Shantilal Shah Engineering College, Bhavnagar
Electrical Engineering Department
Subject Evaluation Scheme

Name of the subject (code): Basic Electronics (3110016)
Semester/Branch: B.E. 2nd Semester (UG), Electrical Engineering
Name of Concerned Department: Electrical
Name of faculty members: (i) Prof M V Gojiya

→ **GTU Scheme for the subject:**

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE Viva (V)	PA (I)	
03	00	02	04	70	30	30	20	150

→ **Course Evaluation Plan for PA (M) Component: Total marks 30**

Marks	PAT	Laboratory
CO1	14	-
CO2	8	-
CO3	8	-
CO4	-	-
CO5	-	10
CO6	-	10

- Rubrics:
  There are 10 experiments to be performed and submitted by the students. each experiment is assigned 10 marks. These are divided as below:

Component	Marks
Submission	2
Quality of work submitted	3
Quiz	5
Total	10

Assessment Type	**Attainment Levels**	
Internal Assessment	**Level 1**	60% of students scoring more than 50%marks in internal assessment tools
	Level 2	70% of students scoring more than 50% marks in internal assessment tools
	Level 3	80% of students scoring more than 50% marks in internal assessment tools

In the test of PA (M) component, if the student obtains less than 12 marks out of 30, subsequently he/she is supposed to appear for a remedial test and having cleared the remedial test he/she is eligible to get 12 marks. For the students it is mandatory to pass PAT/RPAT exam.

Signature of the faculty members:

(i) Prof. M V Goijya

Prof & HOD (Electrical)

Shantilal Shah Engineering College, Bhavnagar
Electrical Engineering Department
Subject Evaluation Scheme

Name of the subject (code): Workshop/ Manufacturing Practices (3110012)
Semester/Branch: B.E. 2nd Semester (UG), Electrical Engineering
Name of Concerned Department: Electrical
Name of faculty members: (i) Prof M V Gojiya

→ **GTU Scheme for the subject:**

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE Viva (V)	PA (I)	
00	00	04	02	00	00	80	20	100

→ **Course Evaluation Plan for PA (M) Component: Total marks 30**

Marks	Laboratory
CO1	-
CO2	-
CO3	100
CO4	-
CO5	-

- Rubrics:
  There are 10 experiments to be performed and submitted by the students. each experiment is assigned 10 marks. These are divided as below:

Component	Marks
Submission	2
Quality of work submitted	3
Quiz	5
Total	10

Assessment Type	**Attainment Levels**	
Internal Assessment	**Level 1**	60% of students scoring more than 50%marks in internal assessment tools
	Level 2	70% of students scoring more than 50% marks in internal assessment tools
	Level 3	80% of students scoring more than 50% marks in internal assessment tools

The students need to submit practicals performed during the laboratory session. Each practical is having maximum 10 marks. The internal marks out of 20 is converted from the total marks obtained by the students from the submission of the practical work.

Signature of the faculty members:

(i) Prof. M V Goijya

Prof & HOD (Electrical)

SSEC/Elect./2022/43
Date - 09/02/2022

Shantilal Shah Engineering College, Bhavnagar

Electrical Engineering Department

Subject Evaluation Scheme

Name of the subject (code): Electromagnetic Fields (3140912)
Semester/Branch: B.E. 4thSemester (UG), Electrical Engineering
Name of Concerned Department: Electrical
Name of faculty member/s: (i) Prof A A Rathod (ii) Prof M V Gojiya

→ **GTU Scheme for the subject:**

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE(V)	PA(I)	
3	1	2	5	70	30	30	20	150

→ **Course Evaluation Plan for PA (M) Theory Component: Total marks 30**

In the test of PA (M) component, for all the students have to appear for PAT/RPAT Theoretical exam.

Marks	PAT
CO1	10
CO2	10
CO3	05
CO4	05

In the test of PA (M) component, for all the students it is mandatory to pass PAT/RPAT exam. If the student obtains less than 12 marks out of 30 in PAT exam, subsequently he/she is supposed to appear for a remedial test RPAT and have to clear the remedial test. He /She are eligible to get 12 marks even though the student has obtained marks more than 12 in RPAT.

