SELF ASSESSMENT REPORT

submitted to

NATIONAL BOARD OF ACCREDITATION,NEW DELHI

By

NAME OF THE PROGRAMME:

Diploma in Electrical Engineering

Dr. B.B.A.GOVT.POLYTECHNIC ,
Karad(D.P.),Madhuban Dam Road,
U.T. OF DADRA & NAGAR HAVELI-396240
Department of Technical Education,
Administration of Dadra & Nagar Haveli(U.T.),
GOVT.OF INDIA

Approved by All India Council for Technical Education

Affiliated to Gujarat Technological University, Ahmedabad

SAR CONTENTS

PART A: Institutional Information

1. Name and Address of the Institution: Dr. B.B.A. Government Polytechnic,

Address: Karad(D.P.), Madhuban Dam Road,

Behind Electric Sub Station, U.T. of Dadra &Nagar

Haveli, Pin:396240,INDIA

2. Name and Address of the Directorate of Technical Education: Director of Technical Education,

PWD Complex, Silvassa, U.T. of Dadra & Nagar

Haveli,Pin-396230

3. Year of Establishment: 1994

4. Type of Institution:

University	☐
Deemed University	☐
Autonomous	☐
Affiliated	☑
Any other(please specify)	☐

5. **Ownership status**

Central Government	☑
State Government	☐
Government Aided	☐
Self financing	☐
Trust	☐
Society	☐
Section 25 Company	☐

Any other(Please specify) ☐
Provide Details:

6.**Other Academic Institutions of the Trust/Society/etc., if any:** Not applicable

Name of the Institution	Year of Establishment	Programs of study	Location
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Note: Add rows as required

7.**Details of all the programs being offered by the Institution under consideration:**

Sl. No.	Program Name	Year of Commencement	Intake Capacity	Increase in Intake, if any	Year of Increase	AICTE Approval	Accreditation Status
1	Diploma in Mechanical Engg.	1994	60	90	2011	Yes	Applying First time
2	Diploma in Electrical Engg.	1994	60	90	2011	Yes	Applying First time
3	Diploma in Civil Engg.	1994	60	60	-----	Yes	Applying First time

. Write appropriate option from the list:

. Applying first time (√ **)**

.Granted provisional accreditation for two years for the period(specify period)

. Granted provisional accreditation for five years for the period(specify period)

.Not accredited (Specify visit dates, year)

. .Withdrawn(Specify visit dates, year)

.Not eligible for accreditation

.Eligible for accreditation

.Eligible but not applied

8.Programs to be considered for accreditation vide this application:

S.No.	Program Name
1	Diploma in Mechanical Engineering

2	Diploma in Electrical Engineering
3	Diploma in Civil Engineering

9.Total Number of Employees:

A. Regular *Faculty and Staff:

Items		CAY(2016-17)		CAYm1(2015-16)		CAYm2(2014-15)	
		Min	Max	Min	Max	Min	Max
Faculty in Engineering & Technology	M	10	10	11	11	11	11
	F	02	02	02	02	02	02
Faculty in Science & Humanities	M	01	01	01	01	01	01
	F	01	01	01	01	01	01
Non Teaching staff	M	13	13	13	13	13	13
	F	02	02	02	02	02	02

B. Contractual Staff (Not covered in Table 9.A)

Items		CAY(2016-17)		CAYm1(2015-16)		CAYm2(2014-15)	
		Min	Max	Min	Max	Min	Max
Faculty in Engineering & Technology	M	10	10	10	10	10	10
	F	04	04	04	04	04	04
Faculty in Science & Humanities	M	02	02	02	02	02	02
	F	01	01	01	01	01	01
Non Teaching staff	M	12	12	12	12	01	01
	F	01	01	01	01	01	01

10.Total Number of students:

Items	CAY(2016-17)	CAY m1(2015-16)	CAY m2(2014-15)
Total no. of Boys	645	612	640
Total no. of girls	104	86	80
Total no. of students	749	698	720

11.Contact Information of the Institution and NBA Coordinator:

I. Head of the Institution:

Name: Priyanka Kumari (DANICS)

Designation: Principal, Dr. B.B.A. Govt. Polytechnic, Karad(D.P.), U.T. of Dadra & Nagar Haveli

Mobile No: +91-7069198485

Email id:pksonulal@gmail.com

II. NBA Coordinator, if designated:

Name: Dr. Bikram Keshori Dandapat

Designation: Lecturer (Selection Grade) & HOD, Mechanical Engineering Department

Dr. B.B.A. Govt. Polytechnic, Karad(D.P.), U.T. of Dadra & Nagar Haveli

Mobile No.: +91-8460259963

Email Id: bikramkeshori_d@yahoo.com

LIST OF EMPLOYEES WORKING IN THE
DR. B.B.A. GOVERNMENT POLYTECHNIC, KARAD (D.P.)
during
Academic Years:2014-2016

Sr. No.	Name & Designation
Group "A"	
01	Shri C.S. Rao, Lect. in Mech. Engg.
02	Dr. B.K. Dandapat, Lect. in Mech. Engg.
03	Shri Swapnil S.Shrawge, Lect. in Mech. Engg.
04	Shri B. Moharana, Lect. in Mech. Engg.
05	Shri P.V. Gadge, Lect. in Prod. Engg.
06	Shri D.L. Sahu, Lect. in Civil Engg.
06	Dr. B. Jha, Lect. in Civil Engg.
08	Shri K.B. Patel, Lect. in Civil Engg.
09	Shri R.N.D. Sarma, Lect. in Civil Engg.
10	Shri S. Mishra, Lect. in Electrical Engg.
11	Smt. C.N. Desai, Lect. in Electrical Engg.
12	Shri A.K. Swain, Lect. in Electrical Engg.
13	Smt. M.G. Desai, Lect. in Electronics
14	Shri S. Chennappa, Lect. in Computer Engg.
15	Dr. J.B. Rana, Lect. in Chemistry
16	Shri D.N. Shinde, Lect. in Maths
Group "B"	
17	Shri P.N. Parmar, Office Superintendant
Group "C"	
18	Shri B.H. Chauhan, Sr. Store Keeper
19	Shri P.U. Vyas, Accountant
20	Shri Tonny L. Naronha, Jr. Steno
21	Shri A.L. Dhodi, UDC
22	Shri A.M. Harijan, LDC
23	Smt M.S. Desai, Asstt. Librarian
24	Shri M.B. Rohit, W.I
25	Shri B.S. Korda, W.I
26	Shri S.C. Patel, W.I
Group "D"	
27	Shri V.L. Patel, Laboratory Attendant
28	Shri R.J. Varli, Mali
29	Shri C.N. Harijan, Sweeper

30	Smt. S.V. Egde, Peon
31	Shri A.N. Solanki, Watchman

Sr. No.	Name & Designation
Short Term Contract Lecturers	
32	Shri A. D. Desai, Lect. in Physics
33	Shri S. M. Chavan, Lect. in English
34	Shri M. S. Billiwala, Lect. in Civil Engg.
35	Smt K. R. Jadeja , Lect. in Electrical Engg.
36	Shri J. K. Rohit, Lect. in Electrical Engg.
37	Shri Vishal Dhoke, Lect. in Mechanical Engg.
38	Shri Dipan Patel, Lect. in Mechanical Engg.
39	Smt H. H. Parmar, Lect. in E&C Engg.
40	Smt A. N. Patel, Lect. in E&C Engg.
41	Shri S. S. Mecwan, Lect. in Computer Engg.
42	Shri S. N. Solanki, Lect. in Computer Engg.
43	Shri A. A. Patil, Lect. in Computer Engg.
44	Shri B. K. Doshi, Lect. in I.T.
45	Smt U. C. Patel, Lect. in I.T.
Short Term Contract Multi Tasking Staff	
46	Ms. Nisha M. Shingda, MTS
47	Shri Ajay S. Patel, MTS
Short Term Contract Lab. Assistant / Lab. Technician	
48	Shri Suraj Mahala, Lab. Assistant
49	Shri Vad Ritesh B., Lab. Technician
50	Shri Bij Prakash B., Lab. Technician
Short Term Contract Workshop Instructor (Turner)	
51	Shri Dalu Nadge, W.I. (Turner)
Short Term Contract Lab. Attendant	
52	Shri Akshay Solanki, Lab. Attendant
53	Shri Patel Anilbhai M., Lab. Attendant
54	Shri Dodia Shailesh, Lab. Attendant
55	Shri Kamdi Kalpesh, Lab. Attendant
56	Shri Santoshbhai Gangoda, Lab. Attendant
57	Shri Bij Jitubhai, Lab. Attendant
58	Shri Mali Vikram, Lab. Attendant

Part B

CRITERION 1	**Vision ,Mission and Program Educational Objectives**	**50**

1.1 Vision and Mission

(List and articulate the vision and mission statements of the institute and department)

The Vision of the Dr.B.BA.Govt.Polytechnic:

The establishment of Dr. B.B.A. Govt. Polytechnic, at Dadra and Nagar Haveli will help the UT Administration to meet its man power needs and also in development of tribal regions. Moreover, the Territory must have a Polytechnic of its own to meet the aspirations of the local people, by transforming the students to be technically skilled managers, innovative leaders and environmentally receptive citizens.

The Mission of Dr.B.BA.Govt.Polytechnic :

To implement holistic approach in curriculum and pedagogy through Industry Integrated Interactions to meet the needs of Global Engineering Environment.

To develop students with knowledge, attitude and skill of employability, entrepreneurship (Be Job creators than job seekers), research potential and professionally ethical citizens.

The Vision of the Electrical Engineering Department :

To provide excellence knowledge and enrich the problem solving skills of the students in the field of Electrical Engineering with a focus to prepare the students for industry need, recognized as innovative leader, responsible citizen and improve the environment.

The Mission of* Electrical Engineering *Department :

*Prepare the students with strong fundamental concepts, analytical capability, and problem solving skills. Create an ambience of education through faculty training, self learning, sound academic practices and research endeavors.

*Provide opportunities to promote organizational and leadership skills in students through various extra- curricular and co-curricular events.

*To make the students as far as possible industry ready to enhance their employability in the industries.

*To improve department industry collaboration through internship program and interaction with professional society through seminar/workshops.

*Imbibe social awareness and responsibility in students to serve the society and protect environment

1.2 Program Educational Objectives

The Program Educational Objectives (PEOs) of the Electrical Engineering Department are given below:

PEO1: To engage in Design of Systems, tools and applications in the field of electrical Engineering and allied engineering Industries.

PE02: To apply the knowledge of electrical engineering to solve problems of social relevance and/or pursue higher education

PE03: .To work effectively as individuals and as team members in multidisciplinary projects by exhibit leadership capability, triggering social and economical commitment and inculcate community services and protect environment

PEO4: Engage in lifelong learning, career enhancement and adopt to changing professional and societal needs.

1.3 Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders

The Vision and the Mission of the Department are the fundamental bedrocks for its activities.

The entire program offered by the Department follow these.

1.3.1 Indicate how and where the Vision and Mission are published and disseminated

The Mission and Vision are published and disseminated through

College website- www.drbbagpks.org
HOD Chamber
Notice Boards of the department Library
Department Laboratories
Department Corridor

1.3.2 State how and where the PEOs are published and disseminated

Dissemination of PEOs

The PEOs are published and disseminated through

College Website

Notice Boards of the department

Library

Department Laboratories

Department Corridor

HOD Chamber

1.**3.3 List the stakeholders of the program**

The stakeholders of the program are

Students

Alumni

Faculty Members

Parents

Employers

1.4 State the process for defining the Vision and Mission of the Department, and PEOs of the program

1.4.1 Mention the process for defining Vision and Mission of the department

The process for defining Vision and Mission of the department was discussed in the department level and it was established through a consultative process involving the stakeholders of the department, the future scope of the department and the societal requirements as shown in

In establishing the vision and mission of the department, the following steps were followed:

Step 1: Vision and Mission of the Institution are taken as basis

Step 2: Views are taken from stakeholders of the department such as students, faculty members, parents, Employers and alumni.

Step 3: The views about the vision and mission of the department are formulated by the team of faculty members of the department.

Step 4: The vision and mission are analyzed and reviewed to check the consistency with the vision and mission of the department at the college level by NBA Committee

Step 5: Finally the Principal, Dr. B.B.A. Govt. Polytechnic approve the vision and mission of the department.

1.4.2 State the process for establishing the PEOs

(Describe the process that periodically documents and demonstrates that the PEOs are based on the needs of the program various stakeholders.)

In establishing the vision and mission of the department, the following steps were followed

* The department draws upon constituents input to construct and periodically revise our PEO's. Data are collected from constituents in various ways, some formal, systematic, and some not. We have learned that some modes of input are much more effective than others in

generating useful information, and constantly improving our processes for gathering input from constituencies in response to these experiences.

* The Program Educational Objectives are established through a consultation process involving the core constituents such as: **Student, Alumni, Faculty, Employers and Parents.** The PEOs are established through the following process steps.

Step 1: Vision and Mission of the college are taken as basis.

Step 2: Vision and Mission of the department are taken as a basis to interact with various stakeholders.

Step 3: The program coordinator collects the views of the stakeholders.

Step 4: On considering the views that were collected from the stakeholders, the PEOs are formulated by the team of senior faculty members identified for the program.

Step 5: The PEOs are represented before the Electrical Department faculties for additional inputs to improvise the program

Step 6: Finally approves the PEOs.

1.4.2.1 The following are the various assessment process used to assess the attainment of PEOs.

Principal Lesson plan/Curriculum

NBA – quality Cell

Parent Teachers Meet

Student feedback

Faculty Feedback

Employer Feedback

Workshops/ Guest Lectures/ Seminars

Assessment Process	Assessment Criteria	Data collection Frequency	Responsible Entity
Principal	Course content to meet industry requirements and to pursue higher Studies	Once in a Year	College Level
Lesson Plan	Content Delivery	Once in a semester	Department
College level NBA Committee	Improvements and Suggestions	Once in a Semester	College level
Workshops/ Guest Lectures/ Seminars	Cutting edge Technology	Frequently Conducted with at least 1 per Semester	Department
Attendance Log Book	Conduct of classes	Twice in a semester (I,II internals)	HOD
Feedback	Assess Quality	Once in a year/Semester	College/Department
	Suggestions		

M1=Prepare the student with strong fundamental concepts, analytical capabilities and skills

M2= Create ambience education through faculty training, self learning, sound academic practices.

M3=Provide opportunities to promote organizational leadership and skills of students through various extracurricular activities and events.

M4=To make the students as far as possible industry ready to enhance their employability in the Industries.

M5=Imbibe social awareness and responsibility in students to serve the society and protect environment

The Program Educational Objectives (PEOs) of the department of Electrical Engineering Department are given below:

PEO1: To engage in Design of Systems, tools and applications in the field of electrical Engineering and allied engineering Industries.

PE02: To apply the knowledge of electrical engineering to solve problems of social relevance and/or pursue higher education

PE03: .To work effectively as individuals and as team members in multidisciplinary projects by exhibit leadership capability, triggering social and economical commitment and inculcate community services and protect environment

PEO4: Engage in lifelong learning, career enhancement and adopt to changing professional and societal needs.

