# SELF ASSESMENT REPORT

submitted to

NATIONAL BOARD OF ACCREDITATION,NEW DELHI
By

Name of the Programme:
Diploma in Mechanical 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 |
|---|---|---|---|
| --- | ---- | ----- | ----- |

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Withdrawn(Specify visit dates, year)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(2018-19) | | CAY(2017-18) | | CAY(2016-17) | | CAYm1(2015-16) | | CAYm2(2014-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| Faculty in Engineering & Technology | M | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 |
| | F | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 |
| Faculty in Science & Humanities | M | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 |
| | F | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 |
| Non Teaching staff | M | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| | F | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 |

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

| Items | | CAY(2018-19) | | CAY(2017-18) | | CAY(2016-17) | | CAYm1(2015-16) | | CAYm2(2014-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| Faculty in Engineering & Technology | M | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | F | 04 | 04 | 10 | 10 | 04 | 04 | 04 | 04 | 04 | 04 |
| Faculty in Science & Humanities | M | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 |
| | F | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 |
| Non Teaching staff | M | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 01 | 01 |
| | F | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 |

10.Total Number of students:

| Items | CAY (2018-19) | CAY (2017-18) | CAY (2016-17) | CAY m1 (2015-16) | CAY m2 (2014-15) |
|---|---|---|---|---|---|
| Total no. of Boys | 616 | 586 | 645 | 612 | 640 |
| Total no. of girls | 130 | 98 | 104 | 86 | 80 |
| Total no. of students | 746 | 684 | 749 | 698 | 720 |

11.Contact Information of the Institution and NBA Coordinator:

I. Head of the Institution:

Name: Shri Nilesh Gurav(DANICS)

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

Mobile No: +91-9599024414

Email id:

II. NBA Coordinator, if designated:

Name: Dr. Bikram Keshori Dandapat

Designation: Lecturer (Selection Grade) Mechanical Engineering Department& Vice-Principal 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:2016-2019**

| 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 |

**List of Visiting Lecturers for 2018-19**

| Sr. No. | Name & Designation |
|---|---|
| **Contract(Guest/Visiting ) Lecturers** | |
| 1 | Shri Kundan Lal Gupta, Lect. in Textile Manufacturing Technology |
| 2 | Shri Vaibhav P. Chaudhary, Lect. in Textile Manufacturing Technology |
| 3 | Shri Dharmesh Mishra , Lect. in Civil Engg. |
| 4 | Smt.Heena Damania, Lect. in Electronics & Comm.Engg. |
| 5 | Shri Chandrasekhar Kumar Mishra, Lect. in Electronics & Comm.Engg. |
| 6 | Smt Poonam Kanwar,Lect. in Mathematics |

**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 produce skilled Engineering Diploma Passouts.

To Ensure Optimal utilization of available resources and manpower.

To Nurture students with knowledge, attitude and skill for their employability and professionally ethical citizens.

**The Vision of the department of Mechanical Engineering is:**

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

***The Mission of* Mechanical Engineering *Department is:***

*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 at par with industry requirement and fit for higher education.

*To explore department industry collaboration through interaction with professional society-bodies through seminar/workshops etc.

*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 department of Mechanical Engineering Department are given below:

**PEO1:** To produce Diploma pass outs with good fundamentals in Mechanical Engineering with practical skills needed to deliver effectively role of Supervisors in Industry for competent problem solving ability.

**PEO2:** To produce Diploma pass outs with knowledge of basic fundamentals of Mechanical engineering concepts, so that they can be selected for admission in B.E./B.Tech programs.

**PEO3:** To produce Diploma pass outs with high moral values, behavioral skills, Communication, presentation skills,

**PEO4**: To inculcate socially, environmentally and financially sound proactive leadership quality in Diploma pass outs.

**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

**Figure 1.4.1**. 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.)

**Figure 1.4.2** 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 Mechanical 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

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 | Thrice in a semester ( I,II & III 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 organisational 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

**PEO1:** To produce Diploma pass outs with strong fundamentals in Mechanical Engineering with practical skills needed to deliver effectively role of Supervisors in Industry for competent problem solving ability.

**PEO2:** To produce Diploma pass outs with knowledge of basic fundamentals of Mechanical engineering concepts, so that they can be selected for admission in B.E./B.Tech. programs.

**PEO3:** To produce Diploma pass outs with high moral values, behavioral skills, Communication, presentation skills,

**PEO4**: To inculcate socially, environmentally and financially sound proactive leadership quality in Diploma pass outs.

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 diploma students two 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 GTU website for entry of marks by 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 (DAC)**

**Program Coordinator**

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

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

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

4. 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.

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

**Course Coordinator**

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

2. Responsible for assessment of the course objectives and outcomes

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

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

5. 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 DAC. Based on directions/decisions of DAC, initiate corrective actions in revision of PEOs and POs.

The NBA Quaity Assurance cell(NBA-QC) has been formed in Dr.B.B.A. Govt.Polytechnic in 2017.

**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**

The DAC has been formed in Dr. B.B.A. Govt. Polytechnic in 2017.

| S.no | Name | Position held | Responsibilities |
|---|---|---|---|
| 1 | Mr. C.S.Rao | HOD | Department In charge |
| 2 | Dr B.K.Dandapat | NBA Coordinator | NBA Incharge |
| 3 | Mr. C.S.Rao<br><br>Mr.P.V.Gadge | Course outcome, Program Outcome,<br><br>Program Specific Outcome | Formulation of attainment |
| 4 | Mr.B.Moharana | Continuous Improvement | Attainment of PO and PSO |

**Various Committee in charge of Department**

| Sl.No. | Committee | |
|---|---|---|
| **1** | **Time table** | Dr.B.K.Dandapat |
| **2** | **Mentor** | Dr.B.K.Dandapat |
| **3** | **Internal Test Cell** | Mr. P.V.Gadge |
| **4** | **Website Over all** | Mr. Dipan Patel |
| **5** | **Departmental Website** | Mr. Dipan Patel |

| | | |
|---|---|---|
| **6** | **Symposium/ Conference/Workshop, etc** | Dr. B.K. Dandapat |
| **7** | **Professional bodies** | Dr. B.K. Dandapat |
| **8** | **Slow Learners/ Rank Holders** | Mr. Vishal Dhoke |
| **9** | **Parent- Teachers Meeting** | Mrs. C.S.Rao |
| **10** | **1st Year Co-ordinators** | Mr.C.S.Rao |
| **11** | **II year Class Teacher** | Mr. Vishal Dhoke |
| **12** | **III year Class Teacher** | Mrs. Dipan Patel |
| **13** | **Placement** | Mr. B. Moharana &P.V. Gadge |
| **14** | **Industrial visits** | Mr. Dipan Patel |
| **15** | **Newsletter** | Mr.B.moharana |
| **16** | **Cultural** | Mr. P.V. Gadge |
| **17** | **Sports** | Mr. Dipan Patel |
| **18** | **Alumni** | Mrs. B.Moharana |
| **19** | **Student Seminar/ Mini Project /Project** | Dr. B.K.Dandapat |
| **20** | **Over all Lab Coordinator /Project** | Mr.Mahendra Rohit |

| CRITERION 2 | Program Curriculum and Teaching learning Processes | 200 |
|---|---|---|

**2.1 Program Curriculum (50)**

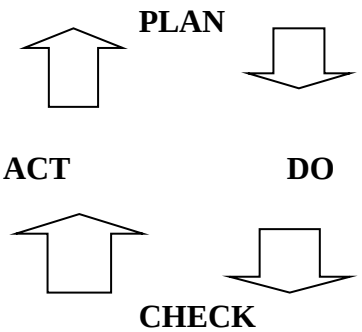
**2.1.1. (**State the process used to identify extent of compliance of the board curriculum for attaining the program outcomes (POs)and program Specific Outcomes (PSOs)as mentioned in Annexure1. Also mention the identified Curricula gaps. If any) **(30)**

**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 Programme curriculum is as per the scheme and syllabus of affiliated university(GTU). 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 programs are arranged.

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

**List of Program Outcomes**

| | |
|---|---|
| **PO1** | An ability to apply knowledge of basic mathematics, science and engineering to solve the broadly defined Mechanical engineering problems.( **Basic knowledge)** |
| **PO2** | An ability to apply discipline - specific knowledge to solve broadly defined Mechanical Engineering problems.(**Discipline knowledge**) |

| | |
|---|---|
| **PO3** | An ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments **(Experiments and practice)** |
| **PO4** | An ability to apply the knowledge, techniques, skills, and modern tools of their discipline to narrowly-defined engineering technology activities.**(Engineering Tools)** |
| **PO5** | Demonstrate knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering practice(**The engineer and society** ) |
| **PO6** | Understand the impact of the engineering solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development. ( **Environment and sustainability**) |
| **PO7** | Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. **(Ethics**) |
| **PO8** | Function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams.( **Individual and team work)** |
| **PO9** | An ability to apply written, oral, and graphical communication in both technical and nontechnical environments and the ability to use appropriate technical literature **(Communication)** |
| **PO10** | Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the context of technological changes **(Life-long learning)** |

**List of PSO's**

**PSO1:** The program must demonstrate that diploma Engineer can apply specific program principles to Design, fabrication, testing, operation, or documentation of basic mechanical systems or processes.

**PSO2:** The program make diploma Engineer design , develop, test society needed products and engage in manufacturing or processing such quality products with utmost environment safety and commitment and provide good service to the society.