Course Evaluation Plan for Practical ESE (V) Component: Total marks 30

Marks	Exp-1	Exp-2	Exp-3	Exp-4	Exp-5	Exp-6	Exp-7	Exp-8	Exp-9	Exp-10
CO1	3	3	3							
CO2				3	3	3				
CO3							3	3		
CO4									3	3

Rubrics for Electromagnetic Fields -3140912 (Lab)

LEVEL	Excellent	Good	Satisfactory	Need improvement	Score
CRITERIA	1	0.8	0.6	0.4	
Objectives and Results	Clearly describes the Objectives of the Lab as well as the skill information learned. Discusses possible sources of experimental errors, their likely effects and ways to minimize them.	Adequately describes the Objectives of the Lab and the skill information learned. But does not discuss possible sources of experimental errors, their likely effects.	Describes the Objectives of the Lab and information learned, but some details are lacking. Does not describe any experimental errors or describes their likely effects.	Does not adequately describe the Objectives of the Lab, what was learned, or any possible experimental errors.	
Conclusions	Conclusions illustrate a through and accurate understanding of technical concepts underlying the lab. Describes numerous future applications to real life situations and make it clear how they would be useful.	Conclusions illustrate a through and accurate understanding of most concepts underlying the lab. But does not describes skill and information's learned or make it clear how they would be useful.	Conclusions illustrate a limited understanding of concepts underlying the lab. Does not describes skill and information's learned, any possible applications to real life situations, or explain how they could be useful.	Conclusions illustrate an inaccurate understanding of concepts underlying the lab. No meaningful applications to real life situations are describe.	
Trouble shooting	Clearly describe the problems encountered and how they were solved. Problems cited are highly relevant to the purpose of the lab. Appears to use an efficient and effective strategy to solve the problems.	Adequately describe the problems encountered and how they were solved. But may leave some unanswered questions. Problems cited are relevant to the purpose of the lab. Appears to use an effective strategy to solve the problems.	Describe the problems encountered but does not describe how they were solved. Problems cited are only somewhat relevant to the purpose of the lab. Appears to use an effective strategy to solve the problems, but does not do it consistently.	Does not adequately describe the problems encountered or describe how they were solved. Problems cited are not relevant to the purpose of the lab. Really uses an effective strategy to solve the problems.	
Observation/ Measurements	Adequately detailed results are shown for each procedure step. 90-100 % of the steps have no errors. Used time well in lab and focused attention on the experiment.	Adequately detailed results are shown for each procedure step. Almost (80-89 %) of the steps have no errors. Used time pretty well. Stayed focused experiment most of time.	Results are shown for each procedure step, but some details are lacking. Most (70-79 %) of the steps have no errors. Did the lab but did not appear very interested. Focus was lost on several occasions.	Results and/or details are lacking for some procedure step. More than 30 % of the steps have errors. Participation was minimal or student was hostile about participation.	
Questions	90-100 % of the solution steps and explanations have no errors.	Almost all (80-89 %) of the solution steps and explanations have no errors.	Most (70-79 %) of the solution steps and explanations have no errors.	More than 30 % of the solution steps and explanations have errors.	
				Total Points :	

Marks obtained in each experiment based on the rubrics criterion will be normalized as per above distribution and mapping of CO.

Course Evaluation Plan for PA (I) Practical Component: Total marks 20

This PA (I) component evaluated by 7 tutorials =20 marks scheme.

Marks	Tut1	Tut 2	Tut 3	Tut 4	Tut 5	Tut 6	Tut 7
CO1	3						
CO2		3	3	3			
CO3					3	3	
CO4							2

NOTE: All above evolution components will be conducted by offline/ online mode as per government guidelines due to COVID-19.