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1.5 Establish consistency of PEO's with Mission of the Department

PEO Statements	M1	M2	M3	M4	M5
PEO1	3				
PEO2	3			3	2
PEO3		2	3		3
PEO4	3	3	2		2

1;slight(low) 2: Moderate(medium) 3:Substantial(high)

1.5.1. Justify the academic factors involved in achievement of the PEOs

Listed below are the factors that are involved in the attainment of the PEOs.

*Curriculum and Syllabi

*Lesson Plan

*Course File

*Assessment

*Feedback

Curriculum and Syllabi :

The various courses for each program were selected in accordance with the PSOs of the program. The courses both regular and elective were mapped along with the achievement of the PSO and accordingly distributed among the various semesters of the program. The Syllabi for the courses are designed in line with the principles of outcome based education and prime objective of attainment of the PSOs.

Lesson Plan :

A good curriculum and syllabi is effective only by a well planned teaching Learning Process. In order to aid this, all the faculty prepare a lesson plan well before the commencement of the classes. This includes the theory and lab courses. It involves not only the contents of the syllabi but focus is given to content beyond syllabus. This lesson plan is duly signed by the head of the department, discussed in the first class committee meeting and then circulated amongst the concerned students also.

Course File :

It is a practice to maintain a course file for each theory courses. This keeps track of all the activities carried out in the class room during the course delivery. This includes the time table, lesson plan, record of content delivery, assessment component details, sample evaluated answer scripts, marks of the continuous assessments tests and the performance analysis sheet and remedial action. The performance analysis sheet and remedial actions taken sheet provides a way for the course teacher to keep track of the students who have not performed well and also monitor their performance in the next test. The course file also includes the internal assessment, end semester marks and statement of grades. This course file is duly monitored by the Head of the Department and maintained in the Department Library thus serving as a reference for the teachers who handle the courses.

Assessments:

The students are evaluated on the basis their performance. This evaluation is done by way of the continuous assessment tests and end semester examinations. For under graduate students three continuous assessments and an end semester examination is conducted for every course. The assessment marks are displayed to the students after every test and also properly maintained. An entry of the internal marks is made in the attendance log books of every course teacher

Feedback:

The NBA Team at Dr.B.B.A.Govt.Polytechnic thus monitors the quality of the entire process for every course. An NBA- Quality Assurance Cell (NBA-QC) is an integral part of the system .By assuring that all the above mentioned are duly carried out the PEO's are achieved.

1.5.2. Explain how administrative system helps in ensuring the attainment of PEOs

The following administrative setup is put in place to ensure the attainment of PEOs **NBA- QC**

***Program coordinator**

***Course coordinator**

***Department Assessment Committee Program (DCP)**

Program Coordinator

Interacts and maintains liaison with key stake holders, students, faculty, Department Head and employer.

Monitor and reviews the activities of each year in program (I/III/V & II/IV/VI) independently with course coordinators

Schedules program work plan in accordance with specifications of program objectives and outcomes

Oversees daily operations and coordinates activities of program with interrelated activities of other programs, departments or staff to ensure optimum efficiency and compliance with appropriate policies, procedures and specifications given by HOD.

Conducts and interprets various surveys required to assess POs and PEOs.

Course Coordinator

Coordinates and supervise the faculty teaching the particular course in the module

Responsible for assessment of the course objectives and outcomes

Recommend and facilitate workshops, faculty development programs, meetings or conferences to meet the course outcomes

Analyzes results of particular course and recommends the Program coordinator and/or Head of the Department to take appropriate action

Liaise with students, faculty, program coordinator and Head of the Department to determine priorities and policies

National Board of Accreditation – Quality Assurance Cell (NBA-QC)

Supervises and guides the activities of department Committees and Teams.

Plans various development, delivery and assessment activities of PEOs and POs.

Prepare an outcome-based assessment plan (OBAP) with the same broad structure across all programs to assessment PEOs and PO attainment.

Act as a guiding and monitoring body for all departments committees and teams.

Assumes responsibility of assessing availability of required resources and needed for achieving PEOs and POs for each program based on the departmental Committees recommendations.

Present the results to the Principal for improvements or corrective action.

Through TPO administers the survey with external stakeholders.

Obtain results of assessment of internal and external stakeholders including analysis of student performance in tests, exams, assignments projects etc. from Assessment Committee - Programmes (ACP).

Analyze the results of the assessment and submitted tp Principal.

Based on directions/decisions of Principal initiate corrective actions in revision of PEOs and POs.

Department Assessment Committee (DAC)

*Assessment Committee Program consists of Program Coordinator, Module Coordinator and faculty representatives

*Chaired by Program Coordinator, the committee monitors the attainment of PO and PEO's. Evaluates program effectiveness and proposes necessary changes

*Prepares periodic reports records on program activities, progress, status or other special reports for management key stake holders.

*Motivates the faculty and students towards attending workshops, developing projects, working models, paper publications and research

*Interact with students, faculty, Program Coordinators, Module Coordinator and outside/community agencies (through their representation)in facilitating program educational objectives

Department Assessment Committee List

S.no	Name	Position held	Responsibilities
1	Shri A.K.Swain	HOD & NBA Committee member	Department In charge
2	Shri S.Mishra	NBA Committee member	NBA Incharge
3	Mr. C.N.Desai Mr.J.K.Rohit	Course outcome, Program Outcome, Program Specific Outcome	Formulation of attainment
4	M.G.Desai Mrs.Khyati Jadeja	Continuous Improvement	Attainment of PO and PSO

Various Committee in charge of Department

Sl.No.	Committee	
1	**Time table**	Shri A.K.Swain
2	**Mentor**	Shri A.K.Swain
3	**Internal Test Cell**	Shri S.Mishra
4	**Website Over all**	Mr. J.K.Rohit
5	**Departmental Website**	Mr.J.K.Rohit
6	**Symposium/ Conference/Workshop, etc**	Shri S.Mishra
7	**Professional bodies**	Mrs.C.N.Desai
8	**Slow Learners/ Rank Holders**	Mrs.C.N.Desai
11	**Parent- Teachers Meeting**	Mr.S.Mishra

12	**1st Year Co-ordinators**	Mr.M.G.Desai
13	**II year Class Teacher**	Mr.C.N.Desai
14	**III year Class Teacher**	Mrs. S.Mishra
17	**Placement**	MrS.Khyati Jadeja
18	**Industrial visits**	Mrs.C.N.Desai
20	**Newsletter**	Mrs.Khyati Jadeja
21	**Cultural**	Mr.J.K.Rohit
22	**Sports**	Mr.J.K. Rohit
23	**Alumni**	Shri S.Mishra
24	**Student Seminar/ Mini Project /Project**	Mrs.Khyati Jadeja
25	**Over all Lab Coordinator /Project**	Shri S.Mishra

CRITERION 2	**Program Curriculum and Teaching learning Processes**	**200**

2.1Program Curriculum(50)

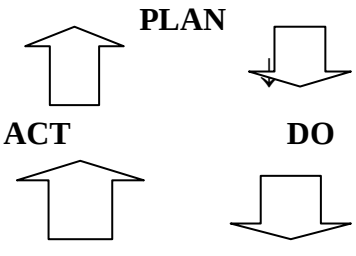
2.1.1.State the process used to identify extent of compliance of the board curriculum for attaining the program outcomes(POs)and program Specific Outcomes (PSOs)as mentioned in Annexure1.Also mention the identified Curricula gaps. IF any (30)

A. Process used to identify extent of compliance of the University Curriculum for attaining the Program Outcomes and Program Specific Outcomes.

The Dr. B.B.A. Govt. Polytechnic, Karad(D.P.),U.T. of Dadra & Nagar Haveli is affiliated under Gujarat Technological University, Ahmedabad.

So our program curriculum is as per the scheme and syllabus of affiliated university. Generally Curriculum maintains the balance in the composition of basic science, humanities, professional courses and their distribution in core and elective and breadth offerings. If some components, to attain CO's/ PO's, are not included in the curriculum provided by the affiliated university then the Institution makes additional efforts to impart such knowledge by covering aspects through "CONTENTS BEYOND SYLLABUS". We add content beyond syllabus by proper "GAP analysis" process.

Quality Loop for Attaining the Program Outcomes -



(**Closing the Quality loop**)

STEPS-

(i)Plan the activity

(ii) Do it

(ii)Measure the performance

(iii)Initiate appropriate action based on what was planned and what was achieved

All the processes required for accreditation need to have the step of "closing the loop".

Steps of Gap Identification

1. A subject teacher does a thorough study of the curriculum. After discussion with other subject teachers a common platform is created wherein the link between various subjects is discussed. The curricular and knowledge gaps are identified and the strategy to overcome these gaps is arrived at.

2. Recent advances in the industry are identified with discussion between visiting faculties and departmental staff. The discussion also highlights the need for students to have knowledge of these advancements. Accordingly, symposiums, Seminars, Workshops, Training programmes are arranged.

3. A review of curriculums offered by autonomous institutes is taken into consideration and the necessary contents are added in the seminars

<u>At PO,PSO level(Curriculum Gap Analysis)</u>

i. POs and PSOs are achieved through formal courses and other co-curricular and extracurricular activities.

ii. Target levels of attainment of POs and PSOs are set; program is delivered; actual attainment of POs and PSOs is determined; The loop is closed either by increasing the target level for the

next cycle of the program or by planning suitable improvements in all the relevant activities to increase the actual attainment

iii. Closing the loop must be carried out, in a similar manner ,at the level of PEOs also.

iv. This process view of quality implicitly central to accreditation.

List of Program Outcomes

PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis:** Identify, formulate, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO5	**The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO6	. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
PO7	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the

	engineering practice.
PO8	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO9	**Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. .
PO10	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage independent and life-long learning in the broadest context of technological change.

List of PSO's

PSO1: Apply principles of engineering and laboratory skills for building, testing, operation and maintenance of electrical systems, such as electrical machines, power and energy systems.

PSO2: Model and analyse, design and realize physical systems, components or processes related to electrical engineering systems.

PSO3: Work professionally in power systems engineering, Electrical machinery and electrical circuits.

Process for "Curriculum GAP ANALYSIS"

Identified Curriculum Gaps

1.Certain gaps like knowledge of fundamentals in Mathematics and Science(10th level) which is not covered in the curriculum but are required for studies of Diploma curriculum. They are taught in the regular class by allocating additional hours.

2. Personality is the most important virtue of the engineer. Though some aspects of personality development are covered in subjects such as Professional practices, Behavioral sciences, other

essential skills such as stress management, interview techniques, importance of team work etc. are covered by inviting experts in respective fields

B. List the curricular gaps for the attainment of defined POs and PSOs.

Recommended subjects to bridge academic and industry

Formation →	Notification →	Implementation
•The Program outcomes & program specific outcomes are prepared taking annexure I into consideration. •Allocation of course curriculum to faculty •Identification of links between various courses •Enumerate the identified curricular gaps	•Recent advances, identified curricular gaps are discussed with faculty of Dr. B.B.A. Govt. Polytechnic	•Seminars •Workshops •Training •Technical Quiz

2.1.2. State the delivery details of the content beyond the syllabus for the attainment of POs and PSOs (10)

CAY(2016-17)

S. No.	Gap	Action taken	Date-month year	Resource Person	No.of students present	Relevance to POs&PSOs
1	knowledge of fundamentals in Mathematics and Science(10th level) which is not covered in the curriculum	Faculties are giving special care to poor students	During whole academic year in lecture classes	(1)Shri D.N.Shinde (Lect. in Maths) (2)Shri Anand Desai, Lect. in Physics 3.Shri Sachin Chouhan, Lect. in English	30% of the class	PO1,PO2, PO4,PO9
2.	Personality Development	Experts used to take lectures from Industry	During the academic session	Mr. S.S. Roy,(Entrepreneur & consultant)	60% of the class	PO1 PO9

CAYm1(2015-16)

S.No.	Gap	Action taken	Date-month year	Resource Person	No.of students present	Relevance to POs&PSOs
1	knowledge of fundamentals in Mathematics and Science(10th level) which is not covered in the curriculum	Faculties are giving special care to poor students	During whole academic year in lecture classes	(1)Shri D.N.Shinde (Lect. in Maths) (2)Shri Anand Desai, Lect. in Physics 3.Shri Sachin Chouhan, Lect. in English	30% of the class	PO1,PO2, PO4,PO9

CAYm2(2014-15)

S.No.	Gap	Action taken	Date-month year	Resource Person	No.of students present	Relevance to POs&PSOs
1	knowledge of fundamentals in Mathematics and Science(10th level) which is not covered in the curriculum	Faculties are giving special care to poor students	During whole academic year in lecture classes	(1)Shri D.N.Shinde (Lect. in Maths) (2)Shri Anand Desai, Lect. in Physics 3.Shri Sachin Chouhan, Lect. in English	30% of the class	PO1,PO2, PO4,PO9.

B. Delivery details of content beyond syllabus

Library/internet assignments on contemporary issues. Additional laboratory experiments

Pre-placement Training

Training on Soft skills and value add programs Creative /Projects

Guest lectures

Workshops/conference

Industrial Visits

C. Mapping of content beyond Syllabus with the PO's & PSO's

PO's Topics	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
Pre-placement Training							√	√	√	
Training on Soft skills								√	√	√
Creative / Hobby Projects			√	√	√	√				
Guest lectures	√	√								
Workshops	√	√	√	√						
Industrial Visits	√	√				√				

PSOsTopics	PSO1	PSO2
Pre placement Training	√	
Training on soft skills		
Creative/Hobby Projects	√	
Guest lectures	√	
Workshops	√	√
Industrial visits	√	√

2.2 Teaching Learning Process (150)

2.2.1 Describe processes followed to improve quality of teaching and learning (25)

A. Adherence to Academic calendar (Institute and Department calendar)**:**

From the college calendar of events a department calendar of events is derived which is specific to the department.

Lesson plan with course objectives and course outcomes are prepared by the subject handling faculty before the commencement of the semester and is dually approved by the Head of the department and made available to the students. Lesson plan is published by the GTU website foe syllabus.. According to the lesson plan, work done has been inculcated in the academic file to ensure coverage of syllabus dually monitored by Head of the department.

Maintenance of Course files:

For each course, a course file is prepared by the concerned faculty. The course file consists of following items.

Teaching plan:

Teaching plans for each and every course are prepared by the faculty. Whole syllabus is divided into 6 units and 42 lectures as per the teaching scheme prescribed by the university.

The course objectives are defined for each course in line with the POs.

Lesson plan

Lesson plans are prepared for each lecture in the teaching plan by the faculty before the commencement of the semester and it is duly approved after careful examination by the Head of the Department and made available to the students.

The lesson plan encompasses the learning outcomes and the assessment of outcomes.

Question Bank:

Question banks are prepared for each topic in the course based on the course objectives and considering the nature of the university question papers. The previous question papers of University are also maintained in the course files.

Assignment questions list and test question papers along with key solutions are included in the course files

B. Use of Various instructional methods and pedagogical initiatives: Lecture method and Interactive learning:

The faculty use chalk and board and audio visual aids in teaching. Students are also encouraged to actually interact during the lecture hour by getting the doubts clarified on the spot. faculty using models , charts for interactive teaching

Project-based learning:

During the period of study in the 5th to 6th semester, many real time projects are given to the students and they are guided by both faculty and Industry/Research personnel.

