1.00	-	1.20	2.00	3.00	2.00	-	-	2.00
CS8383	Object Oriented Programming Laboratory	C309	3.00	3.00	3.00	-	2.00	1.00	2.00	2.00	2.00	1.00	-	3.00	-	2.00
EE8601	Solid State Drives	C310	3.00	2.00	1.80	1.00	-	-	1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00
EE8602	Protection and Switchgear	C311	2.40	2.00	1.80	2.00	-	-	-	1.00	1.00	2.00	1.00	1.00	1.00	2.00
EE8691	Embedded Systems	C312	2.40	0.80	1.60	0.80	1.80	-	-	1.00	-	-	2.00	2.00	1.40	2.40
EE8006	Power Quality	C313	1.80	2.80	1.40	-	1.50	1.67	-	1.00	-	2.00	1.00	2.00	-	2.00
GE8075	Intellectual Property Rights	C314	2.96	2.17	1.97	1.58	-	-	-	-	-	1.97	-	2.96	-	1.97
EE8611	Power Electronics and Drives Laboratory	C315	3.00	1.00	-	-	2.00	-	-	-	3.00	2.00	-	2.00	1.00	2.00
EE8681	Microprocessors and Microcontrollers Laboratory	C316	3.00	1.00	2.00	-	-	2.33	-	1.00	2.00	2.00	3.00	3.00	1.00	2.00
EE8611	Mini Project	C317	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
EE8701	High Voltage Engineering	C401	2.00	1.00	1.60	1.40	0.20	2.00	2.20	-	-	1.00	-	2.00	-	2.00
EE8702	Power System Operation and Control	C402	3.00	2.00	3.00	1.00	-	1.80	-	-	-	2.00	-	2.00	1.00	2.00
EE8703	Renewable Energy Systems	C403	1.80	2.00	1.00	1.00	-	-	2.00	2.00	-	2.00	-	1.00	1.00	2.00
EI8075	Fibre Optics and Laser Instrumentation	C404	3.00	2.00	1.00	-	-	1.00	-	1.00	3.00	3.00	3.00	2.00	-	2.00
GE8077	Total Quality Management	C405	3.00	3.00	2.00	2.00	-	1.00	-	-	-	1.00	2.00	3.00	-	1.00
OEC753	Signals and Systems	C406	-	-	-	-	-	-	1.99	2.98	2.98	-	-	1.99	-	1.99
EE8711	Power System Simulation Laboratory	C407	3.00	1.00	1.00	-	1.00	-	-	-	2.20	1.00	-	2.00	-	1.00
EE8712	Renewable Energy Systems Laboratory	C408	3.00	2.00	1.00	-	1.00	-	-	-	2.00	2.00	3.00	3.00	1.00	2.00
EE8017	High Voltage Direct Current Transmission	C409	3.00	2.20	2.00	1.25	-	-	-	-	-	1.00	2.00	2.00	1.00	2.00
GE8076	Professional Ethics in Engineering	C410	1.00	-	-	-	-	3.00	2.00	2.00	-	1.40	-	2.00	-	2.00
EE8811	Project Work	C411	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
		DIRECT	2.59	2.11	2.05	1.73	1.80	1.72	1.96	1.52	1.97	1.76	1.99	2.03	1.60	2.03
		INDIRECT	2.91	2.91	2.83	2.81	2.86	2.85	2.88	2.83	2.87	2.81	2.80	2.79	2.85	2.83
		DIRECT 80%	2.07	1.68	1.64	1.39	1.44	1.38	1.56	1.22	1.58	1.41	1.59	1.62	1.28	1.63
		INDIRECT 20%	0.58	0.58	0.57	0.56	0.57	0.57	0.58	0.57	0.57	0.56	0.56	0.56	0.57	0.57
		PO ATTAINMENT	2.65	2.27	2.20	1.95	2.01	1.95	2.14	1.78	2.15	1.97	2.15	2.18	1.85	2.19



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CO Attainment Process

Assessment Tool	CO1	CO2	CO3	CO4	CO5	% of Weightage
Internal Assessment-I						20%
Internal Assessment-II						
Internal Assessment-III						
University Exam						80%
Direct Assessment for CO Attainment						100%