Assessment Type	Attainment Levels	
Internal Assessment	Level 1	60% of students scoring more than 50% marks in internal assessment tools
	Level 2	70% of students scoring more than 50% marks in internal assessment tools
	Level 3	80% of students scoring more than 50% marks in internal assessment tools

Signature of the faculty members:

(i) Prof. A A Rathod
(ii) Prof. M V Gojiya
(iii) V.B. Pandya
(iv) Prof. T. B. Manian - punkv.
(v) Prof M. K. Bhatt

Prof & HOD
(Electrical)

Shantilal Shah Engineering College, Bhavnagar
Electrical Engineering Department
Subject Evaluation Scheme

Name of the subject (code): Economics for Engineers (3140911)
Semester/Branch: B.E. 4th Semester, Electrical Engineering
Name of Concerned Department: Electrical
Name of faculty member/s: (i) B.N.Vaidya/ T.B.Maniyar

→ **GTU Scheme for the subject:**

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE Viva (V)	PA (I)	
03	--	00	03	70	30	00	00	100

→ **Course Evaluation Plan for PA (M) Component: Total marks 30**

Marks	PAT	Case Study
CO1	20	--
CO2		--
CO3		--
CO4	--	10

Assessment Type	Attainment Levels	
Internal Assessment	Level 1	50% of students scoring more than 50% marks in internal assessment tools
	Level 2	60% of students scoring more than 50% marks in internal assessment tools
	Level 3	70% of students scoring more than 50% marks in internal assessment tools

Signature of the faculty members:

B.N.Vaidya T.B.Maniyar

Prof & HOD (Electrical)

Shantilal Shah Engineering College, Bhavnagar
Electrical Engineering Department
Subject Evaluation Scheme (Even 2021-22)

Name of the subject (code): Power System I (3140914)
Semester/Branch: 4th Semester Electrical
Name of Concerned Department: Electrical
Name of faculty member/s: Prof Astik K Dhandhia
Prof Viren B Pandya

GTU Scheme for the subject:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA(M)	ESE (V)	PA(I)	
04	00	02	05	70	30	30	20	150

Course Evaluation Plan for PA (M) Component: Total marks 30

Marks	PAT	Assignment 1	Assignment 2
CO1		7	
CO2	10		
CO3	5		
CO4	5		
CO5			3

Course Evaluation Plan for PA (I) Component: Total marks 20

Marks	Exp 1	Exp 2	Exp 3	Exp 4	Exp 5	Exp 6	Exp 7	Exp 8	Exp 9		Exp 10	Exp 11	Exp 12	P-1*
CO1		1	1	2										
CO2					2	2						1	2	
CO3							2				2			
CO4								2	2					
CO5														1

*P-1=Presentation 1

→ **Rubrics:**

Marks obtained in each experiment based on the rubrics criterion will be normalized as per above distribution and mapping of CO.

Rubrics Criteria	Excellent – 9 to 10	Good –7 to 8	Average –5 to 6	Poor – 1 to 4
1. Conceptual understanding	Excellent conceptual understanding	Good conceptual understanding	Average conceptual understanding	Poor conceptual understanding
2. Circuit Calculation/Simulation /Programming	Calculations/simulation /programming done perfectly with all the necessary steps/graphs/labelling, units of all quantities	Calculations/simulation done perfectly with some missing of steps, steps/graphs/labelling, units of all quantities	Calculations/simulation done with some minor mistakes, missing of steps, steps/graphs/labelling, units of all quantities	Calculations/simulation done incorrectly with some missing of steps, steps/graphs/labelling, units of all quantities
3. Viva/Oral exam performance	Excellent performance	Good performance	Average performance	Poor performance

Assessment Methods	Attainment Levels	
Internal Assessment	Level 1	60% of students scoring more than 50% marks in internal assessment tools
	Level 2	70% of students scoring more than 50% marks in internal assessment tools
	Level 3	80% of students scoring more than 50% marks in internal assessment tools

In the test of PA (M) component, if the student obtains less than 8 marks out of 20, subsequently he/she is supposed to appear for a remedial test and having cleared the remedial test he/she is eligible to get 8 marks. Two assignments each of 5 marks are also to be submitted and final marks out of 30 will be the sum of (i) marks obtained in the test or remedial test whichever the case is and (ii) those of two assignments.