Computer-assisted learning:

The College has required number of computers, printers, projectors. These are effectively used for teaching. The students are also encouraged to develop software's for the solution of the assignments and tutorials. Many final year projects are completed through the use of software.

SMART class Room

Faculty are using SMART class room to interactive session. projector is used for demonstration ,video (NPTEL),audio of classes

C. Methodologies to support weak students and encourage bright students: Guidelines to identify weak students

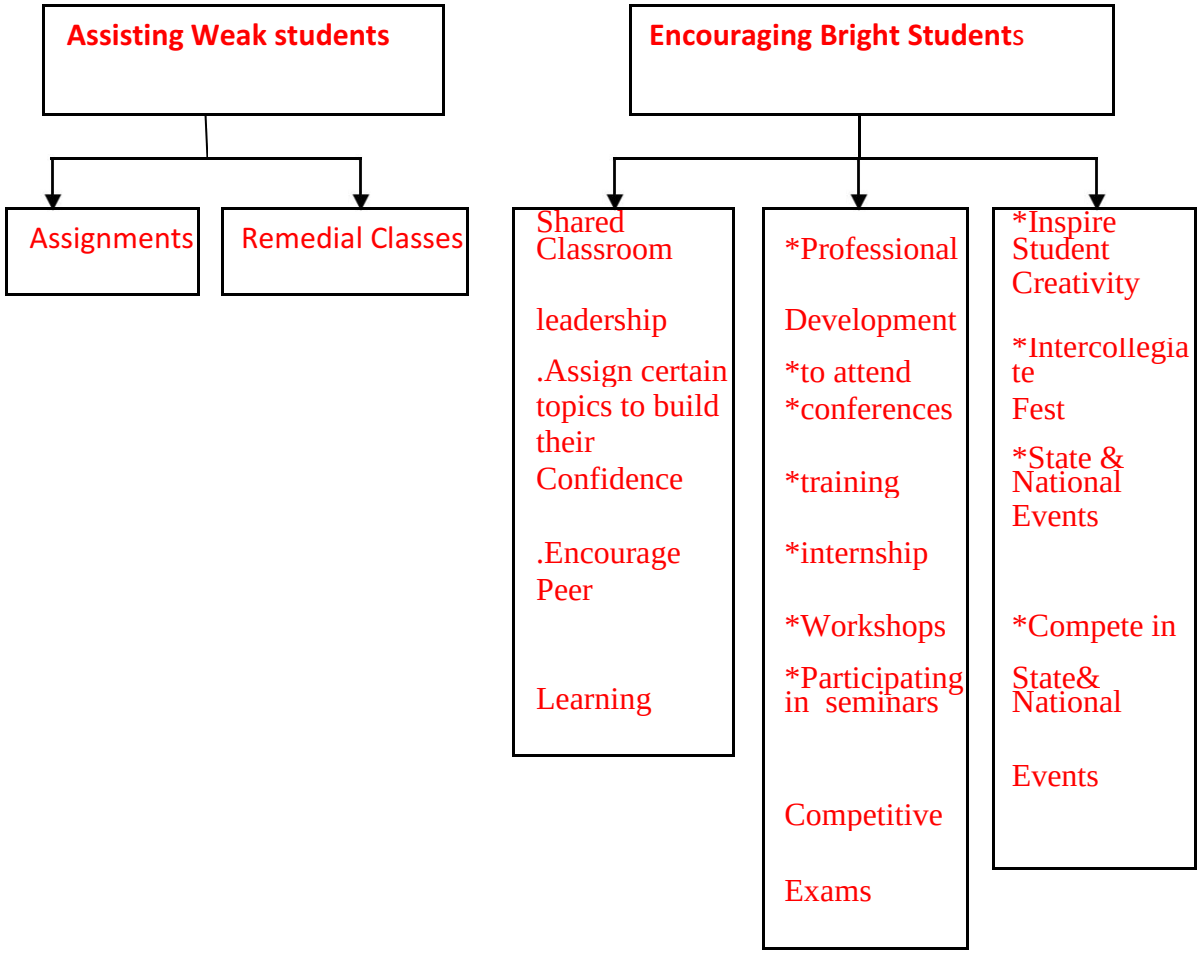
The Counselors regularly conduct meetings regarding progress of their mentees and are responsible to identify students who scored less than 60% marks in their internals. Under the

HOD direction, the students Counselors evaluates the progress card of those students who score below 60% marks in three or more subject and below 75% attendance are considered as **academically weak students** and same is also intimated to their parents.

MENTORING SYSTEM

Identification Criteria	Actions taken
Students scoring less than 60% of marks in Internal Assessment.	1. Student counselor follows their progress regularly advising students about attending classes, making up classes missed, and getting additional help. 2. Intimating parents to counsel their wards. 3. Conduction of remedial classes
Diploma students who entered with less basics of mathematics	Conduction of remedial classes.
Students who fail in semester exams	Conduction of extra classes to those who failed in previous semester subjects.

Process for Encouraging bright Students and Assisting Weak Students



D. Quality of classroom teaching:

The following innovative teaching methods are adopted by the faculty:

Computers are used for teaching purposes and internet facility is available to students and faculty.

Faculty members are taking advantage of sources like National Programme on Technology Enhanced Learning (NPTEL), internet sources for effective teaching.

Smart Board, projectors etc. are used for teaching purposes.

Online availability of various journals in the intranet.

Well structured lesson plans are prepared / revised for all theory and practical courses on a period to period basis, scrutinized by HODs.

E. Conduct of Experiments:

Students carry out more than the required number of experiments, beyond the minimum specified by the University. All laboratories have excellent facilities. For the experiments detailed instruction manuals are provided. The observations are checked and verified by faculty and record books are maintained systematically. One faculty members and one instructor/attendant are assigned for each practical class.

F. Continuous Assessment in laboratory:

Continuous assessment system is also implemented for assessment of laboratory work. The assessment is done on the basis of submission of laboratory records, understanding of the experiment through oral viva voce questions and participation in performing the experiment. Neatness of the laboratory record book is also given weightage in the assessment.

G. Student feedback of teaching learning process and actions taken:

At the end of the semester, all the students are required to fill a feedback-form apprising the faculty using a scale of 1 (high) through 10 (low).

Lecture classes are monitored by senior faculties and the HoD of the Department. They give constructive comments to improve the quality of teaching and the teaching- learning process.

Counseling by the respective HoD for those faculty members who have secured low scores and negative comments, if any, in the feedback. This motivates them to improve their skills and abilities

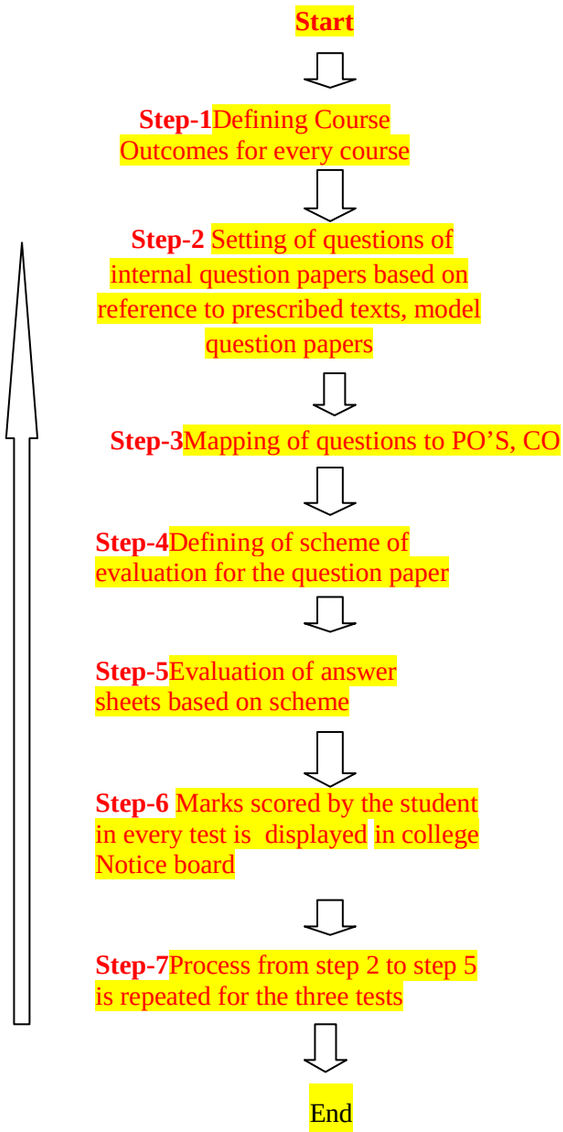
If required training / orientation programmes are conducted by professional experts of NITTTR to master the skills of the faculty members in the nuances of teaching, thus improving the efficiency of teaching-learning process.

2.2.2 Quality of Internal Semester Question Papers, Assignments and Evaluation

(Mention the initiatives, implementation details and Analysis of Learning levels related to quality of Semester question papers, assignments and evaluation)

A .Process for Internal Semester Question Paper setting and evaluation and effective process implementation:

In a semester, there are three tests. Each of the test consists of descriptive questions as well as quizzes. The average of the best two tests is considered for final internal assessment.



Process of Internal Semester Question Paper setting and evaluation

Blooms Taxonomy is followed while setting the internal exam question papers where the following strategy is applied.

The internal test consists of 50% of subjective questions

B. Process to ensure questions from outcomes/learning level perspectives

Each question is mapped with CO's PO's & Blooms taxonomy (BT) levels .Student who answered to particular question is taken into consideration and average of all students marks is taken for CO -PO attainment

C. Evidence of COs Coverage in class test/Mid-term test

Individual student's Answer book is evaluated and question answered by student is mapped with CO's and PO's

D. Quality of assignment and its relevance to CO's

After the completion of every unit assignment questions will be given to students, and student has to write it & submit within a week and each question is mapped with CO's .So the students will be able to understand course outcome of particular subject.

2.2.3. Quality of Experiments (15)

1. The Electrical Engineering Department is well equipped with different laboratories like Electrical circuit lab, Electrical machine lab, Power Electronics lab, Digital Electronics lab and Basic Electronics lab.

2. The Experiments are carried out by concerned subject lecturer with the help of laboratory attendant.

3. The journal is written by students after the experiment was done. The evaluation of Lab. records are done in a continuous evaluation manner.

4. The jobs in Electrical workshop practice like Connection of load circuit, wiring, is changed every year.

5. The Electrical Machine Lab, is well maintained, so that students can perform the experiments without any difficulty and accidents.

6. The maintenance of different machines and equipments are periodically done by lab attendants for better quality of experiments by students.

7.Logbook is maintained by the laboratories throughout the year.

8.The requirements of consumables for laboratory is given before time ,so that practicals will be conducted smoothly.

9.The repair & maintenance related requirement of laboratory is also communicated to Principal, periodically.

2.2.4. Quality of Student Projects and Report writing (25)

1.The student's projects are selected in line with department mission, vision and Program outcomes.

2.Students are provided with brief idea of various fields for selecting the project ideas.

3.The list of previous year projects is displayed at notice board which ensures no repetition of project work and also encourages students to enhance the previous works.

4.The faculties encourage the students to carry out in house projects and support will be provided with all necessary software and hardware.

5.The faculties encourage students to participate in project exhibitions. The project exhibition was aimed to provide common platform to exhibit their innovations and their work towards excellence in latest technology.

6.The faculties encourage students to publish their project work in reputed journals/conferences.

Evaluation scheme for final year Project

*A project coordinator is appointed by the Head of the department who is responsible for planning, scheduling and execution of all the activities related to the student project work.

*New innovative ideas are born for project work Skills or abilities of students improved.

*Knowledge on various aspects of project management were developed Confidence level of the students was boosted.

*Improved teamwork spirit

*Implementation and deployment of the project for social benefits. Document Preparation and presentation.

*More tendencies to showcase their project work in project exhibition were observed.

A. Identification of projects and allocation methodology to Faculty Members. (3)

*Projects are identified to relevant context. The need for the project and the end users of the project are verified for the current context.

* The problem definition with their requirements and constraints are verified.

*The knowledge, methodology, skill set and interest of the students to implement the project are considered to undertake the projects.

*Faculties of higher cadre are allocated as guides to guide the student's project.

*Each project team varies from two to four students.

*Faculty profile should match with the domain of the student's project.

*Students are also given choice to choose their guide that matches their project domain.

B. Types and relevance of the projects and their contribution towards attainment of PO's.

Current academic projects are mapped to POs and PSOs.

Each project is evaluated with internal marks and are graded according to their project quality and with their contribution towards attainment of PO's.

C. Process for monitoring and evaluation.

*Project students should meet their respective guide weekly once and asked to explain their progress they have done in their project in that week.

*They should submit project progress report weekly once and to get approved by the respective guide.

*The project guides will evaluate the report submitted by the students and help them to go with project work.

*Project guide will each assess each student in team and make them work in right way.

*The faculty members of Electrical Engineering Department are responsible for making the regulations for evaluation and for complete evaluation process

*All the faculty members act as respective Guides for group of students as per 5th and 6th semester projects of GTU syllabus.

*The GTU guidelines are followed in evaluation of projects.

Phase – 1

(PROJECT-I) 5th Semester

Sl.No.	Performance Indicator	Marks(PA)
1	Title & Feasibility(Problem Identification)	(20)
2	Abstract & Depth of Knowledge	(20)
3	Presentation and Viva	(20)
ESE=40 (External examination)	PA=60 (Practical marks by (Internal Examination/Guide)	**Total=100**

Phase – 2

(PROJECT-II)6th Semester

Sl.No.	Performance Indicator	Marks(PA)
1	Implementation /Execution	10
2	Results	10
2	Final report	20
4	Overall presentation and Viva	20
ESE=40 (External examination)	PA=60 (Internal Examination/Guide)	**Total=100**

D. Process to assess individual and team performance

*Project progress seminars are conducted once in every month by the team of their respective guide and senior faculty members.

*The project seminar should be given by all the project team members according to the division of project.

*Each student in the project team is assessed to their skill set to deliver the seminar, explain the concept and way to make project assess team to understand their work.

*Each individual and team performance is purely based on this project seminar presentation and the viva voice and progress work they show to their guide.

E. Quality of completed projects/working prototypes

Final project demo for the working prototype and the report are evaluated by a team of their respective guide, and HOD.

The projects are evaluated and are awarded internal assessment marks and are graded according to the project contribution towards attainment of PO's and PSO's.

Best Project Evaluation scheme

- Innovations recognize the need for lifelong learning,
- Contemporary issues, organization of the report,
- Listening to and answering questions,
- Publications and internal and external marks,
- Project exhibition results

2..2.4. Initiatives related to industry interaction

MOU's with Industries

MOU's was done with industries to emphasize on

(a) Internship

(b) Project Workshop for Students

(c) Industrial Visits

(d) Students specific Training

(e) Faculty Development Program

Sl.no	Company Name	Date
1.	Kitech Industries India Ltd.,Rakholi, Dadra & Nagar Haveli-396240	09/06/2015
2.	Raj Petro Specialities Pvt.Ltd,Dadra & Nagar Haveli-396240	15/06/2015

Many invited talks and seminars from industry resource persons are arranged and department invites the participant from various department and also participants from other colleges.