	Attainment Level
The set attainment level is > 60% of student above 50% (Threshold)	1
>70% of student above 50% (Threshold)	2
>80% of student above 50% (Threshold)	3



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CO Attainment Process (Attainment Calculation for the Students)

Power System Operation and Control: C402 Year of study:
2022-23

S. No	Name	Internal Test -I			Internal Test -II			Internal Test -III			University Examination (10 point scale)
		CO1	CO2	Total mark(100)	CO3	CO4	Total mark(10)	CO4	CO5	Total mark(100)	
1	ANBARASAN S	50	12	62	45	24	69	50	25	75	7
2	ARUN S	32	36	68	40	22	62	52	26	78	7
3	BAVATHARANI S	48	26	74	38	32	70	48	26	74	8
4	KATHIRVADIVEL C	60	30	90	46	30	76	56	25	81	8
5	KOUSHIKAN G R	60	32	92	43	25	68	52	24	76	7
6	KRISHNARAJ A	58	24	82	50	24	74	58	24	82	6
7	MAHESWARAN. S	58	26	84	40	35	75	58	22	80	7
8	MANOJ KUMAR R	32	30	62	48	26	74	50	26	76	7
9	NAVEEN.R	60	29	89	34	28	62	47	23	70	6




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10	NAVEEN KUMAR.N	48	34	82	25	24	49	30	48	78	6
11	PADMA KUMAR C	34	36	70	52	30	82	34	36	70	6
12	PAVITHRA SREE M	60	34	94	54	26	80	56	26	82	9
13	PRATHEEKSHA.P	59	33	92	56	24	80	45	25	70	9
14	PRAVEEN PRABHU.M	40	24	64	47	27	74	40	24	64	0
15	RANJITHA C	54	32	86	50	32	82	54	28	82	7
16	SAMEER.A	48	14	62	38	27	65	30	44	74	7
17	SANTHIYA.J	58	30	88	50	29	79	49	27	76	8
18	SELVA KUMAR N	30	32	62	43	22	65	30	32	62	7
19	SURESHPAVUN B	34	28	62	53	31	84	52	20	72	6
20	SURYA N	34	30	64	44	20	64	46	26	72	6
21	SURYA P	52	24	76	40	22	62	52	24	76	7
22	UMADEVI K	58	24	82	54	25	79	48	26	74	7
23	VIJAYA KANISHKA P M	60	36	96	56	28	84	52	23	75	8
24	VISHNU RAM R	50	12	78	38	29	67	48	22	70	6
No.of students attended		24	24	24	24	24	24	24	24	24	24
Maximum mark CO wise		62	38	100	62	38	100	62	38	100	10
50 % of Maximum Marks		31	19	50	31	19	50	31	19	50	5
No of students above threshold 50%		23	22	24	23	24	23	21	24	24	23
Level		3	3	3	3	3	3	3	3	3	3

12



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CO Attainment Process

Power System Operation and Control: C402

Year of study: 2022-23

C402	TEST1	TEST2	TEST3	INT	UNIV
CO1	3	0	0	3.00	3
CO2	3	0	0	3.00	3
CO3	0	3	0	3.00	3
CO4	0	3	3	3.00	3
CO5	0	0	3	3.00	3
INTERNAL/UNIV ATTAINMENTS				3.00	3.00
WEIGHTAGE				20%	80%
CO ATTAINMENT FOR THE SUBJECT				0.60	2.40
FINAL CO ATTAINMENT FOR THE SUBJECT				3.00	




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POs /PSOs Attainment Process (Direct Attainment through CO attainment)

Sno.	Course code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	C101	-	-	-	-	-	-	-	2.00	2.00	2.40	-	2.40	-	2.20
2	C102	2.00	2.00	2.00	2.00	2.00	-	-	-	-	-	-	2.60	1.80	2.20
3	C103	3.00	3.00	3.00	3.00	2.00	2.00	-	-	1.00	1.40	-	2.00	1.00	1.00
--															
61	C411	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Direct Attainment		2.59	2.11	2.05	1.73	1.80	1.72	1.96	1.52	1.97	1.76	1.99	2.03	1.60	2.03




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POs /PSOs Attainment Process (Indirect Attainment through Survey)

The overall POs and PSOs attainment of indirect survey is given below:

POs / PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Program exit Survey	2.95	2.97	2.83	2.85	2.91	2.81	2.91	2.89	2.89	2.85	2.83	2.83	2.85	2.91
Program exit survey (50%)	1.48	1.49	1.42	1.43	1.46	1.41	1.46	1.45	1.45	1.43	1.42	1.42	1.43	1.46
Alumni survey	2.93	2.87	2.84	2.84	2.81	2.87	2.77	2.81	2.87	2.84	2.84	2.81	2.87	2.77
Alumni survey(25%)	0.73	0.72	0.71	0.71	0.70	0.72	0.69	0.70	0.72	0.71	0.71	0.70	0.72	0.69
Employer survey	2.8	2.8	2.8	2.7	2.8	2.9	2.9	2.7	2.8	2.7	2.7	2.7	2.8	2.7
Employer survey (25%)	0.7	0.7	0.7	0.675	0.7	0.725	0.725	0.675	0.7	0.675	0.675	0.675	0.7	0.675
Indirect assessment	2.91	2.91	2.83	2.81	2.86	2.85	2.88	2.83	2.87	2.81	2.80	2.79	2.85	2.83




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POs and PSOs assessment tools and processes				
		Course type	Assessment methods	Frequency
Direct	CO Assessment	Theory	Internal examination	Thrice in a course
			University examination	Once in a course
		Practical	Model examination	Once in a course
			University examination	Once in a course
		Project	Zeroth review	Once in a course
			First review	Once in a course
			Second review	Once in a course
			Third review	Once in a course
Viva-voice	University examination	Once in a course		
Indirect	Surveys	Program exit survey		Once in a course
		Employer survey		Once in a course
		Alumni survey		Once in a course



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POs/PSOs Overall Attainment (Direct (80%) +Indirect (20%))

Overall levels of attainment of POs and PSOs

DIRECT	2.59	2.11	2.05	1.73	1.80	1.72	1.96	1.52	1.97	1.76	1.99	2.03	1.60	2.03
INDIRECT	2.91	2.91	2.83	2.81	2.86	2.85	2.88	2.83	2.87	2.81	2.80	2.79	2.85	2.83
DIRECT 80%	2.07	1.68	1.64	1.39	1.44	1.38	1.56	1.22	1.58	1.41	1.59	1.62	1.28	1.63
INDIRECT 20%	0.58	0.58	0.57	0.56	0.57	0.57	0.58	0.57	0.57	0.56	0.56	0.56	0.57	0.57
OVERALL ATTAINMENT	2.65	2.27	2.20	1.95	2.01	1.95	2.14	1.78	2.15	1.97	2.15	2.18	1.85	2.19



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING INTERNAL ASSESSMENT TEST-I EE8702 POWER SYSTEM OPERATION AND CONTROL

Year/Semester & Branch: IV Year/ VII Semester – B.E., EEE
Faculty Name: Dr. G.Banu
Max.Marks: 50

Date:
Time: 90mins

PART-A Answer ALL Questions (5x2=10 Marks)

1. List the requirements of good power system? (Nov/ Dec2022) [CO1, L1]
2. What is the significance for load forecasting? [CO1,L1]
3. Define frequency bias tie line (Nov/ Dec 2021) [CO2, L1]
4. Write the tie line power deviation equation in terms of frequency [CO2, L1]
5. Write down the equations for area control error of two area system [CO2, L1]

PART-B Answer ALL Questions (2x13=26 Marks)

- 6.(a) Draw and explain P-F and Q- V control loops. (Nov/ Dec2022 [CO1,L2] (13)

OR

- 6.(b) Explain with the detail necessity of voltage and frequency regulation in power system [CO1, L2] (13)

- 7.(a) Explain the static and dynamic analysis of two area system. (Nov/ Dec2022) [CO2, L2] (13)

OR

- 7.(b) i) Explain the tie-line bias control of two area system [CO, L2] (7)
ii) Discuss the importance of flat tie-line and flat frequency control [CO, L2] (6)

PART-C Answer ALL Questions (1x14=14Marks)

- 8.(a) Explain plant level and system level control in a power system. (Apr/May2020) [CO1, L2] (14)

OR

- 8.(b) What is the necessity of load forecasting and explain different methods load forecasting techniques in power system. [CO2, L2] (14)