**At PO,PSO level(Curriculum Gap Analysis)**

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.

**Process for "Curriculum GAP ANALYSIS"**

**Identified Curriculum Gaps**

A. 1. Certain gaps like knowledge of fundamentals in Mathematics and Science(10th level) which is prerequisite in the curriculum have been observed to be weak in students coming from villages, however through Teachers in lecture class , students are prepared to fill up this gap, so that they can understand the Diploma Educational concepts effectively.

2. Level of Overall Personality of students has been observed to be low in 1st semester. There has been need to improve their soft skills. However at College level soft skill training programs and extra

curricular activities are promoted among the students with full financial , management and coordination support by the Department.. It is also achieved through subject such as Contributory Personality Development(CPD). 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.<br>•Allocation of course curriculum to faculty<br>•Identification of links between various courses<br>•Enumerate the identified curricular gaps | •Recent advances, identified curricular gaps are discussed with faculty of Dr. B.B.A. Govt. Polytechnic | •Seminars<br>•Workshops<br>•Training<br>•Technical Quiz |

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

**CAY (2018-19)**

| 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(27) | PO1,PO, PO9 |
| 2 | Soft Skills Organised by Jai Corp Ltd. | Experts from Industry used to take lectures | During the academic session | Mr.Pankaj Sharma ,Cosultant and PRO at S.S.R.College ,Silvassa, D&NH | 60 | PO1,PO9 |

**CAYm1(2017-18)**

| 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 | 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 | 30% of the class | PO1,PO2, PO9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | is not covered in the curriculum | | | English | | |
| **2** | Expert Lecture in Mechanical Engg. (Sub: Design of Machine Elements) | Expert from SVNIT,Surat was invited to take Expert Lecture vide | Dated: 03.10.2017 (12.45 to 13.45 and 03.00pm to 5.00pm) | Prof.Dr.Sandeep Soni, Dept. of Mechanical Engg.,SVNIT, Surat | 34 students of 5th Sem. Electrial Engg. | |
| **3** | Expert Lecture in Mechanical Engg. (Sub: Strength of Materials) | Expert from SVNIT,Surat was invited to take Expert Lecture vide | Dated: 07.10.2017 (12.45 to 13.45 and 03.00pm to 5.00pm) | Prof. Dr.S.R. Suryavanshi Dept. of of Applied Mechanics., SVNIT, Surat | 40 students of 5th Sem. Electrial Engg. | |

**CAYm2(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 | 30% of the class | PO1,PO2, PO9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Chouhan, Lect. in English | | |
| **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 |
| **3** | Principal -TPO MEET | Expert from Board of Apprenticeship Training,West. Zone,( MHRD , Mumbai was invited on the occasion | Dated: 21.09. 2016 (meeting from 11.00 to 12.00 am, Induction program for students 1.30 to 3.30 pm) | Shri N.C.Gangde, Asst.Director, & Asst.Apprenticeship Advisor, BOAT, MHRD ,Mumbai | Whole class | PO1, PO2, PO7, PO9 |
| **4** | Annual Industry meet | Silvassa Industry Association,D &NH | During academic session(22.10.2016 at 02.00p | Industry Delegation (39 participants) | For betterment of all the students career | PO2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | m to 04.00pm) | | | |

**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'sTopics | 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 | √ | √ | | | | √ | | | | |

| PSOs Topics | 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 GTU (University)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.

**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, LCD projectors, These are effectively used for teaching.

**SMART class Room**

Most of the Faculties are using SMART class room to interactive session. Projector is used for demonstration, video (NPTEL).

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

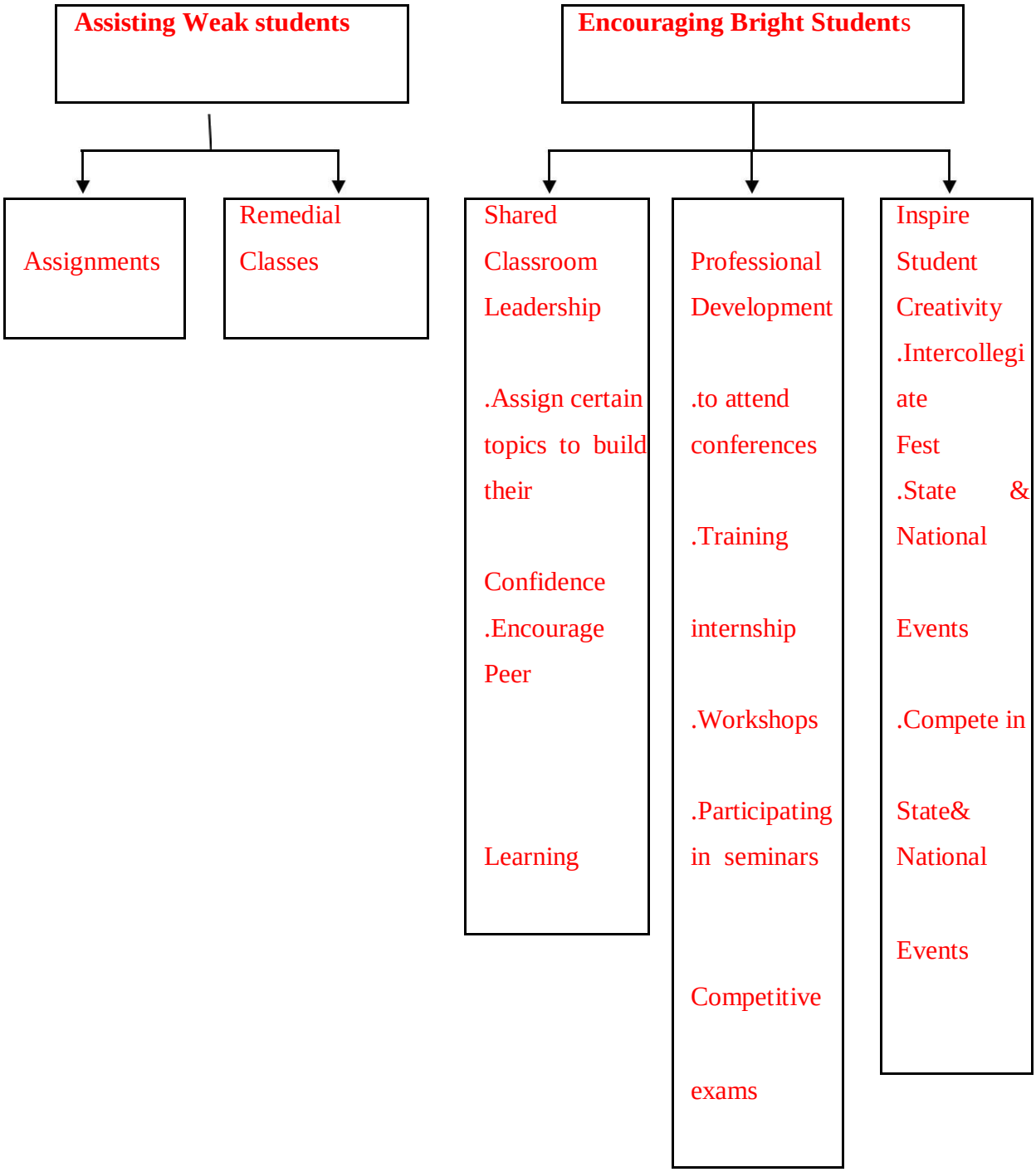
The Counselors regularly conduct meetings regarding progress of their mentees and are responsible to identify students who scored less than 60% marks in their internals. Under the HOD direction, the students Counselors evaluates the progress card of those students who score below 60% marks in three or 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.<br>2. Intimating parents to counsel their wards.<br>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 and faculty and wifi for all.

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

*white Board, Green board, Demonstration method supported by PPTs (need based) etc. are used as teaching aids..

* Online availability of various free e-journals on portal of Institution of Engineers, India,.

* Lesson plans are prepared in advance in each semester for all theory and practical courses for proper implementation of course curriculum in each subject.

**E. Conduct o f Experiments:**

Students carry out required number of experiments, as specified by the University. All laboratory have requisite equipments. Where ever we are having shortage of equipments, accessories or case of breakdown, students are carried out to the nearby Institutions or Industry. For the experiments detailed instruction manuals are provided and experiment wise leaflets / SOP are made available in the Lab. The observations are checked and verified by faculty and record books are maintained systematically. One faculty member is assigned for each practical class.