2.2.5 Initiatives related to Industry Internship / summer training

The students are encouraged to take internship program during their semester break. Faculty members give their guidelines, suggestions and scope and contact details of an internship. They also help the students by interacting with the industrial experts, provide the students recommendation letters and other necessary supports. The alumni who are working in the industries and request them to provide necessary guidelines and supports for their junior's internship.

A. Industry training/tours for Students

Industry visits are organised every year in the respective course of studies. As silvassa is having more than 3000 industries ,it is a good experience for students to visit industry.

D. Student Feedback on Initiative

After Each visit we will take student feedback on programme /industrial visit on initiative taken. feedback is considered to do further improvement for the same .

3 COURSE OUTCOMES AND PROGRAM OUTCOMES

3.1. Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs) (20)

Programme Outcomes

List of Program Outcomes

PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO5	**The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO6	. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
PO7	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO8	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO9	**Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. .
PO10	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage inindependent and life-long learning in the broadest context of technological change.

The curriculum for Electrical Engineering is set by Gujarat Technological University. The courses in the curriculum are such that they satisfy all the objectives and outcome defined for the program.

List of PSO's

PSO1: Apply principles of engineering and laboratory skills for testing, operation and maintenance of electrical machines, power and energy systems.

PSO2: Model and analyse, design and realize physical systems, components or processes related to electrical engineering systems.

PSO3: Work professionally in power systems engineering ,Electrical machine and circuit systems.

Correlation between POs PSO's

PO's	PSO1	PSO2	PSO3
PO-1	3		2
PO-2	2		3
PO-3	2		3
PO-4	2	2	3
PO-5		2	3
PO-6		1	
PO-7			
PO-8		2	3
PO-9		2	
PO-10		2	2

3.1.1.Course Outcomes(SAR should include course outcomes of one course from each semester of study ,however, should be prepared for all courses) **(05)**

Note: Number of outcomes for a course is expected to be around 6.

Course	Name of course	Statement (Course outcomes)
C101	Basic Mathematics- (ist semester) Code-3300001	*On completion of this course a successful candidate will* **1.Apply the concepts and principles of mathematics to solve simple engineering problems** 2.Solve simple problems using concepts of Logarithms 3. Solve simultaneous equations using concepts of Determinants and Matrices 4. Solve simple problems using concepts of Trigonometry 5. Solve simple problems using concepts of Vectors 6. Calculate the surface area and volume of different shapes and bodies.
C102	English(1st semester) Code-3300002	*On completion of this course a successful candidate will* 1. Use grammatically correct sentence in day to day communication 2. Use correct pronunciations and intonations. 3. Recapitulate orally the facts or ideas presented by the speaker 4. Speak briefly on a given topic fluently and clearly 5. Face oral examinations and interviews 6. Comprehend the given passages and summarize them.
C103	Environment Conservation & Hazard Management (Code: 3300003)	*On completion of this course a successful candidate will be able to do the following-* The course content should be taught and implemented with the aim to develop different types of skills leading to the achievement of the following competencies. 1.Take care of issues related to environment conservation

		and disaster management while working as diploma engineer. 2. Enhance knowledge about engineering aspects of Environment 3. State the major causes of air, water and noise pollution 4. Explain the concepts of waste management and methods of Recycling. 5. Describe the working of large wind turbines 6. Describe the salient features of solar thermal and PV systems
C104	Engineering Chemistry(Gr-2) Code-3300006	*On completion of this course a successful candidate will* **1.** Explain various properties of material depending upon bond formation 2. Explain the various types of catalysis and catalyst industrial 3. Explain the importance of pH &and its industrial application 4. Explain the different protective measures to prevent the corrosion 5. Justify the need of alternative fuels such as power alcohol and Bio-diesel and hydrogen gas 6. Describe the construction and working of various batteries
C105	Basic of Computer & Information Technology (Code: 3300013)	*On completion of this course a successful candidate will* *1.* Describe computer hardware and software 2. Work with graphics/ clipart 3. Use basic formatting and data entry features 4. Create new presentation and apply basic formatting

		features 5. Use MS - PowerPoint 6. Use MS - Excel
C106	Fundamentals of Mechanical Engineering Code-3300015)	*On completion of this course a successful candidate will* *1.* Identify mechanical related basic components and their uses 2. Describe the type of power transmission being used in electrical engineering 3. Explain different welding and gas cutting operation 4.Explain working of internal combustion engines 5. Describe construction, working and applications of centrifugal and reciprocating pumps 6. Select proper material handling equipment for a given situation
C201	CONTRIBUTOR PERSONALITY DEVELOPMENET Code-1990001	. *On completion of this course a successful candidate will be able to* 1. face life challenges with confidence. 2. grow as a good human being. 3. communicate in a better way . 4.Develop personality .
C202	ADVANCED MATHEMATICS (GROUP-1) Code-3320002	*On completion of this course a successful candidate will be able to:* .Use De Moivre's Theorem to simplify mathematical expressions and to find roots 2. .Solve the problem of function using the concept of Limit 3. Apply the differentiation to Velocity, Acceleration and Maxima & Minima 4. .Apply the Integration for finding Area and Volume 5. Solve Differential Equations using Variable Separable, Homogeneous and Integrating Factor methods

		6.Apply concepts of calculus or suitable mathematical tool to solve given engineering problems.
C203	BASIC OF CIVIL ENGINEERING Code-3320004	*On completion of this course a successful candidate will be able to:* *1.* Use surveying tools and equipments for field survey, leveling and measurements 2. Plan lay out of a simple building 3. Prepare approximate cost estimates 4. Assess the typical requirements of foundations for medium sized electrical and Electrical Machines. 5. Understand given contour map 6. Test given construction materials for quality control
C204	BASIC PHYSICS (GROUP-2) Code-3300005	*On completion of this course a successful candidate will be able to* i. Select proper measuring instrument on the basis of range, least count & precision required for measurement. ii. Analyze properties of material & their use for the selection of material mostly applicable for engineering users.. iii. Identify good & bad conductors of heat and proper temperature scale for temperature measurement iv. Identify, analyze, discriminate and interpret logical sequence of field problems with the study of physics. v. Analyze variation of sound intensity with respect to distance. vi. Follow the principles used in the physical properties, its measurement and selections.
C205	BASIC ENGINEERING DRAWING	*On completion of this course a successful candidate will be able to:* *1.* Use drawing equipments, instruments and materials

	Code-3300007	effectively. 2. Choose appropriate scale factor for the drawing as per given situation 3. Choose appropriate line and dimensioning style for a given geometrical entity. 4. Develop the ability to draw polygons, circles and lines with different geometric conditions 5. Able to draw engineering curves with proficiency and speed as per given dimensions. 6. Draw the projection of points, lines and planes with different conditions
C206	D.C.CIRCUITS Code-3320903	*On completion of this course a successful candidate will* 1. Identify the commonly used materials and components used in electrical engineering 2. Calculate voltage and current in the given resistive circuits using KCL and KVL 3. Use Superposition Theorem to calculate the current in any branch of the circuit. 4. Determine the maximum current in the load of the circuit using the Maximum Power Transfer Theorem 5. Classify types of electrical circuits 6. State and apply Faraday's law, Lenz's law, Fleming's right hand rule, Fleming's left hand rule
C207	ELECTRICAL ENGINEERING WORKSHOP PRACTICE Code-3320902	*On completion of this course a successful candidate will* 1. Use various electrical tools and measuring instruments. 2. Select different types of wires, cables, light sources and switches. 3. Select/identify different types of resistors.

		4. Select /identify different types of capacitors. 5. Undertaking pipe earthing. 6..Connect basic electrical instruments and devices.
C301	A.C.Circuits Code-3330901	*On completion of this course a successful candidate will* *1.* Explain generation of alternating EMF. 2. .Solve numerical based on AC fundamentals 3. .Solve numerical based on AC series circuits and series resonance. 4. Solve numerical based on AC parallel circuit and parallel resonance 5. .Distinguish between line and phase voltage, line and phase currents in 3- phase AC circuits 6. Explain the concept of active power, reactive power and power factor with power triangle
C302	D.C.Machines and Transfer Code-3330902	*On completion of this course a successful candidate will be able to-* *1.* State the conditions for EMF production 2. Describe function of different parts of DC machine with sketches 3. Calculate losses and efficiency. 4. Explain working of DC motor starter 5. State the need of Brake test, Swinburne's test and field test. 6. Solve numerical problems with respect to the performance and maintenance of single phase transformer.
C303	Electrical Instrumentation Code-3330903	*On completion of this course a successful candidate will be able to-* i.Maintain different types of electrical instrumentation

		systems and transducers. ii..Differentiate between direct and indirect measurement .iii. Explain the working of the DC potentiometer iv. List the common errors in various electroElectricalmeasuring instruments. v. .State the procedure to calibrate various electrical instruments
C304	Electrical Power Generation Code-3330904	*On completion of this course a student will be able to* 1 . Explain thermal energy conversion process with block diagrams 2. Describe the working of thermal power station (TPS) Using single line diagram 3. Explain hydro energy conversion process with block diagrams 4. Explain the working of Nuclear power station 5. Explain principle of solar photovoltaic (PV)systems 6. . Differentiate the construction of a geared, direct drive and hybrid (semigeared large wind power plants (WPPs)
C305	Electronics components and circuits Code-3330905	*On completion of this course a student will be able to* 1. Differentiate the working of half and full wave bridge rectifier along with sketches 2. Differentiate between C, L, LC and π filters 3. Compare the working of CB, CE and CC transistors. 3. Explain the working of different types of oscillators with relevant sketches 4. Describe working of the FET, MOSFET, DIAC ,UJT, TRIAC and SCR 5. Select OPAMP IC 741 for a particular application 6. Justify the need of regulated DC power supply

C401	Polyphase Transfers and Rotating AC Machines Code-3340901	*On completion of this course a student will be able to* 1.Justify the advantage of using 3- phase transformer over a bank of 3 single phase transformers 2. Differentiate between squirrel cage and wound rotor induction motor with their salient features 3. . Explain the working principle of an alternator 4. Differentiate the features between the synchronous and induction motor 5. State the maintenance requirements of the single phase induction motor 6. Describe the working principle of different types of single phase motors
C402	Transmission and Distribution of Electrical Power Code-3340902	*On completion of this course a student will be able to* *1.* State the features of different transmission systems. 2. Discriminate between skin effect, proximity effect, Ferranti effect and corona 3. State the features of HVAC transmission 4. Describe the measures to be adapted to take of the distributed generation in the distribution system 5. Sketch the elevation layout of a typical 11/33/66/110 kV electrical substation with various switchgear and typical spacing between them and the ground level as well. 6. State the features of unarmored and armored cables
C403	Utilization of Electrical Energy Code-3340903	*On completion of this course a student will be able to* 1 Describe the working and applications of the various lamps and fittings in use. 2. Explain the requirements of heating element materials 3. Explain the principle of arc Heating

		4. . Explain function of major parts of an electric drive with block diagrams 5. State the salient features of the latest Lift and elevator Act 6. Explain the concept of Electric Traction and the ideal conditions 7. State the energy conservation measures adopted in using various domestic gadgets.
C404	Digital Electronics and Digital Instruments Code-3340904	*On completion of this course a student will be able to* 1 . Explain various types of binary codes and its applications. 2. Use of Diode as Wave shaping circuit with the output waveforms of the clipper circui 3. .Apply laws of Boolean algebra 4. .Describe the working of 3 to 8 decoder and BCD to Seven segment decoder 5. Explain the working of various Flip Flops with the help of truth table. 6. Explain the working of various Digital instruments
C405	Computer aided Electrical Drawing and Simulation Code-3340905	*On completion of this course a student will be able to* 1 Draw various electrical circuits using CAD software. 2. Draw various electronics circuits using Auto CAD electrical and Electronics software. 3. Build, Simulate and test simple electric circuits. 4. .Build, Simulate and test simple electronic circuits 5. Design PCB using computer software
C501	Wiring Estimating,costing & Contracting	*On completion of this course a student will have* 1. i. Prepare an estimate of quantity and cost of the material for a electrical project following IE Act-2003.

	Code-3350901	ii. Prepare detail estimate and costing of Residential and commercial Electrical Installations following IE Act-2003. iii. Test Residential, commercial and Industrial Electrical Installation following IE Act- 2003. iv. Prepare detail estimate and costing of a transmission line/Overhead and underground distribution project following IE Act-2003. v. Prepare estimates for repairs and maintenance of electrical devices and equipment.
C502	Energy conservation & Audit Code-3350902	*On completion of this course a student will have* i. Identify the demand supply gap of energy in Indian scenario. ii. Carry out energy audit of an industry/Organization. iii. Draw the energy flow diagram of an industry and identify the energy wasted or a waste stream. iv. Select appropriate energy conservation method to reduce the wastage of energy v. Evaluate the techno economic feasibility of the energy conservation technique adopted
C503	Power Electronics Code-3350903)	*On completion of this course a student will have* i. Use power semiconductor devices in different applications. ii. Maintain SCR Protection and Commutating Circuits. iii. Troubleshoot chopper circuits. iv. Maintain inverters and cyclo-converter circuits. v. Maintain power electronic circuits used in various domestic and industrial applications.
C504	MicroProcessor and	*On completion of this course a student will have*

	Controller Applications Code-3350904	. i. Distinguish Micro processors, microcontrollers and PLC based control systems. ii. Maintain microprocessor-based systems. iii. Maintain microcontroller-based systems. iv. Maintain PLC-based systems. v. Maintain SCADA-based systems.
C505	Project-I Code-3350908	*On completion of this course a student will have* 1.Identify problem definition 2.Can do IDP(Industry defined Project) 3.Can do UDP(User defined project) 4.Perform market survey for raw materials to be used for project work. 5.Maintain log book of work assignment/performed. 6.Work as a team for a specific goal
C506	ELECTRIC TRACTION AND CONTROL	*On completion of this course a student will have* i. Distinguish different traction systems and latest trends in traction systems. ii. Differentiate services of traction system based on speed time curve. iii. Control different types of traction motors iv. Use various traction system auxiliaries. v. Explain the distribution system of a traction system.
C601	Switch Gear &Protection Code-3360901/2360901	*On completion of this course a student will be able to:* i. Identify various types of faults in Power system ii. Explain working of different types of circuit breakers in power system. iii. Explain working of different types of relays in power system. iv. Maintain the protection of transmission line and

		feeder from various faults v. Protect transformer, alternator, motor and bus bar vi. Protect power system against over voltages
C602	Installation, Commisioning and Maintenance Code-3360902	*On completion of this course a student will have* i. Unload the electrical equipments/machines based on scientific procedure ii. Commission various electrical equipment/machines iii. Prepare maintenance schedule of different equipment and machines iv. Prepare trouble shooting chart for various electrical equipment, machines and domestic appliances v. Carry out different types of earthing vi. Apply electrical safety regulations and rules during maintenance.
C604	Maintenance of Transformer and Circuit Breaker (course code: 3360907)	*On completion of this course a student will have able to:* i. Undertake /apply preventive maintenance ii. Maintain power and distribution transformers. iii. Commission different types of transformers iv. Maintain different types of circuit breakers
C605	ELECTRIFICATION OF BUILDING COMPLEXES (COURSE CODE: 3360908)	*On completion of this course* i. Interpret plan and wiring diagrams of electrification of buildings and complexes. ii. Calculate the average and peak power requirement of building complexes. iii. Test a given wiring installation of a building and prepare test report. iv. Test wiring installation of a multistoried building and commercial complexes. v. Estimate the materials and cost of electrification for different buildings. vi. Test the safety devices in a multistoried building and commercial complexes.