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Rev.No. 01

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399




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ii. Examine with a neat flow chart the lambda iteration method for solving the economic dispatch problem without loss

CO3: The students can able to acquire the knowledge of reactive power and voltage control
CO4: The students can able to analyze the control economic dispatch control of power station

L1: Remembering L2: Understanding

Prepared by

(Dr.G.Banu, Prof/EEE)


Approved by
(HOD/EEE)

344 Form No. AC 08J

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING INTERNAL ASSESSMENT TEST - II EE8702 POWER SYSTEM OPERATION AND CONTROL

Year/Semester & Branch: IV Year/ VII Semester – B.E., EEE
Faculty Name: Dr. G.Banu
Max.Marks: 80

Date:
Time: 90mins

- PART-A Answer ALL Questions (5x2=10 Marks)**
- List the various components in AVR loop (Nov/ Dec2021)[CO3,L1]
 - Compare series and shunt capacitors [CO3,L1]
 - What are all the points to be needed for an economic load dispatch including transmission losses? (Nov/ Dec 2021)[CO4,L1]
 - What is meant by FLAPC? (Apr/May 2019) [CO4,L1]
 - What are the three operating states of power system? [CO4,L1]
- PART-B Answer ALL Questions (2x13=26 Marks)**
- 6.(a) Explain the following methods of voltage control. i) Tap changing transformer ii) Shunt and series capacitor (Nov/ Dec2021)[CO3,L2](7+6)
- OR**
- 6.(b) Develop the block diagram of AVR and obtain its transfer function and explain its static and dynamic response. [CO3,L2](13)
- 7.(a) Consider the following 3 units
IC1 = 7.92 + 0.003124 PG1
IC2 = 7.85 + 0.00388 PG2
IC3 = 7.97 + 0.009645 PG3
 $P_D = 850 \text{ MW}$; $P_{G1} = 392.2 \text{ MW}$; $P_{G3} = 334.6 \text{ MW}$; $P_{G3} = 122.2 \text{ MW}$
Determine the optimum schedule if load is increased to 900 MW by using participation factor method (Nov/ Dec2020)[CO4,L2](13)
- OR**
- 7.(b) Draw the Flow chart for obtaining the optimum dispatch strategy of N-bus system neglecting the system transmission loss. [CO4,L2](13)
- PART-C Answer ALL Questions (1x14=14Marks)**
- 8.(a) Explain the different types of static VAR compensator with phasor diagram and applications (Apr/May2019)[CO3,L2](14)
- OR**
- 8.(b) i) Discuss the various constraints in unit commitment [CO4, L2](7)
[CO4, L2](7)

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ii. Examine with a neat flow chart the lambda iteration method for solving the economic dispatch problem without loss

CO3: The students can able to acquire the knowledge of reactive power and voltage control
CO4 :The students can able to analyze the control economic dispatch control of power station

L1: Remembering L2: Understanding

Prepared by
G. Banu
(Dr.G.Banu, Prof/EEE)

G. Banu
Approved by
(HOD/EEE)

310

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Department of Electrical and Electronics Engineering
Academic Year: 2023-2024 (ODD Semester)
 Year/Semester & Branch: IV /VII & B.E.,EEE