Signature of the faculty member:

(1) Prof V B Pandya (Course Coordinator)
(2) Prof A K Dhandhia

Prof. & H.O.D (Electrical)

Shantilal Shah Engineering College, Bhavnagar
Electrical Engineering Department
Subject Evaluation Scheme

Name of the subject (code): Power Electronics (3140915)
Semester/Branch: B.E. 4thSemester (UG), Electrical Engineering
Name of Concerned Department: Electrical Enginnering
Name of faculty member/s: (i) T. B. Maniar (ii) M. K. Bhatt

→ **GTU Scheme for the subject:**

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE(V)	PA(I)	
4	0	2	5	70	30	30	20	150

→ **Course Evaluation Plan for PA (M) Theory Component: Total marks 30**

In the test of PA (M) component, for all the students have to appear for PAT/RPAT Theoretical exam.

Marks	PAT
CO1	6
CO2	8
CO3	8
CO4	8

In the test of PA (M) component, for all the students it is mandatory to pass PAT/RPAT exam. If the student obtains less than 12 marks out of 30 in PAT exam, subsequently he/she is supposed to appear for a remedial test RPAT and have to clear the remedial test. He /She are eligible to get 12 marks even though the student has obtained marks more than 12 in RPAT.

→ **Course Evaluation Plan for PA (I) Component: Total marks 20**

Marks	EXP1	EXP2	EXP3	EXP4	EXP 5	EXP 6	EXP 7	EXP 8	EXP 9	EXP 10
CO1	2		2							
CO2		2		2		2				
CO3					2			2	2	
CO4							2			2

→ **Course Evaluation Plan for Viva (E) Component: Total marks 30**

Marks	EXP1	EXP2	EXP3	EXP4	EXP 5	EXP 6	EXP 7	EXP 8	EXP 9	EXP 10
CO1	3		3							
CO2		3		3		3				
CO3					3			3	3	
CO4							3			3

→ **Rubrics:**

Marks obtained in each experiment based on the rubric's criterion will be normalized as per above distribution and mapping of CO.

Rubrics Criteria	Excellent – 9 to 10	Good –7 to 8	Average –5 to 6	Poor – 3 to 4
1. Circuit Construction	Neat and clean, properly scaled circuit diagram is constructed with all proper labelling.	Circuit diagram is constructed appropriately with proper labelling, but missing equipment.	Circuit diagram is constructed appropriately but missing proper labelling.	Circuit diagram is not constructed or constructed or inappropriately.
2. Waveforms/ Simulation	Waveforms /simulation done perfectly with all the necessary steps.	Waveforms / simulation done perfectly with some missing of steps.	Waveforms/simulation done with some minor mistakes.	Waveforms/simulation done incorrectly with some missing graphs/ labelling.
3. Viva / Oral exam performance	Excellent performance	Good performance	Average performance	Poor performance

Assessment Type	**Attainment Levels**	
Internal Assessment	**Level 1**	50% of students scoring more than 50% marks in internal assessment tools
	Level 2	60% of students scoring more than 50% marks in internal assessment tools
	Level 3	70% of students scoring more than 50% marks in internal assessment tools

Signature of Subject coordinator

Signature of HOD

Shantilal Shah Engineering College, Bhavnagar
Electrical Engineering Department
Subject Evaluation Scheme

Name of the subject: Electrical Machines – I
Subject Code: 3140913
Semester/Branch: IVth Electrical
Name of Concerned Department: Electrical
Name of faculty member/s: (i) Prof K P Badgujar and Prof A B Parmar

GTU Scheme for the subject: Total marks 30

Teaching Scheme			Credits	Examination Marks				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	ESE (E)	PA (M)	ESE Viva (V)	PA (I)	
03	00	02	04	70	30	30	20	150

Course Evaluation Plan for PA (M) Component:

Marks	PAT	Assignment 1	Assignment 2
CO1	4		
CO2	12		
CO3	7		
CO4	7		

Course Evaluation Plan for ESE Viva (V) and PA (I) Component: Total marks 50

Marks	Pract 1	Pract 2	Pract 3	Pract 4	Pract 5	Pract 6	Pract 7	Pract 8	Pract 9	Pract 10
CO1	5									
CO2		5	5							
CO3						5	5	5		
CO4				5	5				5	5

Assessment Type	Attainment Levels	
Internal Assessment	Level 1	60% of students scoring more than 50% marks in internal assessment tools
	Level 2	70% of students scoring more than 50% marks in internal assessment tools
	Level 3	80% of students scoring more than 50% marks in internal assessment tools

In the test of PA (M) component, if the student obtains less than 12 marks out of 30, subsequently he/she is supposed to appear for a remedial test and having cleared the remedial test he/she is eligible to get 12 marks.