C606	PROJECT - II (COURSE CODE: 3360909)	*On completion of this course student will be able to:* 1. Plan, use, monitor and control resources optimally and economically. 2. Identify the problem and apply innovative, creative and logical approach for problem solving.

3.1.2 CO-PO Matrices of courses selected in 3.1.1(six matrices to be mentioned; one per semester from 1st to 6th semester)(5)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C101	√	√							√	√
C203	√	√	√	√	√	√	√	√		√
C302	√	√	√	√	√	√	√	√		
C401	√	√	√	√	√	√	√	√		
C504	√	√	√	√	√	√	√	√	√	
C606	√	√	√	√	√	√	√	√	√	√

3.1.3.Program level Course-PO matrix of all courses INCLUDING first year courses(10)

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C101	√	√							√	√
C102	√	√					√		√	√
C103	√	√	√	√	√	√	√	√		
C104	√	√			√	√				√
C105	√	√	√	√				√		
C106	√	√	√	√	√	√	√	√		
C201	√	√			√	√	√	√	√	√
C202	√	√					√		√	√
C203	√	√		√	√	√	√	√		√
C204	√	√			√		√			√
C205	√	√	√	√						
C206	√	√	√	√	√		√	√		
C207	√	√		√						√
C301	√	√	√	√	√		√	√		
C302	√	√	√	√	√	√		√		√
C303	√	√	√	√	√	√		√		√
C304	√	√	√	√	√	√	√	√	√	√
C305	√	√	√	√	√		√			√
C401	√	√	√	√	√	√		√		√
C402	√	√	√	√	√	√	√	√		
C403	√	√	√	√	√	√	√	√		
C404	√	√	√	√	√					
C405	√	√	√	√	√	√		√		
C501	√	√	√	√	√	√		√		
C502	√	√	√	√		√	√	√	√	√
C503	√	√	√	√	√					
C504	√	√	√		√	√	√	√		
C505	√	√	√	√	√	√	√	√	√	√
C506	√	√	√	√			√	√		√
C601	√	√		√	√	√				√

C602	√	√	√	√		√		√	√	√
C603	√	√	√	√	√	√	√		√	√
C604	√	√	√	√	√	√		√	√	
C605	√	√	√	√	√	√		√		
C606	√	√	√	√	√	√	√	√	√	√

Course	PSO1	PSO2	PSO3
C101	√	√	√
C102		√	
C103		√	√
C104	√	√	
C105		√	
C106	√	√	
C201	√	√	
C202	√	√	√
C203		√	√
C204	√	√	√
C205	√	√	√
C206		√	√
C207	√	√	
C301	√	√	√
C302	√	√	√
C303	√	√	
C304	√	√	√
C305		√	√
C401	√	√	√
C402	√	√	√
C403	√	√	√
C404	√	√	√
C405	√	√	√
C501	√	√	√
C502	√	√	√
C503	√	√	
C504		√	
C505		√	√
C506		√	√
C601	√	√	√
C602	√	√	√
C603		√	√
C604	√	√	√
C605	√	√	√
C606	√	√	√

3.2Attainment of Course outcomes (40)

3.2.1 Describe the assessment processes used to gather the data upon which the evaluation of course outcome is based **(10)**

Assessment Tools

Direct Assessments

* Semester End Exams(SEE) conducted by GTU and evaluated by GTU

. * As the information on performance in SEE on each student in individual COs is not available, the Institution/Department has to take that attainment(%marks/CGPA) for all COs of the course is the same

*Continuous Internal Evaluation(CIE)

*The proportional weightage of CIE:SEE is 30:70

*The number of assessment instruments used for CIE is decided by the instructor and/or Department and sometimes by GTU.

*Project/Project Reports

*Lab Records

Indirect Assessments

*Instructor evaluation Reports

*Department performance Reports

*Employers survey

3.2.2 Record the attainment of course outcomes of all courses with respect to set attainment levels **(30)**

S: Set level A:attainment level

Note: Programs may decide their weightages for University exams and Internal assessment with due justification.

Course code	Semester	Course Name	CO attainment level					
			CAY(2016)		CAY(2015)		CAY(2014)	
			S	A	S	A	S	A
C-105	1	BCIT	60%	96.33	60%	97.44	60%	94.44
C-206	2	Electrical Engg.Workshop Practice	60%	100	60%	100	60%	100
C-304	3	Electrical Power Generation	60%	51.72	60%	31.81	60%	39.68
C-403	4	Utilisation of Electrical Energy	60%	41.18	60%	41.18	60%	94.44
C-501	5	Wiring ,Estimating ,costing & contracting	60%	78.57	60%	62.50	60%	90.90
C-601	6	Switch Gear protection	60%	88.46	60%	40.63	60%	100

3.3 **Attainment of Program outcomes & Program Specific outcomes (40)**

3.3.1.Describe assessment tools and processes used for assessing the attainment of each POs and PSOs as mentioned in Annexure1**(10)**

*The students expected to be reasonably proficient with each of the program outcomes

*The achievement of program outcomes are assessed with the help of course outcomes of the

relevant courses through different methods.

*The final grading is based on mid-semester and final-semester and internal assessment.

*The results are documented and maintained by the G.T.U.(University) for all its affiliated Institutes.

*The results are displayed on GTU website so that the students and their parents have an easy and all time access to the progress of students.

Assessment			
Direct Assessment		**Indirect Assessment**	
Theory	Term work	Parents	Recent pass out students,Alumnies
Oral	Practical	industry	Current students
SEMESTER END	SEMESTER MID, SEMESTER END	ONCE IN A YEAR	

3.3.2.Provide results of evaluation of each POs & PSOs **(30)**

Sem	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PSO 1	PSO 2	PSO 3
Ist	C101	2	2							1	2	2	2	2
	C102	1	1					1		3	2		3	
	C103	2	2	2	2	2	2	2	2				2	2
	C104	2	2			2	2				1	2	2	
	C105	2	2	2	2				2				2	
	C106	2	2	2	2	2	2	2	2			2	3	
IInd	C201	1	1			1	1	2		3	2	2	2	
	C202	2	2					2		2	2	2	3	2
	C203	2	2		1	1	1	2	1		2		2	2
	C204	2	2			2		1	2		2	2	2	2
	C205	2	2	2	2							2	2	2
	C206	2	2	3	2	2		2	2				2	2
	C207	2	2		2						2	2	2	
IIIrd	C301	2	2	3	3	2		2	2			3	2	2
	C302	2	2	2	3	2			2		2	2	2	3
	C303	2	2	3	2	2	3		2		2	2	2	
	C304	3	3	2	2	2	2	2	2	2	3	2	2	2
	C305	2	2	3	2		2			2			2	2
IV th	C401	2	2	2	2	3	2		2		2	3	2	2
	C402	3	3	2	2	2	2	2	2			2	2	3
	C403	3	3	2	3	3	2	2	2			2	2	2
	C404	2	2	3	3	2						2	2	2
	C405	2	3	2	2	2		2				2	2	2
Vth	C501	2	2	3	2	2	2		2			3	2	2
	C502	2	2	3	2		2	2	2	2	2	2	2	2
	C503	2	2	2	2	2						1	2	
	C504	2	2	2		2	2	2	2				2	
	C505	3	3	3	3	3	3	3	3	3	3		2	2
	C506	2	2	2	2			2	2		2		2	2
VIth	C601	2	2		2	2	2				2	2	2	2
	C602	2	2	2	2		2		2	2	2	2	3	2
	C603	2	2	2	2	2	2	2		2	3		2	2
	C604	2	2	2	3	2	2		2	2		2	2	2

	C605	2	2	3	2	2	2		2			2	2	2
	C606	3	3	3	3	3	3	3	3	3	3	2	2	2
Direct attainment		73/35 30=2.08	74/35=2.11	60/26 =2.30	60/28 =2.14	52/25 =2.08	43/21 =2.047	38/19=2.0	45/22 =2.045	27/12=2.25	41/19 =2.15	52/25=2.0	74/35=2.11	54/26=2.07
Indirect Attainment		2	2	2	2	2	2	2	2	2	2	2	2	2
Total Attainment score= 80% of Direct attainment + 20% of Indirect Attainment		2.04	2.088	2.24	2.11	2.064	2.037	2.0	2.036	2.2	2.12	2.0	2.08	2.056

Criterion4	Students performance	200

Intake Information

Item	CAY(2016)	CAYm1(2015)	CAY m2(2014)
Sanctioned intake strength of the program(N)	90	90	90
Total number of students ,admitted through state level councelling(N1)	-----	-----	----
Number of students ,admitted through Institute level quota(N2)	82	75	78
Number of students ,admitted through lateral entry(N3)	----	-----	----
Total number of students admitted in the program (N1+N2+N3)	82	75	78

Year of Entry	N1+N2+N3 (As defined above)	Number of students who have successfully passed without backlogs in any year of study		
GTU Summer exam		I Year(2nd sem) (passed/appeared)	II Year(4th sem) (passed/appeared)	IIIYear(6th sem) (passed/appeared)
CAY(2016)	82	**11**/69	**14**/51	**22**/26
CAY m1(2015)	75	**07**/72	**08**/45	**12**/32
CAYm2(LYB)*(2014)	78	**13**/73	**15**/27	**15**/36
CAY(LYBm1)(2013)	88	Data not available	Data not available	Data not available
CAY (LYBm2)(2012)	87	Data not available	Data not available	Data not available

Year of Entry	N1+N2+N3 (As defined above)	Number of students who have successfully passed (Students having backlogs in stipulated period of study)		
GTU Summer exam		I Year	II Year	IIIYear
CAY(2016)	82	61	38	10
CAY m1(2015)	75	55	42	22
CAYm2(LYB)*(2014)	78	58	21	11
CAY(LYB m1)	88	Data not available	Data not available	Data not available
CAY (LYBm2)	87	Data not available	Data not available	Data not available

4.1 Enrolment Ratio **(20)**

Enrolment ratio=N1+N2/N

Sl.No.	2016-17	2015-16	2014-15
Enrolment Ratio	0.91	0.83	0.86

Item Students enrolled at the first year level on average basis during the period of assesment	Marks
>=90% students	20
>=80% students	18
>=70% of students	16
>=60% of students	12
>=50%students	08
<50% students	0

4.2 Success rate in stipulated period of the program

4.2.1 success rate without backlogs in any year of study (40)

SI=(Number of students who have passed from the program without backlog)/(Number of students admitted in the first year of that batch and admitted in 2nd year of lateral entry)

Average SI=Mean of success Index (SI)for past three batches

Success rate without backlogs in any year of study =40xAverage SI

Item	Latest passed batch(2016) admitted in 2013	Latest passed batch minus 1 Batch(2015) admitted in 2012	Latest passed batch minus 2 Batch(2014) admitted in 2011
Total number of students (admitted through state level councelling+admitted through Institute level quota+admitted throughlateral entry) N1+N2+N3	88	87	60
Number of students who have passed without backlogs in the stipulated period	27	11	24
Success Index(SI)	27/88=0.3068	11/87=0.1264	24/60=0.40
Average SI	0.2777		

Success rate=40x0.2777=11.108

4.2.2 Success rate with backlog in stipulated period of study (20)

SI=(Number of students who have passed from the program without backlog)/(Number of students admitted in the first year of that batch and admitted in 2nd year of lateral entry)

Average SI=Mean of success Index (SI)for past three batches

Success rate =20xAverage SI

Item	Latest passed batch(2016) admitted in 2013	Latest passed batch minus 1 Batch(2015) admitted in 2012	Latest passed batch minus 2 Batch(2014) admitted in 2011
Total number of students (admitted through state level councelling+admitted through Institute level quota+admitted throughlateral entry) N1+N2+N3	88	87	60
Number of students who have passed with backlogs in the stipulated period	10	22	11

Success Index(SI)	10/88=0.1136	22/87=0.2528	11/60=0.1833
Average SI	0.1832		

Success rate =20xAverage SI=20x0.1832=3.6646

Note: If 100% students clear without any backlog then also total marks scored will be 60 as both 4.2.1 and 4.22. will be applicable simultaneously.

4.3Academic Performance in final year (15)

Academic performance level=1.5xAverage API (academic performance index)

API=(Mean of final year Grade point average of all successful students on a 10 point scale) x(successful students /number of students appeared in the examination)

Successful students are those who passed in all the final year courses

Academic performance	CAY(2016-17)	CAYm1(2015-16)	CAY m2(2014-15)
Mean of CGPA or Mean percentage of all successful students(x)	7.105	7.15	7.686
Total number of successful students(y)	22	12	15
Total number of students appeared in the examination(z)	26	32	27
API=x*(y/z)	AP1=6.0119	AP2=2.681	AP3=4.270
Average API=(AP1+AP2+AP3) /3	4.3209		

Academic Performance level=1.5 x Average API=1.5x4.3209=**6.48135**

4.4 Academic performance in second year (20)

Academic performance level=2.0*Average API

API=(Mean of second year Grade point average of all successful students in second year /10)x(successful students /number of students appeared in the examination)

Successful students are those who are permitted to proceed to the second year

(**As per GTU(University) academic norms the student having total 04 backlogs after 4th sem. exam(2nd year) will be promoted to 5th semester(3rd year). Therefore total successful students are mentioned as per the total=04 backlogs after 4th semester(2nd year) exam.*)

Academic performance	CAY(2016-17)	CAYm1(2015-16)	CAY m2(2014-15)
Mean of CGPA or Mean percentage of all successful students(x)	7.0	7.0	7.0
Total number of	42	24	33

successful students(y)			
Total number of students appeared in the examination(z)	51	45	36
API=x*(y/z)	AP1=7.0x (42/51) =5.764	AP2=7.0x (24/45) =3.733	AP3=7.0 x (33/36) =6.416
Average API=(AP1+AP2+AP3) /3	5.304		

***As CGPA data of students other than pass outs in final semester(year) are not provided by GTU as a consolidated list, approximately 7.0 CGPA is considered for calculation for **2nd year** from the average CGPA of data of final year pass out students of last 03 years,i.e.,2016,2015,2014*

Academic Performance level=2.0 x Average API=2.0x5.304=**10.608**

4.5 Academic performance in **First year**

Academic performance level=2.0*Average API

API=(Mean of second year Grade point average of all successful students in first year /10)x(successful students /number of students appeared in the examination)

Successful students are those who are permitted to proceed to the second year

(*As per GTU (University) academic norms the student having total 04 backlogs after 2nd sem. exam(1st year) will be promoted to 3rd semester(2nd year). Therefore total successful students are mentioned as per the total (04 backlogs) after 2nd semester(1st year) exam.)