**F. Continuous Assessment in laboratory:**

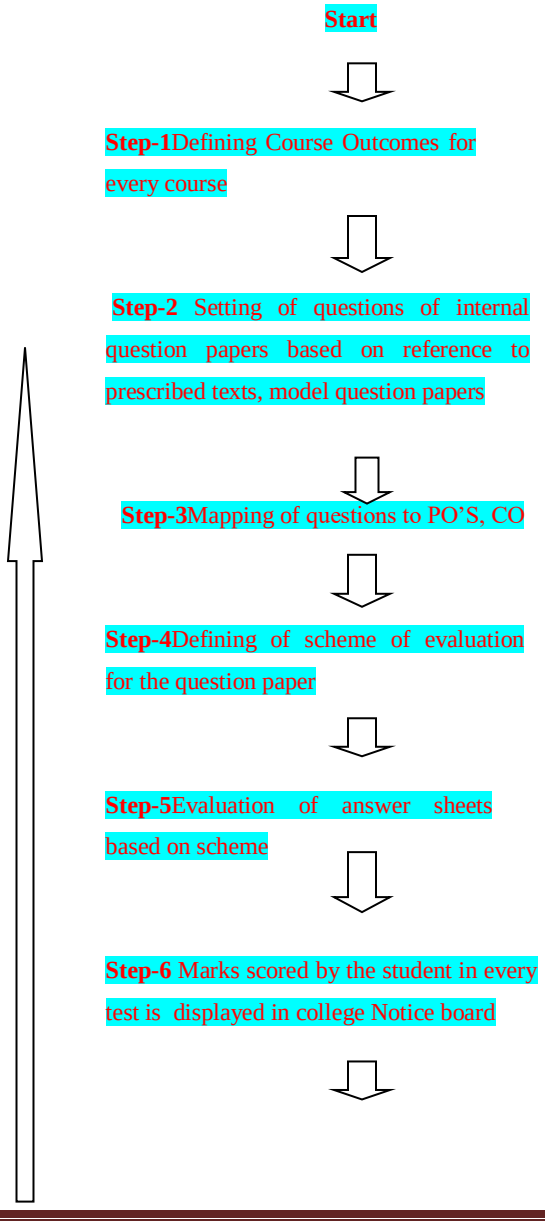
Continuous assessment system is also implemented for assessment of laboratory work. The assessment is done on the basis of submission of laboratory records, understanding of the experiment through oral viva voce questions and participation in performing the experiment. Neatness of the laboratory record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

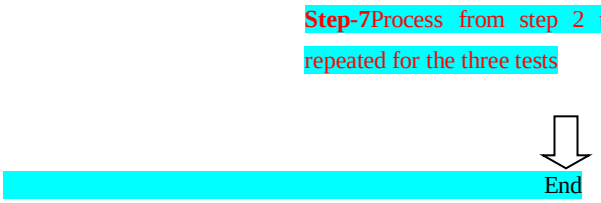
**2.2.2 Quality of Internal Semester Question Papers, Assignments and Evaluation (15)**

(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 02 tests. Each of the test consists of descriptive questions as well as objective ones.. 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 about 50% of subjective questions in case of Design Papers and about 100% in case of general theory papers.**

**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 Mechanical Engineering Department is well equipped with different laboratories like MSM lab., Thermal Engineering laboratory, CAD/CAM lab and Workshop.

2. The Experiments are carried out by concerned subject lecturer with the help of laboratory assistant/Technician and lab 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 workshop practice like fitting, smithy and welding is changed every year. Accordingly new drawings are given for making the new job.

5. The Machine shop where Manufacturing Engineering-I,II & III, Design of Machine Elements and Industrial Engg. Practicals being done, is well maintained ,so that students will perform the experiments without any difficulty and accidents.

6. The maintenance of different machines and equipments are periodically done by lab instructors and 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.

**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 up to seven 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.

**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.

**B. Process for monitoring and evaluation.**

*Project students should meet their respective guide as per requirement and asked to present progress they have done in their project at regular interval.

*They submit project progress report, weekly to get suggestion and feedback by the respective guide.

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

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

*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.

**C. 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<br>(End Semester Exam marks)<br>(External examination) | PA=60 (Practical marks )<br>(Internal Examination/Guide) | **Total=100** |

**Phase – 2**

**(PROJECT-II)6th Semester**

| Sl.No. | Performance Indicator | Marks(PA) |
|---|---|---|
| 1 | Implementation /Execution | 25 |
| 2 | Results | 25 |
| 2 | Final report | 30 |
| 4 | Overall presentation | 10 |
| **ESE=60**<br>**(External examiner)** | **PA=90**<br>**(Internal Examiner/Guide)** | **Total=150** |

**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(2016)

### 2.2.4. Industry interaction and Industry internship/Training (30)

Initiatives related to industry interaction

MOU's with Industries:

MOU's was done with industries to emphasize on

(a) Project Workshop for Students

(b) Industrial Visits

(c) Students specific Training

| 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**

There is no provision of Internship/ summer Training as per the provision of University curriculum

**A. Industry training/tours for Students**

Need based faculty organizes visit to Industries, for demonstration of facilities available at Industries, also for getting know how of Industry culture.

**B. 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 .

**2.2.6. Information access Facilities and student centric learning Initiatives (15)**

The e-learning facilities are available at Dr. B.B.A. Govt. Polytechnic for students as well as faculties. The Institution has access to many e- journals .Also Institution of Engineers(I.E.) has given life membership to the Institution. Faculties and students can access to study materials, research papers, etc. of I.E.

**2.2.7. New Initiatives for embedding Professional skills (15)**

For developing specialized skill development including communication, professional and core employability skills classes on Professional Practices, Development of Life Skills are conducted.

Professional Practice is enhanced in several fields-

*__Effective communication__ is more than just exchanging information with others. It involves teamwork, decision making, and problem solving. It enables the students to communicate even negative or difficult messages without creating conflict or destroying trust.

**It is achieved in several ways-**

* Interacting with peers to share thoughts

* Prepare notes on given topic.

* Conducting Seminars

* Conducting Group Discussions

* Guest lectures on Communication Skills

* Preparing report on industrial visits, expert lectures

* **Personality development** means enhancing and grooming one's outer and inner self to bring about a positive change to your life. Each individual has a distinct persona that can be developed, polished and refined. This process includes boosting one's confidence, improving communication and language speaking abilities, widening ones scope of knowledge, developing certain hobbies or skills, learning manners.

***Industrial training:** No specific Industrial Training mandatory for Diploma in Mechanical Engineering program offered by Gujarat Technological University.

***Information search**-Everybody can become more effective when it comes to searching of information. Research suggests that met cognitive strategies including planning, monitoring and

self-regulating actions could enhance individual search in research database. Students are provided with different topics related to different fields of study.

* **Industrial visits -** Industrial visit has its own importance in a career of a student who is pursuing a professional course. It is considered as a part of college curriculum.

**Industrial visits** provide students an insight regarding internal working of companies. We know theoretical knowledge is not enough for making a good professional career. With an aim to go beyond academics, industrial visit provides student a practical perspective on the world of work. It provides students with an opportunity to learn practically through interaction, working methods. Mechanical Engineering students visit to Industries as per course requirement

***Mentoring** --Mentoring is to support and encourage people to manage their own learning in order that they may maximize their potential, develop their skills, improve their performance and become the person they want to be. Mentoring is a powerful personal development and empowerment tool. It is an effective way of helping people to progress in their careers and is becoming increasing popular as its potential is realized.

* **Counseling** is about talking to someone who understands what depression is and what can help. Counselors are professionally trained to work with people on their personal and emotional issues, including depression and suicide. Counseling offers an opportunity to talk confidentially to someone impartial, so students are free to explore their true feelings and be supported without judgment.

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### 2.2.8. Co-curricular & Extra Curricular Activities (10)

Different programs were organised by students. Competitions like Drawing, Debate etc, held every year for the overall growth of students.

Annual Sports meet held around in the month of February every year during semester break. Annual Day is also celebrated, where prize distribution ceremony event is organised in different fields like sports, Semester Topper of the departments, etc. Navratri is famous festival of the region(Gujarat) which is celebrated during September-October every year in the college premises.

# 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**

By the culmination of this program, the Diploma holder acquires the ability to

1. An ability to apply knowledge of basic Mathematics, science and Engineering to solve the broadly defined Mechanical Engineering problems.(Basic Knowledge)
2. An ability to apply discipline-specific knowledge to solve broadly defined Mechanical engineering problems.(Discipline knowledge)
3. An ability to conduct standard tests and measurements and to conduct, analyze and interpret experiments.(Experiment and practices)
4. An ability to apply the knowledge, techniques, skills and modern tools of their discipline to narrowly-defined engineering technology activities.(Engineering tools)
5. Demonstrate knowledge to asses societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering practice.(The Engineer &society)
6. Understand the impact of engineering solutions in societal and environmental contexts, and demonstrate the knowledge and need to sustainable development.(Environment and sustainability)
7. Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice(Ethics)
8. Function effectively as an individual, and as a member or leader in diverse/multidisciplinery teams.(individual and team work)
9. An ability to apply written ,oral and graphical communication in both technical and nontechnical environments and the ability to use appropriate technical literature.(Communication)
10. Recognise the need for and have the preparation and ability to engage independent and life-long learning in the context of technological changes.(Lifelong learning)

The curriculum for Mechanical 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:** The program must demonstrate that diploma Engineer can apply specific program principles to Design, fabrication, test, operation, or documentation of basic mechanical systems or processes.

**PSO2:** The program make diploma Engineer design , develop, test society needed products and engage in manufacturing or processing such quality products with utmost environment safety and commitment and provide good service to the society.