EE8702 Power System Operation and Control
Assignment -I

Given Date: 15.9.23

Submission Date: 20.09.23

Sl. No.	Reg. No.	NAME OF THE STUDENT	Question	COS
1.	723720105001	AARTHI.R.V	1. A diesel station supplies the following load to various consumers. Industrial consumer = 1500 KW Commercial load = 750KW Domestic power = 100 KW Domestic light = 450 KW If the maximum demand on the station is 2500KW and the number of KWhr generated per annum is 45×10^5 , determine the diversity factor and annual load factor.	CO1
2.	723720105008	GAYATHIRLP		
3.	723720105009	GUNASEKAR.P		
4.	723720105010	GUNASHREE.M		
5.	723720105011	JAYANTHIE		
6.	723720105013	MOGESH KANNAN.M		
7.	723720105014	NIVETHA.S		
8.	723720105017	PRIYANKA.V		
9.	723720105018	RENISHA.R		
10.	723720105021	SEDHURAGAVAN.S		
11.	723720105023	SEETHARAMAN.IA	2.Discuss in detail the dynamic response of single area system for controlled and uncontrolled cases.	CO2
12.	723720105024	SHARWIN.R.S		
13.	723720105025	SNEKA PRIYA.S		
14.	723720105026	SOWMIYA.P		
15.	723720105027	SRISALINLM		
16.	723720105028	THENMOZHLS		
17.	723720105029	UMA MAHESWARLM		
18.	723720105030	VANMATHI.R		
19.	723720105301	EMMANUVEL.J		
20.	723720105002	ABHISHEK.M.A		
21.	723720105003	ARIPRASATH.D		
22.	723720105004	CHANDRU.M		
23.	723720105005	DHIVAKAR.R		
24.	723720105012	KATHIR.P		
25.	723720105015	PRADEEPKUMAR.V		
26.	723720105016	PRAVEEN.S		
27.	723720105019	SABI.N		
28.	723720105022	SEENU.K		
29.	723720105302	FERNANDO PETER.M		
30.	723720105303	RAJESH KUMAR.S		
31.	723720105304	VIDHYASAGAR.M.H		
32.	723720105305	VISHNU PRAKASH.R		CO2

S. Ball
 Signature of Faculty

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Department of Electrical and Electronics Engineering

Academic Year: 2023-2024 (ODD Semester)

Year/Semester & Branch: IV /VII & B.E..EEE

EE8702 Power System Operation and Control

Assignment -II

Given Date: 5.10.23

Submission Date:12.10.23

Sl. No.	Reg. No.	NAME OF THE STUDENT	COS	
1.	723720105001	AARTH.R.V	1. Explain the different types of voltage control methods.(CO3) 2. A power plant has two units with the following cost characteristics: $C1 = 0.6P_1^2 + 200 P_1 + 2000$ Rs/hour $C2 = 1.2P_2^2 + 150 P_2 + 2500$ Rs/hour Where P_1 and P_2 are the generating powers in MW. The daily load cycle is as follows: 6.00 A.M to 6.00 P.M : 150 MW 6.00 P.M to 6.00 A.M : 50MW The cost of taking either unit off the line and returning to service after 12 hours is Rs 5000. Considering 24 hour period from 6.00 .A.M. The next morning i) Compute the economic schedule for the peak load and off peak load conditions ii) Calculate the optimum operating cost per day.(CO4)	
2.	723720105008	GAYATHIR.P		
3.	723720105009	GUNASEKAR.P		
4.	723720105010	GUNASHREE.M		
5.	723720105011	JAYANTHI.E		
6.	723720105013	MOGESH KANNAN.M		
7.	723720105014	NIVETHA.S		
8.	723720105017	PRIYANKA.V		
9.	723720105018	RENISHA.R		
10.	723720105021	SEDHURAGAVAN.S		
11.	723720105023	SEETHARAMANI.A		
12.	723720105024	SHARWIN.R.S		
13.	723720105025	SNEKA PRIYA.S		
14.	723720105026	SOWMIYA.P		
15.	723720105027	SRISALINI.M		
16.	723720105028	THENMOZHIS		
17.	723720105029	UMA MAHESWARIM		
18.	723720105030	VANMATHIR		
19.	723720105301	EMMANUVEL.J		1.Explain the static and dynamic response of AVR.(CO3) 2. The incremental cost of 3 units in a plant are : $IC1 = 0.8P1 + 160$ Rs/MWh $IC2 = 0.9P2 + 120$ Rs/MWh $IC3 = 1.25P3 + 110$ Rs/MWh Where P_1 , P_2 and P_3 are power output in MW. Determine the optimum load allocation when the total load is 242.5 MW. Using participation factors, determine the optimum scheduling when the load is increased to 250 MW.(CO4)
20.	723720105002	ABHISHEK.M.A		
21.	723720105003	ARIPRASATH.D		
22.	723720105004	CHANDRU.M		
23.	723720105005	DHIVAKAR.R		
24.	723720105012	KATHIR.P		
25.	723720105015	PRADEEPKUMAR.V		
26.	723720105016	PRAVEEN.S		
27.	723720105019	SABIN		
28.	723720105022	SEENU.K		
29.	723720105302	FERNANDO PETER.M		
30.	723720105303	RAJESH KUMAR.S		
31.	723720105304	VIDHYASAGAR.M.H		
32.	723720105305	VISHNU PRAKASH.R		

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