Academic performance	**CAY(2016-17)**	**CAYm1(2015-16)**	**CAY m2(2014-15)**
Mean of CGPA or Mean percentage of all all successful students(x)	7.0	7.0	7.0
Total number of successful students(y)	11(58)	07(66)	04(63)
Total number of students appeared in the examination(z)	69	72	76
API=x*(y/z)	AP1=7.0 x (58/69) =5.884	AP2= 7.0 x (66/72) =6.4166	AP3= 7.0 x(63/76) =5.8026
Average API=(AP1+AP2+AP3) /3	6.0344		

As CGPA data of students other than pass outs are not provided by GTU as a consolidated list, approximately 7.0 CGPA is considered for calculation for **2nd year from the average CGPA of data of final year pass out students of last 03 years,i.e.,2016,2015,2014

Academic Performance level=2.0 x Average API=2.0x6.0344=**12.0688**

4.6 Placement and Higher Studies (40)

Assessment points =40X(1.25X +Y)/N where, X=Number of students placed in companies or Government sector through on/off campius recruitment

Y=Number of students admitted to higher studies

N= Number of final year students

Item	**Latest passed batch(2016-17)**	**Latest passed batch minus 1(2015-16)**	**Latest passed batch minus 2(2014-15)**
Total no. of final year students(passed)	**27=(22+05)**	**11**	**24**
No. of students placed in companies or Govt.Sector(X)	**13**	---	--
No. of students admitted to higher studies(Y)	**09**	---	---
1.25X + Y	**25.25**	--	--
Placement index(1.25X + Y/N)	25.25/27=**0.9351**	--	---
T=Average of (1.25X + Y)/N	**0.9351**(as data of CAYm1,CAYm2 is not available)	---	---
Assessment=40x T(To be limited to 40)	**40*0.9351=37.40**	----	---

4.7 Professional activities (20)

4.7.1 Professional societies/student chapters and organising technical events (15)

The institution has became member of AMIE(Associate member of Institution of Engineers) in 2016.The institute organises Project Melas from 2016 ,where Electrical Engineering final year projects have been displayed for the public and Industry.

4.7.2Publication of technical magazines, News letters, etc.(05)

No such activity done yet at the Institution level.

CRITERION 5	**Faculty Information and Contributions**	**150**

Faculty Information: CAY 2016-17

Name of the Faculty Member	Qualification,Board and year of Graduation	Designation of Teaching & Date of joining the Institution	Distribution of Teaching load(%)			Academic Research		Years of Experience
			I year	II year	III year	Research paper publications	Faculty receiving M.Tech/Ph.D. during the assesment year	
Shri S.Mishra	M.Tech.(Elect.Engg.)-2007-NIT,Jaipur,	Lecturer in Electrical Engg. D.O.J.:08.03.2000	---	40	60	-----	------	24 years(Teaching)
Shri A.K. Swain	M.E.(Elect.Engg..)NITTTR,Chandigarh-2017	Lecturer in Electrical Engg. D.O.J.:11/07/2002	---	40	60	-----	M.E.(Electrical Engg.)from NITTTR	20 years(Teaching)
Smt. M.G. Desai	B.E.(Electronics Engg.)-Pune Univerity-1993	Lecturer in Electronics D.O.J.:01/03/2000	--	50	50	------	--------	21 years(Teaching)
Smt.C.N.Desai	B.E.(Electrical.Engg.) Gujarat Universty-1994	Lecturer in Electrical Engg. D.O.J.:10/01/2001	20	40	40	-------	--------	21 years(Teaching)
Shri S.Chennappa	M.Tech.(Computer Engg.)-NITTTR,Chandigarh-2017	Lecturer in Computer Engg. D.O.J.:25/03/2000	30	30	40	---	M.E. in Computer Engg. from NITTTR, Chandigarh	18 years(Teaching)
Shri J.K.Rohit	B.E.(Electrical Engg.)-Gujarat Univ.-2004	Lecturer in Electrical Engg. D.O.J.:	40	20	40	-----	-------	09 years(Teaching) 03

		03/09/2007						years(industry)
Smt. K.R.Jadeja	B.E.(Electrical.Engg.)-South Guar univ.-2001	Lecturer in Electrical Engg. D.O.J.: 03/09/2007	30	50	20	------	--------	09-years(Teaching) 05 years-(Industry)
Dr.J.B.Rana	Ph.D(Chemistry)-South Gujarat University-1993	Lecturer in Chemistry D.O.J.: 01/03/2000	50	--	---	02	---	23 years(Teaching)
Shri D.N.Shinde	M.Sc.(Maths)-Pune University-1989	Lecturer in Chemistry D.O.J.: 01/03/2000	30	--	--	---	----	27 years(Teaching)
Shri A.D.Desai	M.Sc.(Physics)-Gujarat Univesity-1993	Lecturer in Physics D.O.J.: 22/08/1994 &18/12/2003(2 years break in betwwen)	20	---	---	----	---	22 years(Teaching)
Shri S. Chouhan	M.A.(English)-Pune University-2011	Lecturer in English D.O.J.: 26/02/2015	20	---	---	-----	----	05 years(Teaching)
Shri Deepen Patel	B.E.(Mech.Engg.)-2006-Dr.Babasaheb Ambedkar Marathwada Univ, Maharastra	Lecturer in English D.O.J.: 16/01/2014	10	--	---	---	----	05 years(Teaching)
Shri M.Billiwal	B.E.(Civil Engg.)-Sardar Patel Univ.,Gujarat-2012	Lecturer in ElectricalEngg. D.O.J.:16/01/2012	10	---	--	---	---	05 years(Teaching)
Shri Sohit Mecwan	B.E.(computer Engg.)-Vir Narmade	Lecturer in Computer	20	----	----	---	-----	09 Years

	South Gujarat Univ.-2004	Engg. D.O.J.: 13/06/2005						

Faculty Information: CAY m1 2015-16

Name of the Faculty Member	Qualification, Board and year of Graduation	Designation of Teaching &joining the Institution	Distribution of Teaching load(%)			Academic Research		Years of Experience
			I year	II year	III year	Research paper publications	Faculty receiving M.Tech/Ph.D.during the assesment year	
Shri S.Mishra	M.Tech.(Elect.Engg.)-2007 B.E.(Elect.Engg.)-1992-U.C.E.,Sambalpur Univ.	Lecturer in Electrical Engg. D.O.J.:08.03.2000	20	40	40	------	-------	23 years(Teaching)
Shri A.K.Swain	M.E.(Elect.Engg..)NITTTR,Chandigarh-2017 B.E.(Elect. Engg.)NIT, Rourkela-1990	Lecturer in Electrical Engg. D.O.J.:11/07/2002	20	40	40	----	--------	19years(Teaching)
Smt. M.G.Desai	B.E.(Electronics Engg.)	Lecturer in Electronics D.O.J.:01/03/2000	---	50	50	------	--------	20 years(Teaching)
Smt.C.N.Desai	B.E.(Electrical.Engg.) Gujarat Universty-1994	Lecturer in Electrical Engg. D.O.J.:10/01/2001	20	40	40	------	-------	20 years(Teaching)
Shri S.Channappa	M.Tech.(Computer Engg.),B.E.(Computer	Lecturer in Computer Engg. D.O.J.:25/0	10	---	---	---	01	17 years(Teaching)

	Engg.)	3/2000						
Shri J.K.Rohit	B.E.(Electrical Engg.)	Lecturer in Electrical Engg. D.O.J.:03/09/2007	40	20	40	------	--------	08 years(Teaching), 03 years (Industry)
Smt. K.R.Jadeja	B.E.(Electrical.Engg.)	Lecturer in Electrical Engg. D.O.J.: 03/09 /2007	30	40	30	-----	--------	08- years(Teaching) 05 years- (Industry)
Dr.J.B. Rana	Ph.D(Chemistry)-South Gujarat University-1993	Lecturer in Chemistry D.O.J.: 01/03/2000	50	---	---	----	---	22 years(Teaching)
Shri D.N.Shinde	M.Sc.(Maths)-Pune University-1989	Lecturer in Chemistry D.O.J.: 08/05/2001	20	---	---	---	---	26years(Teaching)
Shri A.D. Desai	M.Sc.(Physics)-Gujarat University-1993	Lecturer in Physics D.O.J.: 01/07/1994	20	---	----	---	---	21 years(Teaching)
Shri S.M. Chouhan	M.A.(English)	Lecturer in English D.O.J.: 26/02/2015	20	---	----	--	---	04 years(Teaching)
Shri Dipen Patel(on Short term contract)	B.E.(Mech.Engg.)-2006-Dr.Babasaheb Ambedkar Marathwada Univ, Maharastra	Lecturer in Mechanical Engg. D.O.J.:16/01/2012	30	40	30	----	----	04 years(Teaching)
Shri M.Billiwal	B.E.(Civil Engg.)	Lecturer in ElectricalEngg. D.O.J.: 16/01/2012	10	---	---	---	----	03 yrs 08 months(Teaching)
Shri	B.E.(comput	Lecturer in	10	----	----	---	-----	08

Sohit Mecwan	er Engg.)-Vir Narmade South Gujarat Univ.-2004	Computer Engg. D.O.J.: 13/06/2005						Years

Faculty Information: CAY m2 2014-15

Name of the Faculty Member	Qualification,Board and year of Graduation	Designation and date of joining the Institution	Distribution of Teaching load(%)			Academic Research		Years of Experience
			I year	II year	III year	Research paper publications	Faculty receiving M.Tech/Ph.D during the assesment year	
Shri S.Mishra	M.Tech.(Elect.Engg.)-2007 B.E.(Elect.Engg.)-1992-U.C.E.,Sambalpur Univ.	Lecturer in Electrical Engg. D.O.J.:08.03.2000	20	40	40	------	-----	22 years(Teaching)
Shri A.K.Swain	M.E.(Elect.Engg..)NITTTR,Chandigarh-2017	Lecturer in Electrical Engg. D.O.J.:11/07/2002	20	40	40	----	------	18 years(Teaching)
Smt. M.G.Desai	B.E.(Electronics Engg.)-	Lecturer in Electronics D.O.J.:01/03/2000	--	50	50	-------	------	19 years(Teaching)
Smt.C.N.Desai	B.E.(Electrical.Engg.)-Gujarat Universty-1994	Lecturer in Electrical Engg. D.O.J.:10/01/2001	20	40	40	------	-----	19 years(Teaching)
Shri S.Channappa	M.Tech.(Computer Engg.)-NITTTR,Chandigarh,PUNJAB-2017	Lecturer in Computer Engg. D.O.J.:25/03/2000	30	30	40	---	------	16years(Teaching)
Shri J.K.Rohit	B.E.(Electrical Engg.)	Lecturer in Electrical Engg. D.O.J.:03/09 /2007	40	20	40	----	------	07 Years (Teaching) 03years(Industry)
Smt. K.R.Jadeja	B.E.(Electrical.Engg.)	Lecturer in Electrical Engg. D.O.J.:03/09 /2007	30	40	30	------	------	07 years(Teaching), 05 years(Industry)
Dr.J.B.Rana	Ph.D(Chemistry)-South Gujarat University-	Lecturer in Chemistry D.O.J.: 01/03/2000	50	---	---	----	------	21 years(Teaching)

	1993							
Shri D.N.Shinde	M.Sc.(Maths)-Pune University-1989	Lecturer in Mathematics D.O.J.: 08/05/2001	20	---	---	---	----	25 years(Teaching)
Shri A.D. Desai	M.Sc.(Physics)-Gujarat University-1993	Lecturer in Physics D.O.J.: 01/07/1994	20	---	----	---	----	21 years(Teaching)
Shri S. Chouhan	M.A.(English)-Pune University-2012	Lecturer in English D.O.J.: 26/02/2015	20	---	----	----	---	03 years(Teaching)
Shri Deepen Patel	B.E.(Mech.Engg.) B.E.(Mech.Engg.)-2006-Dr.Babasaheb Ambedkar Marathwada Univ, Maharastra	Lecturer in English D.O.J.: 16/01/2012	10	---	---	----	---	03 years(Teching)
Shri M.Billiwal	B.E.(Civil Engg.)-Sardar Patel Univ.-2012	Lecturer in Civil Engg. D.O.J.:16/01/2012	10	---	---	--	---	02 yrs 08 months(Teaching)
Shri Sohit Mecwan	B.E.(computer Engg.)-Vir Narmade South Gujarat Univ.-2004	Lecturer in Computer Engg. D.O.J.:13/06/2004	10 %	----	----	---	-----	07Years

5.1 Student faculty ratio (SFR)(15)+ Availability of HoD(5); (20)

S.F.Ratio=N/F;F=No. of Faculty=a+b-c) for every assessment year

a=Total no. of fulltime regular faculty serving fully to all years of his program

b=Total no. of full-time equivalent regular faculty (considering fractional load) serving this program from other programs

c=Total no. of fulltime equivalent regular faculty (considering fractional load) of this program serving other programs

Year	N	F(a+b-c)	SFR=N/F
CAY(2016-17)	90+2x90=270	(07+07-02)=12	22.5
CAYm1(2015-16)	90+2x90=270	(07+07-02)=12	22.5
CAYm2(2014-15)	90+2x90=270	(07+07-02)=12	22.5
Average SFR			22.5

a=07,b=07(01=physics,01=chemistry,01=Maths,01=English,01=Mech.Engg.,01=I.T./Computer Engg.,01=Civil Engg.),**c**=02(01=Mech.Engg., 01=E&C)

(Marks to be given proportionately from a maximum of 15 to minimum of 10 for average SFR of 20:1 to 25:1, and zero for average SFR higher than 25:1)

(HOD is to be over and above 1;20 ratio as per AICTE guidelines for all the assessment years ,otherwise 0 marks.)

HOD(SFR)=270:1

5.2 Faculty Qualifications **(20)**

FQ=2*(10X + 7Y)/F where x is no of faculty with M.Tech and y is no. of Faculty with B.Tech., F is no. of faculty required to comply 1:20 faculty student Ratio

X=03+02 =05,Y=04+05=09,F=13.5

Year	**Y (B.Tech) or equivalent**	**X (M. Tech) or Ph.D(Humanity subjects)**	**F**	**FQ = 2* (10X+7Y)/F**
2016-17	09	05	13.5	16.7407
2015-16	09	05	13.5	16.7407
2014-15	09	05	13.5	16.7407

5.3 Faculty Retention(20)

>=90% faculties retained during the period of assessment (2016-17)keeping CAYm2(2014-15) as base year

total faculties in 2014-15=07(Electrical Engg. Department)

Total faculties in 2016-17=07(Electrical Engg. Department)

5.4 Faculty as participants in faculty development/training activities(30)

Name of Faculty	Max 5 per faculty		
	CAY m2(2014-15)	CAY m1(2015-16)	CAY(2016-17)
Shri S. Mishra	-----	-------	01(feb 2017)
Shri A.K. Swain	--	---	---
Smt. C.N. Desai	--	----	---
Smt. M.G. Desai	----	-----	----
Shri S. Chennappa			
Shri J.K. Rohit	----	----	------
Smt. K.R. Jadeja	----	-----	----
SUM	00	00	01
RF=Number of faculty required to comply with 20:1 student -faculty ratio	13.5	13.5	13.5

as per 5.1			
Assessment=6x sum/0.5SRF(marks limited to 30)	6x0/0.5x13.5=0	0	6/0.5x13.5=0.88
Average assessment over three years (marks limited to 30)=0.88/03=0.296			

5.5 Product development, consultancy ,manufacturing contracts, Testing contracts (20)

Not Applicable

5.6 Faculty performance appraisal and development system(FPADS) (30)

Annual performance appraisal Report form is being filled up by every faculty as per the latest AICTE 6th pay AICTE format. The APR is reviewed by Director of Technical Education, Dadra & Nagar Haveli and gradation is remarked. The APR is used during CAS promotion and yearly increment given to faculties.