**Correlation between POs PSO's**

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

3.1.1. Course Outcomes(SAR should include course outcomes of one course from each semester of study ,however, should be preparesd 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 | Applied Mathematics-I (1st semester) | On completion of this course a successful candidate will be able to:<br>1. Develop a fundamental understanding of Matrix, Eigen values, Eigen vectors, diagonalized form of a given matrix and also reduce the quadratic form of a matrix to its canonical form.<br>2. Understand the application of derivatives in more than one variable and also find the derivatives higher orders.<br>3. Have a fundamental understanding of double integration, triple integration and visualize the concept of volume in 3-dimensional space.<br>4. Understand the concept of linear differential equation of the second order and modeling a differential equation from their applications.<br>5. Find the Laplace transform and its inverse Laplace transform of a function and to solve a differential equation using Laplace transform |
| C102 | English(1st semester) | On completion of this course a successful candidate will<br>1. Use grammatically correct sentence in day to day communication<br>2. Use correct pronunciations and intonations.<br>3. Recapitulate orally the facts or ideas presented by the speaker<br>4. Speak briefly on a given topic fluently and clearly<br>5. Face oral examinations and interviews<br>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-<br>1.Take care of issues related to environment conservation and disaster management while working as diploma engineer.<br>2. Enhance knowledge about engineering aspects of Environment<br>3. State the major causes of air, water and noise pollution<br>4. Explain the concepts of waste management and methods of Recyling<br>5. Describe the working of large wind turbines<br>6. Describe the salient features of solar thermal and PV systems |
| C104 | Engineering Physics (Group-1) (Code: 3300004) | On completion of this course a successful candidate will<br>1. Apply principles and concepts of Physics for solving various Engineering Problems<br>2. Define inertia, momentum and impulse of force<br>3.Comprehend the concept of elasticity and Define Stress, Strain and Elastic limit.<br>4.Comprehend the phenomenon of surface tension and its applications<br>5. 4.2Explain modes of Transmission of heat and their Applications<br>6. Comprehend the concept of wave motion |
| C105 | Basics Engineering Drawing (Code: 3300007) | On completion of this course a successful candidate will<br>i. Prepare engineering drawings manually with given geometrical dimensions using prevailing |

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| | | drawing standards and drafting instruments. .<br>ii. Visualize the shape of simple object from orthographic views and vise versa.<br>3. Develop the ability to draw polygons, circles and lines with different geometric conditions<br>4.Able to draw engineering curves with proficiency an speed as per given dimensions<br>5. Draw the projection of points, lines and planes with Different conditions.<br>6. Find out true shape and size of a inclined line or plane |
| C106 | Engineering Workshop Practice<br>(Code: 3301901) | On completion of this course a successful candidate will<br>1. Follow preliminary safety rules in workshop<br>2. Select appropriate fitting tools for the required application<br>3. Select appropriate tin smithy tool for the required application<br>4. Prepare the simple job as per specification using carpentry tools.<br>5. Prepare the simple job as per specification using pipe fitting tools.<br>6. Prepare the simple jobs as per specification using proper metal joining and cutting method. |
| 201 | CONTRIBUTOR PERSONALITY DEVELOPMENET<br>Code-1990001 | *On completion of this course a successful candidate will be able to*<br>1. face life challenges with confidence.<br>2. grow as a good human being.<br>3. communicate in a better way .<br>4. Develop personality . |

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| C202 | Advance Mathematics (Group-2) (Code: 3320003) | On completion of this course a successful candidate will be able to:<br>1. Find the equation of line using the different forms<br>2. Solve the problem of function using the concept of Limit.<br>3. Apply the differentiation to Velocity, Acceleration and Maxima & Minima<br>4. .Apply the Integration for finding Area and Volume<br>5. Measure Dispersion in given data<br>6. Apply concepts of calculus or suitable mathematical tool to solve given engineering problems. |
| C203 | Applied Mechanics(code-3320003) (2nd Semester) | On completion of this course a successful candidate will<br>1. Analyze a system of forces and find the direction of the resultant motion of the particle or body upon which it acts<br>2. Analyze any system which is in equilibrium by considering each body separately and apply the equilibrium analysis.<br>3. Analyze any beam, truss or framed structure.<br>4. Locate the centroid, centre of mass and gravity and moment of inertia of areas and physical bodies.<br>5. Given a problem in Engineering Dynamics, identify the most appropriate solution technique.<br>6. Apply equations for straight line motion to solve problems with variable acceleration<br>7. Solve plane curvilinear motion problems in 3 different coordinate systems.<br>8. Analyze dynamic problems using work energy and impulse momentum techniques. |
| C204 | Material Science and | On completion of this course a successful candidate will |

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| | Metallurgy<br>(Code: 3321902) | be able to:<br>1. Explain effects of cooling rate, grain size on materials properties<br>2. Draw and Interpret TTT curves and Iron carbon diagram<br>3. Identify various ferrous metals and alloys based on composition and properties for prescribed application<br>4. Select the non metallic material for given simple machine elements<br>5. Select proper electrolysis process for surface coating.<br>6. List areas of powder metallurgy application |
| C205 | Mechanical Drafting<br>(Code: 3321901) | On completion of this course a successful candidate will be able to:<br>1. . Draw isometric and multi views of an object<br>2. Draw sectional view/s of an objec<br>3. Draw intersectional view/s of an object.<br>4. Develop the surface requirement of given application<br>5. a. Use & Interpret drafting symbols.<br>6. Draw & interpret weld joints, piping layout and duct drawings |
| C206 | Basic of Civil Engineering<br>(Code: 3320004) | On completion of this course a successful candidate will<br>To supervise the simple civil engineering tasks related to own branch's integrated<br>tasks. |
| C301 | MANUFACTURING ENGINEERING - I<br>(Code: 3331901) | On completion of this course a successful candidate will<br>1. Explain the basic manufacturing processes.<br>2. Identify and explain various metal working processes.<br>3. Suggest appropriate casting method suitable for a given industrial component. |

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| | | 4. Suggest appropriate moulding method suitable for a given non metal industrial compone<br>5. Identify the area of applications of a particular joining process.<br>6. Practice standard safety norms during any joining process. |
| C302 | THERMODYNAMICS (Code: 3331902) | On completion of this course a successful candidate will<br>1. Explain Zeroth law of thermodynamics.<br>2. Apply first law of thermodynamics to real life situations<br>3. Calculate amount of heat transfer, work transfer & internal energy associated with the process<br>4. Apply second law of thermodynamics in real life problems<br>5. Identify thermodynamic processes in a cycle.<br>6. Solve simple examples of power producing cycle |
| C303 | Fluid Mechanics & Hydraulic Machines (3rd semester) | On completion of this course<br>1. Be able to convert units of any parameter between three systems of units, understand the physical properties and characteristic behavior of fluids, and the basic principles of fluid mechanics.<br>2. Be able to describe and interpret the behavior and Fluid Mechanics performance of fluid at rest.<br>3. Be able to describe and interpret the behavior and performance of fluid in motion.<br>4. Be able to describe the behavior and performance of fluid when the fluid is flowing through the pipe.<br>5. Be able to derive the dimensions of different fluid parameters. |

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| | | 6. Be able to apply similitude and modelling principles and techniques to solve problems in hydraulics |
| C304 | Strength of Material (Code: 3331904) | On completion of this course a student will be able to<br>1. Evaluate Material Properties Under Longitudinal , Lateral Loads & Thermal variation<br>2. Compute Moment of Inertia of Symmetric & asymmetric structural sections<br>3. D raw Shear Force & Bending Moment Diagram for Statically Determinate Beams<br>4. Use ‘ Theory of Bending’ to compute stresses in Beams<br>5. Determine deflection induced in Statically Determinate Beams<br>6. Calculate Load carrying capacity of Column & Strut |
| C305 | APPLIED ELECTRICAL AND ELECTRONICS. (Code: 3331905) | On completion of this course a student will be able to<br>1. Define the terms associated with magnetic circuits<br>2. Define the terms: Electromotive force, current, voltage, resistance, and conductance.<br>3. State the specifications of electrical materials and select the components for simple applications.<br>4. Explain the working of single phase transformer<br>5. State the line and phase values for star and delta connections of transformers.<br>6. Describe the working of optical fibres from opto-isolation point of view |
| C306 | COMPUTER AIDED | On completion of this course a student will be able to<br>1. Prepare production drawings using computer and |

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| | MACHINE DRAWING (Code: 3331906) | relevant software and following standards codes and norms.<br>2. Interpret drafting, tolerance and geometrical symbols in given production drawings.<br>3. Prepare and plot 2D production machine drawings using AutoCAD (Mechanical).<br>4. Prepare assembly drawing of mechanical components with codes, standards and symbols using AutoCAD (Mechanical)<br>5. Prepare 2D parametric drawings of simple machine components using Pro/E or Solid Edge<br>6. Appreciate AutoCAD (Mechanical) environment in context to production drawings |
| C307 | human resource management (Code: 3330001) | On completion of this course a successful candidate will be able to<br>1.Appreciate importance of human resource<br>2. Identify human motivation<br>3. Appreciate values and ethics for relationships<br>4. Analyse self for interpersonal behaviour.<br>5. Develop subordinates by motivations & training.<br>6. Resolve conflicts |
| C401 | MANUFACTURING ENGINEERING - II (Code: 3341901) | On completion of this course a student will be able to<br>1. Explain mechanics of cutting.<br>2. Classify and explain working of basic machine tools with kinematics.<br>3. Observe and conclude the effect of varying tool materials, cutting parameters and work piece materials.<br>4. Interpret and select tool and tool holder designation system.<br>5. Identify the machine tool and select cutting parameters for given job. |