Signature of the faculty

Signature of the HOD

DEVELOPMENT OF RUBRICS FOR EVALUATING THE SKILLS OF STUDENTS BY MAPPING PERFORMANCE CRITERIAS WITH COURSE OUTCOMES

INTERNAL EVALUATION (20 MARKS)

NAME OF COURSE : Electrical Machines - I (2140913)

NAME OF SUBJECT COORDINATOR: Prof. A. B. Parmar

Analytical Scale for rating the performance of student : POOR = 1 AVERAGE =2 GOOD =3 VERY GOOD= 4 EXCELLENT = 5

			Analytical Scale for rating the performance of student				
S.NO.	CATEGORY	PERFORMANCE CRITERIA/ ASSESSMENT PROCESS	POOR	AVERAGE	GOOD	VERY GOOD	EXCELLENT
1	Basic/Procedure	Follow the procedures for given experiment.	The student is not able to explain even the basic concepts of Practical.	The student is able to explain the partial amount of the basic concepts of Practical.	*The student is able to explain the amount of the basic concepts of Practical. *Student is able to prepare setup as per requirement *Student is not able to perfom practical as per procedure	* The student is able to explain the amount of basic concept of Practical and identify the elements or practical setup. *Student is able to prepare setup as per requirement *Student is able to particially perfom practical as per procedure	* The student is able to explain the amount of basic concept of Practical and identify the elements or practical setup. *Student is able to prepare setup as per requirement *Student is able to perfom practical as per procedure
2	OBSERVATION	Measurements, when required, are recorded as observations, using proper units. Calculations, when required, are clearly shown on the observation side of the lab sheet.	The student is not able to collect the data.	The student is able to collect the data but not in proper order.	The student is able to collect the data in proper order.	The student is able to collect the data in proper order but make wrong calculation.	The student is able to collect the data in proper order and make correct calculation.
3	CONCLUSION	Reasoning for the lab design is summarized, listing any facts or assumptions on which the lab is based. The essential data gathered during the lab is summarized	The student is not able to understand the practical.	The student is partially able to understand the practical.	The student is able to understand the practical but could not summarized on manual.	The student is able to understand the practical and could partially summarized on manual.	The student is able to understand the practical and could fully summarized on manual.

Shantilal Shah Engineering College, Bhavnagar

Electrical Engineering Department

Subject Valuation Scheme

Branch : Electrical Engineering
Semester : 4th
Subject : DESIGN ENGINEERING 1 B
Faculty : Prof M D Solanki
Prof J B Sarvaiya
Prof V B PANDYA(Course Coord)
Prof G N SARVAIYA

Division/Batch : Electrical/All
Subject Code : 3140005
Academic Year : 2021-22

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks			Practical Marks		
L	T	P	C	ESE(E)	PA(M)		ESE Viva (V)	PA (I)	
0	0	2	1	00	00	00	80	20	100

Evaluation Scheme for ESE: (80 marks)

For 4th semester, internal Viva-Voce examination will be conducted at the end of the semester by a team of three examiners - One internal guide, one inter/own departmental faculty, one industry expert (industry expert may be optional but recommended). Internal examiners/teachers must be trained in Design Thinking through the FDP conducted by University.