5.7 Implementation of Career Advancement Scheme(CAS) (10)

The CAS has been implemented at Dr. B.B.A. Govt. Polytechnic from 01.01.1996.

(i)The AICTE 5th pay CAS and AICTE 6th pay CAS has been implemented and faculties got promotion to Lecturer(Sr.Scale),Lecturer(Sel.Grade) in 5th pay AICTE.

(ii) Lecturers got promotions as per 6th pay AICTE CAS and got promotion upto PB-4 with AGP=9000.

CRITERION 6	Facilities and Technical Support	100

6.1Availability of adequate ,well equipped classrooms to meet the curriculum requirements(10)

Sl.No.	Class Room	Carpet Area	Seating Capacity	Availability of OHP	Other Smart facilities	Weakly utilisation
1	Room No-07	30ftx 20ft	90	01	White board with marker pen, black board	Yes ,06 days /week
2	Room No.08	30ftx 20ft	90	01	White board with marker pen,black board	Yes ,06 days /week
3	Room No-09	30ft x 20 ft	90	01	White board with marker pen, black board	Yes ,06 days /week

6.2.Availability of adequate, well equipped Workshops to meet the curriculum requirements **(10)**

Sl. No.	Name of the Workshop	No. of students/batch	Name of the Power tools/machine tools	Weakly utilisation	Areas in which students expected to have enhanced learning	Relevance to PO/PSO
1	Electrical Engg. Workshop	30	Electrical wiring Tools, Measuring instruments, Electrical wires and switches, Resistors, Capacitors, Earthing and Electrical safety	02 days /week	Project Room(old projects),Reading room (adjacent to library)	PO1,PO2, PO4,PO8

6.3 Adequate and well equipped laboratories and technical man power **(30)**

Sr.No.	Name of the laboratory	No.of students per setup	Name of the important equipment	Weekly utilisation status(all the courses for which lab is utilized)	Technical man power support		
					Name of the technical staff	Designation	Qualification
1	Electrical Machine Lab	30	Series, Shunt, compound motors, Series, Shunt & compound Generators	04 hrs	1.Ajay Patel	(wireman)Lab Technician	I.T.I.
2	Electrical Circuit lab	30	**A.C. Circuit lab-** RL,RC,RLC circuit checking kits **D.C. Circuit lab-** Ohms law kit, Series, parallel kit, Kirchoff, voltage, current law kit, Network Theorems kit	04 hrs	1.Ajay Patel	(wireman)Lab Technician	I.T.I
3	Power Electronics lab	30	SCR Triggering circuits, Inverters, Choppers, Speed control of motors, CRO, Power supplies	4 hrs	1.Anil Patel	Lab Attendant	10th pass
4	Digital Electronics Lab	30	Demonstration board, Training boards for logic gates, Flip Flops, Counters, Shift registors, ADDRS	2hrs	1.Anil Patel	Lab Attendant	10th Pass
5	Basic Electronics lab		Training Boards for various semiconductors devices, Transistors, LED, Zener Diode,etc. Oscillators,operator Amplifiers	02 hrs	1. Anil Patel	Lab Technician	10th Pass

6.4 Additional facilities created for improving the quality of learning experience in laboratories **(20)**

Sr. No.	Facility name	Details	Reasons for creating facility	Utilisation	Areas in which students are expected to have enhanced learning	Relevance to POs /PSOs
1	Models and charts	All the models of Electrical Engg. equipments, machineries kept in the lab	To give better understanding of the equipments, machineries	In all the courses of Electrical Engineering	In all the courses of Elect. Engg. from sem-1 to sem-6	PO1,PO2, PO8
2	Old Projects of Electrical Engg.	Better old projects of Electrical Engg. kept for further studies	innovation of the existing Projects and learning experience for project-I and Project-II subjects	Used by present batches for innovation in the related Projects	Innovative Project work	PO1,PO2, PO4,PO8

6.5. Laboratories: Maintenance and overall ambiance (10)

Regular maintenance is done by lab technicians and lab attendant of all the laboratory of Electrical Engineering and Workshop for the subject Electrical Workshop practice. Whenever any financial assistance for repair and maintenance of lab machinery is required, the Principal provide the same.

6.6 Availablity of computing facility in the Department **(10)**

No. of Computer Terminals	Students computer ratio	Details of legal software	Details of Networking	Details of Printers, scanners etc
02	270/02=135	------	Nil	01

6.7Language Lab(10)

Not Available

CRITERION 7	Continuous Improvement	75

7.1 Actions based on the results of evaluation of each of the POs & PSOs (25)

Identify the areas of weaknesses in the program based on the analysis of evaluation of POs & PSOs attainment levels. Measures identified and implemented to improve POs& PSOs attainment levels for the assessment years. Actions to be written as per table in 3.3.2.

Examples of Analysis and proposed action

sample-1- As per the rules framed for admission to Diploma courses in Dadra & Nagar Haveli to give first preference to local Domicile category candidates (Merit list separately prepared for DO category).Therefore students with poor marks in Mathematics &Science get into Diploma courses, due to which it is difficult to get 100% results in exam.

Action taken: Special care is being taken by lecturers , for those poor students(having less % in 10th exam) so that they cope up with other students in the classroom as well as in practicals

Sample-2-In a course that had group projects it was determined that the expectations from this course about PO3(like: to meet the specifications with consideration for the public health and safety and the cultural,societal and environmental considerations) were not realized as thre were no discussions about these aspects while planning and execution of the project.

Action taken-Project planning, monitoring and evaluation included in rubrics related to these aspects.

POs &PSOs Attainment levels and Actions for improvement-CAY

PO/PSO	Target Level	Attainment Level	Observations	Actions taken
Basic Knowledge	2.08	2.04	0.02	Solving old question papers, monthly class test
Discipline Knowledge	2.11	2.088	0.022	Solving old question papers, monthly class test
Experiments &Practices	2.30	2.24	0.06	Lecturers & lab Technicians were directed to take extra classees in related practicals
Engineering Tools	2.14	2.11	0.03	Purchase of required Items are placed before the higher authority
The Engineer &	2.08	2.064	0.016	Students were

Society				motivated to pariicipate in Social service activities through Engineering
Environment and sustainability	2.047	2.037	0.01	Students are involved in plantation and swachh Bharat Abhiyan
Ethics	2.0	2.0	--	----
Individual and Team work	2.045	2.036	0.009	Students are motivated through Project work to work as a team for better results
Communication	2.25	2.2	0.05	Guest lectures had been organised by Institution
Lifelong learning	2.15	2.12	0.03	Motivation in classrooms were given
PSO-1	2.0	2.0	0	------
PSO-2	2.11	2.08	0.03	Students encouraged to better
PSO3	2.07	2.056	0.014	Students encouraged to do better

7.2 Improvement in success Index of students without the backlog **(10)**

SI=(Number of students who have passed from the program in the stipulated period of course duration)/(Number of students admitted in the first year of that batch and admitted in 2nd year via lateral entry)Assessment shall be based on improvement trends in success indices. Marks are awarded accordingly

Item	LPB	LPB m1	LPBm2
Success Index(from criteria 4.2.1)	0.3068	0.1264	0.40

7.3 Improvement in placement and Higher studies **(10)**

Assessment is based on improvement in: Placement number, quality placement, core industry, pay packages etc. Higher studies: admissions in premier institutions

Item	LPB	LPBm1	LPBm2
Placement Index(From criteria 4.6)	0.9351	No data available	No data available

7.4 Improvement in Academic performance in Final year **(10)**

Item	LPB(2016)	LPBm1(2015)	LPBm2(2014)
Academic	6.0119	2.681	4.270

Performance(From criteria 4.3)			

7.5.Internal Academic Audits to review Complete Academics to Implement corrective actions on continuous basis **(10)**

Items	CAY(2016)	CAY m1(2015)	CAY m2(2014)
Internal Academic Audits	----	-----	------

7.6.New facility created in the program **(20)**

Item	CAY(2016)	CAY m1(2015)	CAY m2(2014)
Internet (wi fi)	W i Fi(BSNL)	No wi fi	No wifi
Guest lectures from Industry	Lecture arranged related to soft skills,Technical skills	No Guest lecture	No Guest Lecture
Expert talk in various subjects of Engineering(from IITs,NITs) approved	Started from September-oct. 2017	-----	--------
Apprenticeship training through National Apprenticeship Training Scheme of MHRD(in coordination with Board of Apprenticeship Training(BOAT),WR,Mumbai)	Institute registered in NATS in 2016	----	----

Institute Level Criteria

Criteria 8	Student Support System	50

8.1 Mentoring System to help at individual level(10)

Professional guidance is given by inviting career counsellors who have a vast experience in Industry as well as in counseling .

Communication skill workshops are being organized by inviting professionals.

lecture talks are arranged and Industry persons are invited for improvement of skills of Students.

Students also go to industry visit to get industry experience.

The institution also has registered with NATS, Ministry of HRD, Govt. of India and communicating with BOAT,(WR),Mumbai for apprenticeship training to the pass out students in nearby industry.

8.2 Feedback analysis and reward /corrective measures taken, if any(10)

Seminars organized in the Electrical Department in almost all theory subjects as well as in final year Project ,to build confidence in the technical aspect of the course. Also this practice to talk on the dais in front of audience give them confidence to face interviews after pass out.

Reward giving system has been developed in the Institution for bright topper of every Department. Also Prize is awarded to best projects every year in every department. For participating in the Project Mela a cash prize of Rs,.2000/ is provided to the project group.

8.3 Feedback Facilities**(5)**

There are committees formed in the Institution for taking care of every aspect of different facilities provided to students. The committees work continuously for the benefit of students by getting feedbacks from students.

8.4 Career Guidance, Training , Placement (20)

A committee has been formed to work on training and placement of Students.

The Faculty in charge and lecturers involved for Electrical Engg. Deptt are:

Name of Faculty	Responsibility
Shri S.Mishra	Overall Electrical Deptt.
Smt.K.R.Jadeja	Electrical Department & Member of Institute T&P cell

Also campus placement drive is organised on 21/04/2017 for this year. The surrounding Industries are invited to participate in the placement drive for all the Department students.

Apprenticeship training to the students by NATs through BOAT, WR, Mumbai is being in a negotiation stage.

In this connection two Directors from NILERD,NITI Aayog visited Dr. B.B.A. Govt. Polytechnic on 01/04/2017.They interacted with the Faculties in the matter of Apprenticeship training and placement of the students.

The Directors are:

1.Dr.Yogesh Kumar, Joint Director, NILERD,NITI Aayog, Govt.of India, Fellow Institute of Town planners ,India

2.Marshal Birua, Assistant Director, NILERD,NITI Aayog, Govt.of India

The feedback in the official format was taken by those Directors for further progress in the matter of better training and placement to the students.

8.5 Entrepreneurship cell/ Technology Business Incubator(5)

Not available

CRITERION 9	Governance, Institutional Support and financial Resources	75

9.1Organisation ,Governance and Transparency

9.1.1.State the Vision and Mission of The Institute **(5)**

The Vision of the Dr.B.BA.Govt.Polytechnic:

The establishment of Dr. B.B.A. Govt. Polytechnic, at Dadra and Nagar Haveli will help the UT Administration to meet its man power needs and also in development of tribal regions. Moreover, the Territory must have a Polytechnic of its own to meet the aspirations of the local people, by transforming the students to be technically skilled managers, innovative leaders and environmentally receptive citizens.

The Mission of Dr.B.BA.Govt.Polytechnic:

To implement holistic approach in curriculum and pedagogy through Industry Integrated Interactions to meet the needs of Global Engineering Environment.

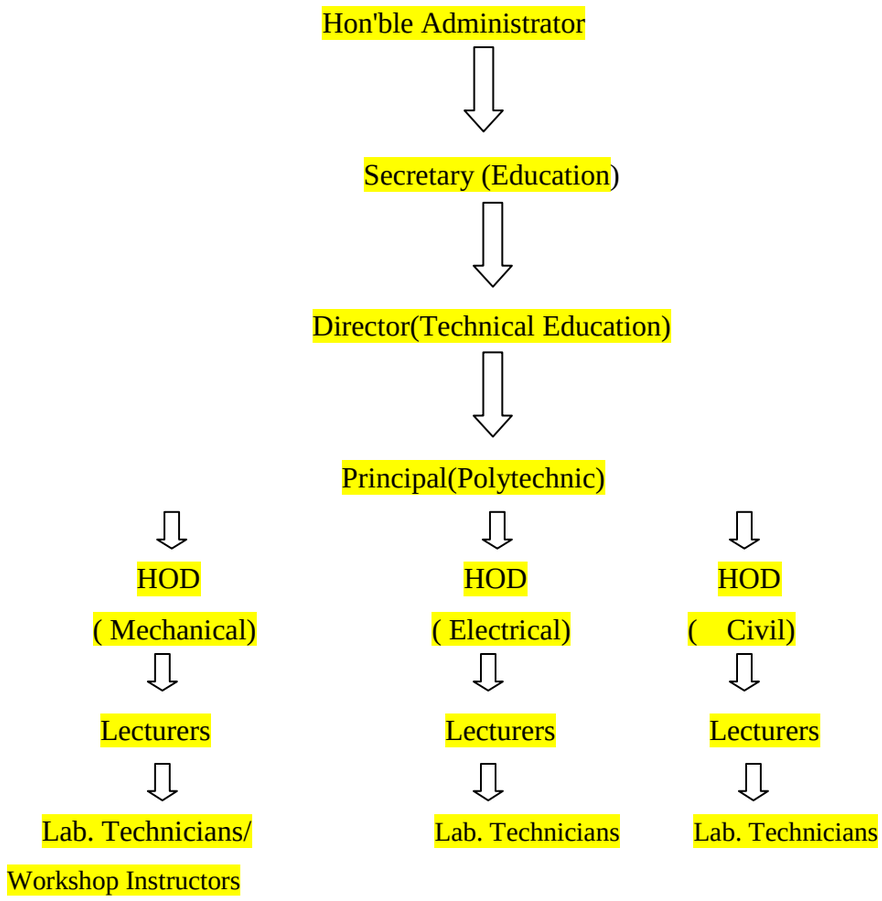
To develop students with knowledge, attitude and skill of employability, entrepreneurship (Be Job creators than job seekers), research potential and professionally ethical citizens.

9.1.2 Governing body , administrative setup ,functions of various bodies, define rules procedures , recruitment and promotional policies (5)

Dr. B.B.A. Govt. Polytechnic was setup in the year 1994 after getting permission from Ministry of HRD and AICTE in 1989.

The institute was under the Administration of Dadra & Nagar Haveli and Hon'ble Administrtor, Dadra & Nagar Haveli, Daman & Diu is the appointing authority and Employer.