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| | | 6. Make the job as per given manufacturing drawing. |
| C402 | THERMAL ENGINEERING- I (Code: 3341902**)** | On completion of this course a student will be able to<br>1. Determine steam properties and dryness fractions.<br>2. Classify and explain boilers, boiler mountings and accessories.<br>3. Determine boiler performance based on given specific parameters.<br>4. Explain working of steam prime movers. v. Identify the elements and processes of steam condensers and cooling towers.<br>5. Operate air compressors and observe the parameters affecting the performance.<br>6 Calculate heat transfer for given heat transfer system. |
| C403 | THEORY OF MACHINES (Code: 3341903) | On completion of this course a student will be able to<br>1. Draw inversions and determine velocity and acceleration of different mechanisms.<br>2. Construct different types of cam profile for a given data.<br>3. Calculate loss of power due to friction in various machine elements.<br>4. Solve problems on power transmission.<br>5. Construct turning moment diagram.<br>6. Calculate balancing mass and its position. vii. Identify different types of vibration, their causes and remedies. |
| C404 | CAD(Computer aided Design)(code-3341904) (4th semester) | On completion of this course a student will be able to<br>1. Students will get an idea about comprehensive concepts of the design aspects and its importance in computer assisted design and manufacture. |

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| | | 2. Students can understand and use the principles of Computer aided part programming.<br>3. Students will be able to examine technologies those have been developed to automate manufacturing operations.<br>4. By studying about CAD students will be able to visualize three dimensional objects and that will enable them to design new products<br>5. Prepare simple surface model using AutoCAD.<br>6. Prepare solid model of industrial parts and its assembly using parametric modeling software. |
| C405 | METROLOGY & INSTRUMENTATION (Code: 3341905) | On completion of this course a student will be able to<br>1. Measure the given mechanical elements and assemblies using linear and angular analog /digital measuring instruments. 2. Check geometrical accuracy of given application.<br>3.Explain surface roughness checking instruments.<br>4. Measure and derive important dimensions of various thread forms and gears.<br>5. Select and use non destructive testing methods. vi. Check the dimensions using the gauges.<br>6. Select and measure variables using appropriate sensors and transducers. |
| C406 | PLANT MAINTENANCE AND SAFETY (Code: 3341906) | On completion of this course a student will be able to<br>1.Describe functions of maintenance department Recognize troubles in mechanical elements.<br>2. Assemble, dismantle and align mechanisms in sequential order.<br>3.Carry out plant maintenance using tri-bology, corrosion and preventive maintenance |

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| | | 4. Manage maintenance operations satisfactorily by following safety rules.<br>5. Explain methods of corrosion prevention<br>6. Overhaul of mechanical components and electrical motor |
| C501 | Thermal .Engineering-II code-3351901)<br>(5th semester) | On completion of this course a student will have<br>1. Analyze performance of ICEs by operating them and observing changes in thermodynamic properties during each stroke of ICEs (and by using thermodynamic diagrams.)<br>2. List characteristics and properties of alternate fuels used for ICEs.<br>3. Analyse the performance of Vapour Compression Refrigeration System (VCRS), by operating them and observing the changes in properties of refrigerant during each process on VCRS (and using thermodynamic charts/diagrams.) 4. Explain working of various air-conditioning equipments and aids including ducts and fans<br>5. Carryout maintenance task by using suitable tools and equipment<br>6.Explain working of various air-conditioning equipment |
| C502 | DESIGN OF MACHINE ELEMENTS (COURSE CODE: 3351902) | On completion of this course a student will have<br>1. Identify various failures and calculate resisting areas of machine elements.<br>2. Use preferred numbers and standardization to select element/element dimension.<br>3. Design machine element subjected to: a: Direct |

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| | | stresses. b: Bending stresses. c: Twisting stresses. d: Combined stress.<br>4. Design of thin and thick cylinder pressure vessel.<br>5. Select appropriate bearing for given situation/application.<br>6. Calculate important bearing characteristics.. |
| C503 | MANUFACTURING ENGINEERING-III (COURSE CODE: 3351903) | On completion of this course a student will have<br>1. Explain working of grinding, super finishing, gear cutting, broaching, threading, non-conventional and advance machining methods with kinematics and coolant/ lubrication systems stating functions of each element.<br>2. Interpret designation system / method of cutting tools and tool holders used on machine tools.<br>3. Set the machine and mount the job, cutting tools and tool holders correctly.<br>4. Select appropriate cutting tools, work holding devices and cutting parameters for the given work piece.<br>5. Outline the process and produce the job/product as per given drawing/ specification.<br>6.Produce the part as per given drawing/specifications by adopting conventional machine tools and/or non-conventional machining processes using optimum process parameters, safe working procedures, suitable work & tool holding devices and appropriate cutting tools.<br>7. Plan and supervise manufacturing operations at a shop floor of machine tools based manufacturing industries |
| C504 | | On completion of this course a student will be able to |

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| | INDUSTRIAL ENGINEERING (COURSE CODE: 3351904) | 1. Improve productivity using work study and method study techniques.<br>2. Analyze work content and calculate standard time in a given situation.<br>3. Apply Statistical Quality Control tools in a given situation.<br>4. Select material handling equipment.<br>5. Apply Ergonomics for human comfort at work place.<br>6. Appreciate the emerging trends in industrial engineering. |
| C505 | ESTIMATING, COSTING AND ENGINEERING CONTRACTING (COURSE CODE: 3351905) | On completion of this course a student will have<br>1. Calculate material cost of given component/product.<br>2. Identify and estimate elements of cost in various processes.<br>3. Perform break even analysis to calculate break even quantity.<br>4. Investigate the problem of cost and suggest their solution using cost reduction techniques.<br>5. Interpret given model of balance sheet and profit loss account.<br>6. Prepare simple engineering contracts. |
| C506 | SELF EMPLOYEMENT AND ENTREPRENEURSHIP DEVELOPMENT | On completion of this course a student will have<br>1. Identify entrepreneurial quality.<br>2. Develop the ability to select potential areas for self-employment.<br>3. Select appropriate agencies for technical and financial support. |

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| | (COURSE CODE: 3351906) | 4. Prepare project setup planning and project report.<br>5. Explain SWOT analysis and strategies to achieve goals.<br>6. Identify risk factors of project and their remedial measures. |
| | PROJECT-I (CourseCode-3351908) | On completion of this course a student will be able to<br>1.identify IDP(Industry defined problems)/UDP(User defined problems) for their project work<br>2.develop leadership quality<br>3.To work in a team or group to achive a certain goal/target<br>4.Do market survey for different articles to be used in the project<br>5.prepare logbook containing everyday contribution in the project work<br>6.prepare project report for their part-1 of final year project |
| C601 | COMPUTER AIDED MANUFACTURING (CAM) (COURSE CODE: 3361901) | On completion of this course a student will be able to:<br>1. Identify different axes, machine zero, home position, controls and features of CNC machines.<br>2. Select, mount and set cutting tools and tool holders on CNC.<br>3. Prepare part programmes using ISO format for given simple components with and without use of MACRO, CANNED CYCLE and SUBROUTINE using ISO format.<br>4. Interface software application for auto part programming.<br>5. Select required operating parameters, appropriate |

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| | | tools, tool holders, accessories and consumables for manufacturing a given job on CNC.<br>6. Manufacture simple jobs using CNC part programming. |
| C602 | TOOL ENGINEERING (COURSE CODE: 3361902) | On completion of this course a student will have<br>1. Re-sharpen given cutting tool.<br>2. Select proper tool for given manufacturing operation<br>3. Interpret designation system of cutting tool and tool holder.<br>4. Select locating and clamping devices for given component.<br>5. Select and design jig and fixture for given simple component.<br>6. Classify and explain various press tools and press tools operations |
| C603 | INDUSTRIAL MANAGEMENT (COURSE CODE: 3361903) | On completion of this course a student will have able to:<br>1. Interpret given organization structure, culture, climate and major provisions of factory acts and laws.<br>2. Explain material requirement planning and store keeping procedure.<br>3. Plot and analyze inventory control models and techniques.<br>4. Prepare and analyze CPM and PERT for given activities.<br>5. List and explain PPC functions. Recognize organization structure, human resource issues in industries and major provisions of factory acts. |

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| | | 6. Plan, use, monitor and control resources optimally and economically. |
| C604 | POWER PLANT ENGINEERING (COURSE Code: 3361906 **)** | On completion of this course a student will have able to:<br>1. Identify elements and their functions of steam, hydro, diesel, nuclear, wind and s olar power plants.<br>2. Operate equipments of different power plants.<br>3. Analyze economics of power plants and list factors affecting the power plants<br>4. Determine performance of power plants based on load variations.<br>5.Project potential of wind and solar pow er in India<br>6.Apply knowledge of mechanical engineering related to power generation systems, their control and economics in different type of power plants for their operation and maintenance |
| C605 | Thermal Systems and Energy Efficiency (Code:3361907). | On completion of this course<br>1. Students will be able to get an idea about the basic concepts of different types of engines.<br>2. Knowledge of various thermal systems.<br>3. The Energy efficient measures for every thermal system can be well understood by the students.<br>4. Students will get an idea about the subject and well informed about the practical application of different formulae from an engineering point of view<br>5. Select available energy sources in a given situation.<br>6. Determine boiler performance based on energy efficiency parameters.<br>7. Analyze performance of furnace for a particular |