Sr. no.	Particular	Sub-Head Weightage	Co-related CO
1.	**Phase 1: Reverse Engineering (RE)** ✓ Selection of Branch specific component/product/artefact/program ✓ Disassembly/Analysis of the component/product/artefact/program and learning about the topic	15	**CO1**
2.	**User Feedback based refinement and redesign of the RE topic based on 3rd semester learning** ✓ Understanding of User's need for Reverse Engineering topic and preparation of canvases/framework for this topic (AEIOU, Mind Mapping, Empathy mapping, ideation, product development) ✓ Prior art search (Two Papers study and summary reports) ✓ Summary of the learning from Reverse Engineering activity	15	**CO2**

3.	**Phase 2: Pre-Design** ✓ Learning Need Matrix (LNM) and the skill set learnt in this semester so far ✓ Basic Pre-design calculation which roughly decide size/shape/material requirement/manufacturing process/design specifications/applicable standards	15	**C03**
4.	**Phase 3: Proof of Concept** ✓ Dirty Mock-ups/ Fast-prototype/ Schematic plan	15	**C03**
5.	**Log book** (Individual completed log book, duly signed by guide regularly) **Continuous Assessment Card** for Internal Evaluation (Complete and duly signed by guide regularly)	10	**CO4**
6.	**Report:** Compilation of work report (process report), Online Certificate generated through DE Portal, Future action plan, Question and Answer, Communication Skill, Attitude	10	**C04**

Evaluation Scheme for PA (I): (20 marks-Given by Internal Guide)

	Particular					
Marks-->	**Reverse Engineering** (Selection of Branch specific tittle and detail study of project)	Preparation of canvases/frame-work and Prior art search	Preparing Learning Need Matrix (LNM) and Pre design calculation	Dirty Mock-ups/ Fast-prototype/ Schematic plan	Log book and Continuous Assessment Card	Report
CO1	3					
CO2		5				
CO3			3	3		
CO4					3	3

Rubrics (Marks obtained out of 40 will be converted into above-stated marks of specific criterion.

	Excellent:9-10	Good:7-8	Fair:5-6	Poor:1-4
Reverse Engineering	Through understanding of reverse engineering and implementation	Proper understanding of reverse engineering and implementation	Partia understanding of reverse engineering and implementation	No or little understanding of reverse engineering and implementation
Preparation of canvases/frame-work and Prior art search	Excellent work done by a student of canvases/ frame-work and Prior art search	Proper work done by a student of canvases/frame-work and Prior art search	With scope of improvements in work done of canvases/ frame-work and Prior art	No or little work done by a student of canvases/frame-work and Prior art search

			search	
Preparing Learning Need Matrix (LNM) and Pre design calculation	Excellent work done in Learning Need Matrix (LNM) and Pre design calculation	Proper work done in Learning Need Matrix (LNM) and Pre design calculation	With scope of some improvements in work done in Learning Need Matrix (LNM) and Pre design calculation	No or little work done in Learning Need Matrix (LNM) and Pre design calculation
Dirty Mock-ups/ Fast-prototype/ Schematic plan	Excellent work done in Dirty Mock-ups/ Fast-prototype/ Schematic plan	Proper work done in Dirty Mock-ups/ Fast-prototype/ Schematic plan	With scope of some improvements in work done in Dirty Mock-ups/ Fast-prototype/ Schematic plan	No or little work done in Dirty Mock-ups/ Fast-prototype/ Schematic plan
Log book and Continuous Assessment Card	Timely maintained Log book and Continuous Assessment Card	Timely maintained Log book and Continuous Assessment Card with some suggestive corrections	Acceptable delay in maintaining Log book and Continuous Assessment Card	With unacceptable delay in maintaining Log book and Continuous Assessment Card
Report	Excellent report writing with less than 5% plagiarism	Good report writing with less than 10% plagiarism	Good report writing with less than 10% plagiarism	Not acceptable report

Assessment Type	Attainment Levels	
Internal Assessment	Level 1	50% of students scoring more than 50%marks in internal assessment tools
	Level 2	60% of students scoring more than 50% marks in internal assessment tools
	Level 3	70% of students scoring more than 50% marks in internal assessment tools

Signature of the Subject Faculty:

1. Prof M D Solanki
2. Prof J B Sarvaiya
3. Prof V B Pandy
4. Prof S K Patel

Prof & HOD (Electrical)