The Administrative set up is as under:



The functions of various Bodies presently working in Dr.B.B.A.Govt.Polytechnic are

Sr. No.	Responsibility & Department	Name &Designation of the main Responsible Lecturer	Name of the Committee members/Assisting Staff	Role
1	I/C HOD in Civil Engg.	Shri K.B.Patel	-------	Department level administration, laboratory development/upgradation,academic weekly revoiew as per GTU requirements and documentation of all activities
2	I/C HOD in ElectricalEngg.Department	Dr.B.K.Dandapat		
3	I/C HOD in Electrical Department	Shri A.K.Swain		
4	I/C HOD in Computer & .I.T.Department	Shri S.Chennappa		
5	I/C HOD in Electronics & Communicationl Department	Smt.M.G.Desai		
6	I/C Humanities &Science Subjects	Dr.J.B.Rana		
7	GTU coordinator	Dr.J.B.Rana,/Dr.B.Jha&	Shri Sanjay	Enrollments,Exams

		Shri S.Chennappa	Solanki(Lect.)Shri Bhaven Doshi(Lect.)	work,assesment,,all GTU matters
8	I/C Student section	Dr.B.Jha,Shri B.Moharana	Shri Mitesh Billiwala Shri Bhaven Doshi Shri Subhash Patel Shri Bhagwan Korda MS.Nisha Shingda Shri Ritesh Vad	GTU Certificates & marksheets,Admission data & documents,safe keeping & distribution,bonafide certificates etc,all students record maintainance
9	Academic Committee	Shri K.B.Patel(Convener)	All HODs,Shri D.L.Sahu, Dr.B.Jha,Shri P.V.Gadge	Academic planning,inspection-documentation,quality aspects,students attendance& detention issue
10	Affiliation Committee	Shri S.Chennappa,Shri S.S.Shrawge & Office Supdt.	Dr.J.B.Rana Shri K.B.Patel Shri Sanjay Solanki	Affiliation documentation for extension of Approval(EOA) AICTE& GTU Affiliation
11	I/C Student CoCurricular Activity	Shi R.N.D Sharma(Coordinator)	Shri Dipen Patel(Sports) Smt.Urvi Patel& Sohil Khalan(Cultural) & Sachin Chouhan(Literary) Smt Hemangini Parmar& Suraj Mahala(Technical Events & Exhibitions)	Advance planning of all activities,students management and monitoring,students appreciation & award distribution
12	GTU Innovation club & Open Source Technology club	Shri R.N.D.Sharma(GIC) Dr.B.Jha(OSTC)	Shri Mitesh Billiwala Shri Vishal Dhoke Smt. K.R.Jadeja Smt.Alka Patel Shri Bhaven Doshi Shri DSanjay Solanki	Innovations in projects , as per GTU guidelines & open software workshops
13	Training & Placement Section	Dr.B.Jha Dr.B.K.Dandapat	Shri P.V.Gadge Shri B.moharana Shri Sohil Khalani Shri A.A. PatilSohit Mecwan,Smt.Alka Patel, Smt.K.R.Jadeja & Shri P.N.Parmar(O.S.)	Training, campus placements, educational & Industrial visits/Tours, Expert talk, Workshops/seminars
14	Workshop	Shri P.V.Gadge	Shri Sohil	All Workshop work

	Superintendent		Khalani Shri M.B.Rohit,Shri Dolu Ndge	upgradation etc.
15	Master Time table Section	Shri D.L.Sahu Shri C.S.Rao	Shri D.N.Shinde Sohit Mecwan Shri A.D.Desai	Preparation & compiling maser time table
16	Library Committee	Mrs..M.S.Desai,Asst.Librarian-Convener Shri S.Mishra&Mrs.C.N.Desai-members	Shri Dipen Patel Smt. K.R.Jadeja	All issues of books,journals etc in library,reading section for students and staffs
17	Discipline Committee	Shri C.S.Rao-Convener & all HODs	Dr.J.B.Rana Shri A.A.Patil Smt.H.H..Parmar Shri Prakash Bij	Disciplinary issues
18	Institute Magazine Committee	Dr.B.Jha,Shri S,.chennappa	All HODs-Chief Contributors,Shri Sachin Chouhan-Language Editor	TO invite records of events from department and compile them
19	Rector, Boys Hostel	Shri R.N.D.Sharma	Shri Sachin Chouhan	Hostel issue safe keeping of college key in the campus
20	Equipment Utility Evaluation Committee	All HODs,Sr.Store Keeper & Office Superintendent	------	To verify the cases of old equipment for write off etc.
21	Institute Website monitoring & Upgradation Committee	All HODs Dr.B.Jha & Dr.J.B.Rana	Shri S.Chennappa Shri S.Mecwan	Monitoring & upgradation of website
22	I/C Computer Programmer	Shri S.Chennappa Shri S.Mecwan	Shri Sanjay Solanki Shri A.A.Patil	Develop need based computer programs for effective working & public viewing

Define Rules and Procedures

The Institute is under Govt.of India. Therefore all the Service rules are as per DOP &T guidelines. The Meetings are conducted by Principal(Polytechnic) and accordingly orders are delivered for all the Employees of the Institution. The AICTE pay scales has been implemented in the Institution effective from 01.01.1996.

The Biometric attendance has been used for the last 05 years..

The promotional policies are as per CAS of AICTE. The Direct recruitment is through U.P.S.C.,New Delhi. The RR of the Institution has been published in april 2015 with some errors. The rectification of errors is now under process.

9.1.3. Decentralization in working and Grievance redressal mechanism(5)

The Order for different responsibilities are as mentioned in 9.1

9.1.4 Delegation of Financial Powers(5)

The Principal is also DDO of the Institution.

The HODs are given responsibility on rotation basis from the Department faculties.

No Financial power given to any HOD or Faculty. Principal & DDO is having all the financial power.

9.1.5 Transparency and availability of correct /unambiguous information in public domain(5)

Principal (Polytechnic) is the Authority for any information related to Dr. B.B.A. Govt. Polytechnic, U.T of Dadra &Nagar Haveli.

9.2 **Budget Allocation, utilization and Public Accounting at Institute level (10)**

(Summary of current financial year's budget and actual expenditure incurred(for the institution exclusively)in the three previous financial years

Total income at Institute level

A.CFY(2016)

Total income in CFY			Actual expenses in CFY(Till March 2017)			Total no. of students in CFY
Fee (Ruppees in thousand)	Govt. Grants (Ruppees in thousand)	Any other sources	Recurring including salaries (Ruppees in thousand)	Non - recurring	Special projects/Any other ,specify	Expenses per students
2511	Major Head(39737+434 +2921+2959+ 349+1832)=4823 2		47997	-----	----	328 Students in 06 branches, Expenses per student=Rs.1,46,332=0 0

B.CFYm1(2015)

Total income in CFY			Actual expenses in CFY(Till .....)			Total no.of students in CFY
Fee (Ruppees in thousands)	Govt. Grants (Ruppees in thousands)	Any other sources	Recurring including salaries (Ruppees in thousands)	Non - recurring	Special projects/Any other ,specify	Expenses per students
4192	60700	--	44538	------	--	316 students, Expenses per students =Rs.1,40,943=00

C.CFYm2(2014)

Total income in CFY			Actual expenses in CFY(Till .....)			Total no.of students in CFY
Fee	Govt. Grants (Ruppees in thousands)	Any other sources	Recurring including salaries (Ruppees in thousands)	Non - recurring	Special projects/Any other ,specify	Expenses per students
1434	94400	----	51419	---	----	309 students, Expenses per students =Rs.166,404=00

D.CFYm3(2013)

Total income in CFY			Actual expenses in CFY(Till .....)			Total no.of students in CFY
Fee	Govt. Grants	Any other sources	Recurring including salaries	Non - recurring	Special projects/Any other ,specify	Expenses per students
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Table-Consolidated budget received -Expenditure in CFY,CFYm1, CFYm2,CFYm3

Item	Budget in CFY 2016-17 (Rs. in thousands)	Actual expense in CFY2016-17(till March 2017) (Rs. in thousands)	Budget in CFYm1(Till)2015-16 (Rs. in thousands)	Actual expense in CFYm1(till) (Rs. in thousands)	Budget in CFYm1(Till)2014-15 (Rs. in thousands)	Actual expense in CFY(till)2014-15(Rs. in thousands)	Budget in CFYm 1(Till)2013-14 (Rs. in thousands)	Actual expens e in CFY(till)2013-14
Infrastructure built up	---	---	--	---	---	---	---	---
Library	---	---	--	---	---	---	---	---
Laboratory Equipment	---	---	---	---	---	---	---	---
Teaching &Non Teaching staff salary	39737 +349	39516 +348	40000 +420	35368 +355	63000 +390	44279 +360	===	---
Maintenance and spares	2921	2921	5000	5276	5000	3237	---	-----

R&D	---	---	--	--	-----	----	----	---
Training and travel	434	434	150	123	150	196	-----	----
Miscellaneous expenditures	1832	1819	2000+130	805 +0	2500	1119 +45	----	----
Others/Specify	2959	2959	3000 +5000 +5000	2611 +0 +0	3000 +10000 +10000	2183 +0 +0	-----	-----
Total	48232	47997	60700	44538	94400	51419	-----	----

9.2.1 Adequacy of budget allocation (4)

In the F.Y.2016-17, 2015-16, 2014-15 the budget is always alloted more than actual expenditures

9.2.2 Utilization of allocated funds (4)

Maximum fund is utilized in the financial years 2016-17,2015-16,2014-15 properly.

9.2.3 Availability of the audited statements on the Institute's website **(2)**

The information on audited statement is available at the office of Dr. B.B.A. Govt. Polytechnic.

9.3 Program specific Budget Allocation , Utilization **(15)**

Budget is allotted for all the Departments like Mechanical Engg., Electrical Engg., Civil Engg., etc. in a consolidated manner. The split in Budget program specific(Branch wise) document is not available.

Total Budget in CFY(2016-17):		Actual expenses in CFY(2016-17)(Till .....)		Total No.of students in CFY(2016-17):
Non Recurring	Recurring	Non Recurring	Recurring	Expenses per student
----	-----	------	------	-----
------	------	------	------	-----

Total Budget in CFYm1:		Actual expenses in CFYm1(2015-16)		Total No.of students in CFYm1(2015-16):
Non Recurring	Recurring	Non Recurring	Recurring	Expenses per student
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Total Budget in CFYm2:		Actual expenses in CFYm2		Total No. of students in CFY:
Non Recurring	Recurring	Non Recurring	Recurring	Expenses per student
-------	--------	-------	-------	-------
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9.4. Library and Internet **(20)**

(It is assumed that zero deficiency report was received by the Institution, Effective availability and utilization to be demonstrated)

9.4.1. Quality of learning resources(hard/soft) **(10)**

1. The Dr. B.B.A. Govt. Polytechnic is well equipped with a library.

2. The Text Books, Reference Books of Electrical Engineering are available in both English and Gujarati Language. The students have an option to write Examination in English or Gujarati as per GTU(University) guidelines.

3. The Science journals (Hard copy),Magazines, Newspapers(National & Local) in English, Hindi, Marathi, Gujarati are available for students and faculties.

4. There is a reading room attached to the library with a capacity of around 80 persons. It is open during college Hours.

5.The e-journals of Institutions of Engineers(soft copy) are subscribed for the Students and faculties. Even Internet can be accessed through wifi (BSNL) in the Institution premises. The study material and competitive exam papers are available for students.

9.4.2. Internet **(10)**

i. Name of the internet provider- BSNL lease line, BSNL(Qfi), & Dongle of Idea Network(Backup)

ii. Available Band width : BSNL –(i)BSNL leaseline-10MBPS (ii)BSNL Qfi-2MBPS(Free wifi by U.T. of DNH)

(iii) **Idea Net setter**- (3G)

iii. Wi fi availability: yes, BSNL

iv. Internet access in labs, classrooms, library

and offices of all Departments: Yes through wi fi networks of BSNL and Dongles of Idea Network (Recharge done every month) as backup.

v. Security arrangements: The security within the campus was provided by" NEWGEN SECURITY SERVICES". The security is available for 24 hours in 03 shifts.04 security Guards and one Security supervisor is on duty for 24 hours. A total of 12 security personnel deployed by the security Agency.

9.5 Institutional Contribution to the Community Development **(5)**

The students and staff of Dr. B.B.A. Govt. Polytechnic performs Swachta Abhiyan every year by cleaning the main road between Rakholi (4 roads chowk) and Dr. B.B.A. Govt. Polytechnic Campus(02 kms) as a part of Swachh Bharat Abhiyan.

2. The students of Electrical Engineering have done projects related to Street Lighting & Hostel Wiring, Alarm circuit for theft, etc. as part of their contribution to Society. It is a continuous process towards commitment for society.

Administration of Dadra & Nagar Haveli
(Department of Technical Education)
Dr. B.B.A. Govt. Polytechnic, Karad (D.P.),
Madhuban Dam Road-Silvassa-396240

No.EST/GPK/NBA/SAR/2017/1423 Dated: 10/10/2017

Declaration

The Head of the Institution needs to make a declaration as per the format given below:

I undertake that, the Institution is well aware about the provisions in the NBS's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the Institute shall fully abide by them.

It is submitted that information provided in this Self Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA in case any false statement/ information is observed during pre-visit, visit, post visit, and subsequent to grant of accreditation.

Date: 10/10/2017

Signature

Place: Karad(D.P.)

Name: PRIYANKA KUMARI

Designation of the Head of the Institution with seal

Principal
Dr. B.B.A. Government Polytechnic College
Karad (D.P.) Silvassa
Dadra & Nagar Haveli

Annexure – 1

(A) PROGRAM OUTCOMES (POs)

The students are expected to possess the attributes listed below

PO-1: Engineering knowledge: Demonstrate the knowledge of mathematics, science and engineering.

PO-2: Discipline knowledge: Demonstrate the ability to apply Electrical engineering – specific knowledge to solve core and applied engineering problems.

PO-3: Experiments and practice: Demonstrate the ability to design and conduct experiments, interpret and analyze data and report results.

PO-4: Engineering tools: Demonstrate the ability to model a live problem or a project that meets desired specifications and requirements using appropriate tools.

PO-5: The engineer and society: Demonstrate the ability to understand the impact of engineering on society, health, safety and legal issues and incorporate them in engineering solutions.

PO-6: Environment and sustainability: Demonstrate the ability to judge the impact of engineering solutions on the environment to achieve sustainable development.

PO-7: Ethics: Demonstrate an understanding of their professional and ethical responsibilities in engineering field.

PO-8: Individual and team work: Demonstrate the ability to function in multidisciplinary or diverse environment as a member or leader of the team.

PO-9: Communication: Develop the ability to communicate effectively with both verbal and written fluency.

PO-10: Life-long learning: Develop the ability to engage in independent and lifelong learning to adapt technological change.

(B)List of PSO's

Electrical Diploma Holder will

PSO1: Apply principles of engineering and laboratory skills for building, testing, operation and maintenance of electrical systems, such as electrical machines, power and energy systems.

PSO2: Model and analyze, design and realize physical systems, components or processes related to electrical engineering systems.

PSO3: Work professionally in power systems engineering , Electrical machinery and electrical circuits