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| | | application. 8. Determine the performance of heat exchanger in a given situation.<br>9. Calculate load of HVAC systems. |
| C606 | PROJECT - II (COURSE CODE: 3361910) | On completion of this course student will be able to:<br>1. Plan and identify materials, processes and other resources optimally.<br>2. Develop innovative and creative ideas.<br>3. Develop leadership, interpersonal skill and team work.4.. Develop sense of environmental responsibility.<br>5. Purchase raw material/standard parts.<br>6. Interpret the drawings, manufacture, assemble, inspect & if necessary modify the parts/unit/assembly of the project work.<br>7. Familiar with fast changes in technology. 1. Plan, use, monitor and control resources optimally and economically.<br>8. 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 | √ | √ | | | | | | | √ | √ |

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|---|---|---|---|---|---|---|---|---|---|---|
| C102 | | √ | | | √ | √ | | | √ | |
| C103 | | | | | | √ | √ | | | |
| C104 | √ | | √ | √ | √ | √ | √ | √ | √ | |
| C105 | √ | √ | √ | √ | √ | | | √ | | |
| C106 | | √ | √ | √ | √ | √ | √ | √ | √ | |
| C201 | √ | √ | | | | | | | | |
| C202 | √ | √ | √ | √ | | | √ | | | |
| C203 | √ | √ | √ | √ | √ | √ | √ | √ | | √ |
| C204 | | | | | √ | √ | √ | √ | √ | √ |
| C205 | √ | √ | | | | | √ | | | |
| C206 | √ | | | | √ | √ | | √ | | |
| C207 | | | | | | | | | | |
| C208 | | | | | | | | | | |
| C301 | √ | √ | √ | √ | √ | | | √ | √ | √ |
| C302 | √ | √ | √ | √ | √ | √ | √ | √ | | |
| C303 | √ | √ | √ | √ | √ | √ | √ | √ | | |
| C304 | √ | √ | √ | √ | √ | √ | √ | √ | | |
| C305 | √ | | √ | √ | √ | √ | √ | | | |
| C306 | √ | √ | √ | √ | | | | | | |
| C307 | | | | | | | | | | |
| C401 | √ | √ | √ | √ | √ | √ | √ | √ | | |
| C402 | √ | √ | √ | √ | √ | √ | √ | √ | | |
| C403 | √ | √ | √ | √ | √ | √ | √ | √ | | |
| C404 | √ | √ | √ | √ | √ | | | | | |
| C405 | √ | √ | √ | √ | √ | | √ | √ | | |
| C406 | √ | √ | √ | √ | √ | | √ | √ | √ | √ |
| C407 | | | | | | | | | | |
| C501 | √ | √ | √ | √ | √ | √ | | √ | | |
| C502 | √ | √ | √ | √ | | | | √ | | |
| C504 | √ | √ | √ | √ | √ | √ | √ | √ | √ | |
| C505 | √ | | | | √ | | √ | | | |
| C506 | | | | | √ | | | √ | √ | √ |
| C507 | | | | | | | | | | |
| C601 | √ | √ | √ | √ | √ | | | √ | | √ |
| C602 | √ | √ | √ | √ | | | | √ | | |
| C603 | √ | | | | √ | √ | √ | √ | √ | √ |
| C604 | √ | √ | √ | √ | √ | √ | √ | √ | √ | |
| C605 | √ | √ | √ | √ | √ | √ | √ | | | |
| C606 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |

| course | PSO1 | PSO2 |
|---|---|---|
| C101 | √ | √ |

| | | |
|---|---|---|
| C102 | | √ |
| C103 | | √ |
| C104 | √ | √ |
| C105 | √ | √ |
| C106 | √ | √ |
| C201 | √ | √ |
| C202 | √ | √ |
| C203 | √ | √ |
| C204 | | √ |
| C205 | √ | √ |
| C206 | | √ |
| C207 | √ | √ |
| C208 | √ | √ |
| C301 | √ | √ |
| C302 | √ | √ |
| C303 | √ | √ |
| C304 | √ | √ |
| C305 | | √ |
| C306 | √ | √ |
| C307 | √ | √ |
| C401 | √ | √ |
| C402 | √ | √ |
| C403 | √ | √ |
| C404 | √ | √ |
| C405 | √ | √ |
| C406 | | √ |
| C407 | √ | √ |
| 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 weight ages for University exams and Internal assessment with due justification.

| Course code | Seme -ster | Course Name | CAY(2018) | | CAY(2017) | | CAY(2016 | |
|---|---|---|---|---|---|---|---|---|
| | | | S | A | S | A | S | A |
| C101 (3300001) | 1 | Basic Mathematics | 60 | 48.72 | 60 | 41.46 | 60 | 35.37 |
| C102 (3300002) | 1 | English | 60 | 42.31 | 60 | 21.95 | 60 | 35.37 |
| C103 (330003) | 1 | **Environment Conservation and Hazard Management** | 60 | 61.54 | 60 | 50 | 60 | 70.73 |
| C104 (3300004) | 1 | Engineering Physics(Gr-1) | 60 | 42.31 | 60 | 30.49 | 60 | 40.24 |
| C105 (3300007) | 1 | Basic Engg. Drawing | 60 | 52.56 | 60 | 58.54 | 60 | 51.22 |
| C106 (3301901) | 1 | **Engg. Workshop Practice** | 60 | 100 | 60 | 79.27 | 60 | 100 |
| C203 (3300008) | 2 | Applied Mechanics | 60 | 57.38 | 60 | 38.33 | 60 | 30.77 |
| C202 (3320003) | 2 | Advanced Mathematics(Gr-2) | 60 | 32.79 | 60 | 31.67 | 60 | 25.64 |
| C206 (3320004) | 2 | **Basic of Civil Engg.** | 60 | 95.08 | 60 | 93.33 | 60 | 96.15 |
| C205 (3321901) | 2 | Mechanical Drafting | 60 | 19.67 | 60 | 46.67 | 60 | 42.31 |
| C204 (3321302) | 2 | Material Science | 60 | 42.62 | 60 | 40 | 60 | 38.46 |
| C201 (3990001) | 2 | **Contributor Personality Development** | 60 | 83.61 | 60 | 100 | 60 | 76.92 |
| C307 (3330001) | 3 | Human Resource Management | 60 | 50 | 60 | 56.6 | 60 | 59.46 |
| C301 (3331901) | 3 | Manufacturing Engg.-I | 60 | 59.26 | 60 | 49.06 | 60 | 47.3 |
| C302 (3331902) | 3 | Thermodynamic s | 60 | 24.07 | 60 | 24.53 | 60 | 39.19 |
| C303 (3331903) | 3 | FluidMechanics & Hydraulics | 60 | 27.78 | 60 | 24.53 | 60 | 31.08 |
| C304(333 1904) | 3 | Strength of Material | 60 | 51.85 | 60 | 41.51 | 60 | 36.49 |
| C305 (3331905) | 3 | Applied Electrical and Electronic Engg. | 60 | 38.89 | 60 | 26.42 | 60 | 52.7 |
| C306 | 3 | **Computer** | 60 | 100 | 60 | 100 | 60 | 100 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (3331906) | | **Aided Machine Drawing** | | | | | | |
| C401 (3341901) | 4 | **Manufacturing Engg.-II** | 60 | 78.57 | 60 | 81.03 | 60 | 60 |
| C402 (3341902) | 4 | **Thermal Engg.-I** | 60 | 52.38 | 60 | 63.79 | 60 | 41.67 |
| C403 (3341903) | 4 | **Theory of Machines** | 60 | 54.76 | 60 | 67.24 | 60 | 60 |
| C404(3341904) | 4 | Computer Aided Design | 60 | 26.19 | 60 | 72.41 | 60 | 61.67 |
| C405 (3341905) | 4 | **Metrology and Instrumentation** | 60 | 71.43 | 60 | 79.31 | 60 | 50 |
| C406 (3341906) | 4 | Plant maintenance & Safety | 60 | 33.33 | 60 | 72.41 | 60 | 88.33 |
| C501 (3351901) | 5 | Thermal Engg.-II | 60 | 39.47 | 60 | 48.94 | 60 | 34.69 |
| C502 (3351902) | 5 | Design of Machine Elements | 60 | 34.21 | 60 | 51.06 | 60 | 48.98 |
| C503 (3351903) | 5 | **Manufacturing Engg.-III** | 60 | 76.32 | 60 | 59.57 | 60 | 89.8 |
| C504 (3351904) | 5 | **Industrial Engg.** | 0 | 65.79 | 60 | 82.98 | 60 | 85.71 |
| C505 (3351905) | 5 | **Estimating, costing & Engg. Contracting** | 60 | 81.58 | 60 | 76.6 | 60 | 87.76 |
| C506 (3351906) | 5 | **Self Employment & Enterpreeurship Development** | 60 | 94.74 | 60 | 82.98 | 60 | 89.8 |
| C507 (3351908) | 5 | **Project-I** | 60 | 97.37 | 60 | 97.87 | 60 | 97.96 |
| C601 (3361901) | 6 | **Computer aided Manufacturing** | 60 | 95.92 | 60 | 84 | 60 | 82.76 |
| C602 (3361902) | 6 | **Tool Engg.** | 60 | 91.84 | 60 | 64 | 60 | 82.76 |
| C603 (3361903) | 6 | **Industrial Management** | 60 | 95.92 | 60 | 90 | 60 | 93.1 |
| C604 (3361906) | 6 | **Power plant Engg.** | 60 | 87.76 | 60 | 48 | 60 | 68.97 |
| C605 (3361907) | 6 | **Thermal Systems & Energy Efficiency** | 60 | 91.84 | 60 | 88 | 60 | 82.76 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| C606 (3361910) | 6 | **Project-II** | 60 | 100 | 60 | 100 | 60 | 96.55 |
| 3990001 | 6 | **Contributor Personality Development** | --- | --- | --- | --- | 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 | PO1 | PO2 | PO3 | PO4 | PO 5 | PO 6 | PO 7 | PO 8 | PO9 | PO1 0 | PSO1 | PSO2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ist | C101 | 3 | 2 | | | | | 1 | | 1 | 1 | 2 | 2 |
| | C102 | | 2 | | | 2 | 2 | | | 3 | | | |
| | C103 | | | | | 3 | 3 | 3 | | 3 | | | |
| | C104 | 3 | | 3 | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 |
| | C105 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | | | 2 | 2 |
| | C106 | | 2 | 3 | 3 | 2 | 2 | 2 | 2 | | | 3 | 3 |
| IInd | C201 | 3 | 2 | 3 | 3 | 3 | 3 | 1 | 1 | | | 2 | 2 |
| | C202 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | | 2 | |
| | C203 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | |
| | C204 | | | | | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | C205 | 3 | 2 | | | | | | | | | 2 | |
| | C206 | 3 | | 2 | 2 | 2 | 2 | 2 | 2 | 1 | | 1 | 2 |
| IIIrd | C301 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | | 2 | 2 | 3 |
| | C302 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | | | 2 | 2 |
| | C303 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | | 2 | 3 |
| | C304 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | | 2 | 3 |
| | C305 | 2 | | 3 | 3 | 2 | 2 | 2 | 1 | 2 | | | 2 |
| | C306 | 2 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | | | 2 | 2 |
| IV th | C401 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | | | 3 | 3 |
| | C402 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 2 | | 3 | 2 |
| | C403 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | | | 3 | 2 |
| | C404 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | | | 3 | 2 |
| | C405 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | | 3 | 3 |
| | C406 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | | 2 |
| Vth | C501 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 2 | 1 | | 2 | 2 |
| | C502 | 2 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | | 3 | 2 |
| | C503 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | | | | 3 |
| | C504 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | | | 3 |
| | C505 | 2 | | 1 | | 2 | 2 | 3 | 1 | 3 | 3 | | 2 |
| | C506 | | | | | 2 | 2 | 3 | 3 | 3 | | | 3 |
| VIth | C601 | 2 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | | 1 | 2 | 2 |
| | C602 | 2 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | | | 2 | 2 |
| | C603 | 1 | 1 | | | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | C604 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 3 | 2 | | 3 | 3 |
| | C605 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | | 3 | 3 |
| | C606 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Direct attainment | | 71/30=2.36 | 76/29=2.62 | 78/29=2.68 | 75/28=2.67 | 69/34=2.02 | 68/34=2.0 | 64/34=1.88 | 61/32=1.90 | 47/22=2.13 | 21/9=2.33 | 60/26=2.30 | 69/29=2.37 |
| Indirect Attainment | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Attainment score= 80% of | | 2.2 | 2.49 | 2.54 | 2.53 | 2.01 | 2.00 | 1.90 | 1.92 | 2.10 | 2.26 | 2.24 | 2.29 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direct attainment + 20% of Indirect Attainment | | | | | | | | | | | | |

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| **Criterion4** | **Students performance** | 200 |
|---|---|---|

Intake Information

| Item | CAY (2018) | CAY(2017) | CAY(2016) |
|---|---|---|---|
| Sanctioned intake strength of the program(N) | 90 | 90 | 90 |
| Total number of students ,admitted through state level counseling | ---- | ---- | ----- |
| Number of students admitted through Institute level quota(N2) | 85 | 85 | 82 |
| Number of students ,admitted through lateral entry(N3) | -- | --- | ---- |
| Total number of students admitted in the program (N1+N2+N3) | 85 | 85 | 82 |

| 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 | II Year | IIIYear |
| CAY(2018) | 85 | 07 | 07 | 33 |
| CAY(2017) | 85 | 11 | 26 | 19 |
| CAY(2016) | 82 | 15 | 22 | 30 |
| CAY m1(2015) | 80 | 19 | 08 | 23 |

| | | | | |
|---|---|---|---|---|
| CAYm2(LYB)*(2014) | 82 | 08 | 17 | 18 |

| 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 | | Ist Year | IInd Year | IIIrdYear |
| CAY(2018) | 85 | 54 | 35 | 16 |
| CAY(2017) | 85 | 49 | 32 | 31 |
| CAY(2016) | 82 | 61 | 38 | 10 |
| CAY m1(2015) | 80 | 55 | 42 | 22 |
| CAYm2(LYB)*(2014) | 82 | 58 | 21 | 11 |

4.1 Enrolment Ratio

Enrolment ratio=N = N1+N2 / N

| Item<br>Students enrolled at the first year level on average basis during the period of assessment | 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 (2018) admitted in 2015 | Latest passed batch (2017) admitted in 2014 | Latest passed batch (2016) admitted in 2013 |
|---|---|---|---|
| Total number of students (admitted through state level counseling + admitted through Institute level quota+admitted through lateral entry) N1+N2+N3 | 80 | 82 | 89 |
| Number of students who have passed without backlogs in the stipulated period | 33 | 19 | 30 |
| Success Index(SI) | 33/80= 0.4125 | 19/82= 0.231 | 30/89= 0.361 |
| Average SI | 0.3348 | | |

**Success rate**=40x0.3348=**13.3933**

4.2.2Success 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 admitted in 2015(**2018**) | Latest passed batch admitted in 2014(**2017**) | Latest passed batch admitted in 2013(**2016)** |
|---|---|---|---|
| Total number of students (admitted through state level councelling+admitted through Institute level quota+admitted throughlateral entry) N1+N2+N3 | 80 | 82 | 89 |
| Number of students who have passed with Backlogs in the stipulated period | 16 | 31 | 10 |
| Success Index(SI) | 16/80=0.20 | 31/82=0.378 | 10/83=0.12 |
| Average SI | 0.2326 | | |

Success rate =20xAverage SI=20 x 0.2326=4.6533

Note: If 100% students clear without any backlog then also total marks scored will be 60 as both 4.2.1 and 4.2.2. 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 (**2018**) | CAY (**2017**) | CAY(**2016**) |
|---|---|---|---|
| Mean of CGPA or Mean percentage of all successful students(x) | 7.2563 | 7.286 | 7.014 |
| Total number of successful students(y) | 40 | 19 | 19 |
| Total number of students appeared in the examination(z) | 49 | 50 | 29 |
| API=x*(y/z) | AP1=5.923 | AP2 =2.768 | AP3= 4.595 |
| Average API=(AP1+AP2+AP3) /3 | 4.428 | | |

Academic Performance level=1.5 x Average API=1.5x4.428=6.643

### 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 final year**

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

| Academic performance | CAY(**2018-19**) | CAYm1(**2017-18**) | CAY(**2016-17**) |
|---|---|---|---|
| Mean of CGPA or Mean percentage of all successful students(x) | Data not available **7.0(appx.) | Data not available **7.0(appx.) | Data not available **7.0 (appx.) |
| Total number of successful students(y) | 38 | 47 | 49 |
| Total number of students appeared in the examination(z) | 42 | 58 | 60 |
| API=x*(y/z) | AP1=7.0x(38/42) | AP2=7.0x(47/58)= | AP3=7.0x(49/60) |

| | | | |
|---|---|---|---|
| | =6.333 | 5.672 | =5.71 |
| Average API=(AP1+AP2+AP3 ) /3 | 5.905 | | |

**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 05 years,i.e.,2018,2017,2016,2015,2014.

Academic Performance level=2.0 x Average API=2.0x5.905=11.81

**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 semster(1st year) exam.)*

| **Academic performance** | **CAY (2018-19)** | **CAY (2017-18)** | **CAY(2016-17)** | **CAYm1(2015-16)** | **CAY m2(2014-15)** |
|---|---|---|---|---|---|
| Mean of CGPA or Mean percentage of all successful students(x) | Data not available **7.0(appx.) | Data not available **7.0(appx.) | Data not available **7.0(appx.) | Data not available **7.0(appx.) | Data not available **7.0(appx.) |
| Total number of successful students(y) | 54 | 53 | 74 | 66 | 65 |
| Total number of students appeared in the examination(z) | 61 | 60 | 78 | 74 | 76 |
| API=x*(y/z) | AP1=7.0 x(54/61) =6.196 | AP2=7.0 x(53/60) = 6.183 | AP2=7.0x(74/78) =6.641 | AP3=7.0x(66/74) =6.2432 | AP4=7.0x(65/76) =5.986 |
| Average API=(AP1+AP2+AP3+ AP4+AP5) /5 | | | 6.2498 | | |

**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 05 years,i.e.,2018,2017,2016,2015,2014.

Academic Performance level=2.0 x Average API=2.0x6.2498=12.49968

### 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 campus recruitment

Y=Number of students admitted to higher studies

N= Number of final year students

| Item | Latest Passed batch 2018**(May2018 onwards )** | Latest Passed batch 2017 **(May2017 onwards )** | Latest passed batch 2016**(May2016 onwards )** | Latest passed batch 2015**(May2015 onwards )** |
|---|---|---|---|---|
| Total no. of final year students(N) | **33** | **19**(fresh pass outs) | **30**(fresh & backlogs passed in 2016) | **23** |
| No. of students placed in companies or Govt.Sector(X) | 11 | 08 | 06 | Data not available |
| No. of students admitted to higher studies(Y) | 10 | 10 | 08 | Data not available |
| 1.25X + Y | 23.75 | 20 | 15.5 | ---- |
| Placement index(1.25X+ Y/N) | 0.719 | 1.052 | 0.5166 | ----- |
| T=Average of (1.25X + Y)/N | 0.7625 | | | |
| Assessment=40x T(To be limited to 40) | 30.5013 | | | |

* The pass out students data for placement and higher studies for 2016-17 and onwards is collected from Training Placement Cell of the Institution, where students mentioned their preference along with their receipt on Counterfoil of Diploma passing Certificate.

### 4.7 Professional activities(20)

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

The institution has became Life member of Institution of Engineers(India)) on 26/04/2016. The institute organizes Project Melas from 2016 ,where Mechanical Engineering final year projects have been displayed for the public and Industry.

**4.7.2Publication of technical magazines, Newsletters, etc.(05)**

No such activity done yet at the Institution level.

| CRITERION 5 | Faculty Information and Contributions | 150 |
|---|---|---|

Faculty Information: CAY **2018-19**

| Name of the Faculty Member | Qualification, Board and year of Graduation | Designation of Teaching load(%)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 C.S.Rao | M.Tech..(Automobile Engg.)-1995,AMIE-(Mech.Engg.) | Lecturer in Mechanical Ebgg. D.O.J.:06/04/2000 | 30 % | 40 % | 30 % | ---- | ----- | 21years(Teaching) |
| Dr.B.K. Dandapat | P.hD.(Engg.)-2011-Jadavpur University, | Lecturer in Mechanical Ebgg. D.O.J.:28/04/2000 | __ | 40 % | 60 % | 01 | ------ | 21 years (Teaching) |
| Shri B.Moharana | M.E.(Mech. Engg.)-2016 NITTTR, | Lecturer in Mechanical Engg. D.O.J.:27/04/2000 | 20 % | 40 % | 40 % | 01 | ----- | 21 years(Teaching) |
| ShriP.V. Gadge | M.Tech.(Machine Design)-2002-SVNIT,Nagpur, | Lecturer in Production Engg. D.O.J.:26/06/2000 | 20 % | 40 % | 40 % | --- | --- | 19 years(Teaching) |
| Shri Dipen Patel(on Short | B.E.(Mech.Engg.)-2006-Dr.Babasaheb Ambedkar | Lecturer in Mechanical Engg. D.O.J.:16/0 | 30 % | 40 % | 30 % | ---- | ---- | 06 years(Teaching) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| term contract) | Marathwada Univ, Maharastra | 1/2012 | | | | | | |
| Shri Vishal Dhoke(on Short term contract) | B.E.(Mech.Engg.),-2008-Sant. Gadge Baba Amrabai University MBA-Jaipur National University | Lecturer in Mechanical Ebgg. D.O.J.:16/01/2012 | 20 % | 40 % | 40 % | --- | ---- | 06-years(Teaching) 03 years-(Industry) |
| Shri D.N.Shinde | M.Sc.(Maths)- | Lecturer in Mathematics D.O.J.: 08/06/2001 | 17 % | -- | -- | ---- | ----- | 21 years (Teaching) |
| Shri A.D.Desai | M.Sc.(Physics)- | Lecturer in Physics D.O.J.: 01/07/1994 | 17 % | -- | -- | --- | ---- | 24 years(Teaching) |
| Shri S. Chouhan | M.A.(English) | Lecturer in English D.O.J.: /05/2014 | 17 % | -- | -- | --- | --- | 06years(Teaching) |
| Shri M.Billiwal | B.E.(Civil Engg.) | Lecturer in Civil Engg. D.O.J.: | --- | 20 % | -- | --- | ---- | 06 years(Teaching) |
| Shri J.K.Rohit | B.E.(Elect.Engg.)-Gujarat Univ.-2004 | Lecturer in Elect.Engg. D.O.J.:03/09/2007 | -- | 20 | -- | --- | ---- | 10years(Teaching) 03 years(Industry) |

Faculty Information: CAYm1 **2017-18**

| Name of the Faculty Member | Qualification, Board and year of Graduation | Designation of Teaching load(%)joining the | Distribution of Teaching load(%) | | | Academic Research | | Years of Experience |
|---|---|---|---|---|---|---|---|---|
| | | | I ye | II ye | III ye | Research paper | Faculty receiving | |

| | | Institution | ar | ar | ar | publications | M.Tech/Ph.D.during the assesment year | |
|---|---|---|---|---|---|---|---|---|
| Shri C.S.Rao | M.Tech..(Automobile Engg.)-1995,AMIE-(Mech.Engg.) | Lecturer in Mechanical Ebgg. D.O.J.:06/04/2000 | 30 % | 40 % | 30 % | ---- | ----- | 20 years(Teaching) |
| Dr.B.K. Dandapat | P.hD.(Engg.)-2011-Jadavpur University, | Lecturer in Mechanical Ebgg. D.O.J.:28/04/2000 | __ | 40 % | 60 % | 01 | ------ | 20 years (Teaching) |
| Shri B.Moharana | M.E.(Mech. Engg.)-2016 NITTTR, | Lecturer in Mechanical Engg. D.O.J.:27/04/2000 | 20 % | 40 % | 40 % | 01 | M.E.-2016 | 20 years(Teaching) |
| ShriP.V. Gadge | M.Tech.(Machine Design)-2002-SVNIT,Nagpur, | Lecturer in Production Engg. D.O.J.:26/06/2000 | 20 % | 40 % | 40 % | --- | --- | 18 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 % | ---- | ---- | 05 years(Teaching) |
| Shri Vishal Dhoke(on Short term contract) | B.E.(Mech.Engg.),-2008-Sant. Gadge Baba Amrabai University MBA-Jaipur National University | Lecturer in Mechanical Ebgg. D.O.J.:16/01/2012 | 20 % | 40 % | 40 % | --- | ---- | 05-years(Teaching) 03 years-(Industry) |
| Shri Sohil | B.E.(Prod.Engg.)- | Lecturer in Mechanical | 30 % | 40 % | 30 % | --- | --- | 04 years- |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Khalani( on Short term contract) | 2007,Bhavnagar University, Gujarat | Ebgg. D.O.J.:16/01/2012(**relived in 2017to join in(MSDE) Skill Ministry** | | | | | | Industry 05 years-Teaching |
| Shri D.N.Shinde | M.Sc.(Maths)- | Lecturer in Mathematics D.O.J.: 08/06/2001 | 17 % | -- | -- | ---- | ----- | 20 years (Teaching) |
| Shri A.D.Desai | M.Sc.(Physics)- | Lecturer in Physics D.O.J.: 01/07/1994 | 17 % | -- | -- | --- | ---- | 23years( Teaching) |
| Shri S. Chouhan | M.A.(English) | Lecturer in English D.O.J.: /05/2014 | 17 % | -- | -- | --- | --- | 05 years(Teaching) |
| Shri M.Billiwal | B.E.(Civil Engg.) | Lecturer in Mechanical Engg. D.O.J.: | --- | 20 % | -- | --- | ---- | 05 years(Teaching) |
| Shri J.K.Rohit | B.E.(Elect.Engg.)-Gujarat Univ.-2004 | Lecturer in Elect.Engg. D.O.J.:03/09/2007 | -- | 20 | -- | --- | ---- | 09years( Teaching) 03 years(Industry) |

Faculty Information: CAY m2 **2016-17**

| 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 ye | II ye | III ye | Research paper | Faculty receiving | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | ar | ar | ar | publications | M.Tech/Ph.D.during the assesment year | |
| Shri C.S.Rao | M.Tech.(Automobile Engg.)-1995 | Lecturer in Mechanical Ebgg. D.O.J.:06/04/2000 | 50 % | 20 % | 30 % | --- | --- | 19 years(Teaching) |
| Dr.B.K. Dandapat | Ph.D.(Engg.)-Jadavpur University-2011 | Lecturer in Mechanical Ebgg. D.O.J.:28/04/2000 | -- | 40 % | 60 % | --- | ---- | 19years (Teaching) |
| Shri S.S.Shrawge | M.E.(Mech. Engg.),-2010,Maharastra | Lecturer in Mechanical Ebgg. D.O.J.:13/03/2000 | 20 % | 40 % | 60 % | --- | ----- | 18 years(Teaching) |
| Shri B.Moharana | M.E.(Mech. Engg.),B.E.(Mech.Engg.) | Lecturer in Mechanical Engg. D.O.J.:27/04/2000 | 30 % | 30 % | 40 % | ----- | ---- | 19 years(Teaching) |
| ShriP.V. Gadge | M.Tech.(Machine Design),B.E.(Production Engg.) | Lecturer in Production Engg. D.O.J.:26/06/2000 | 30 % | 40 % | 30 % | --- | ----- | 17 years(Teaching) |
| Shri Dipen Patel | B.E.(Mech.Engg.)-2006-Dr.Babasahe | Lecturer in Mechanical Ebgg. | 20 % | 40 % | 60 % | --- | ------ | 04 years(Teaching) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | b Ambedkar Marathwada Univ, Maharastra | D.O.J.:16/01/2012 | | | | | | |
| Shri Vishal Dhoke | B.E.(Mech.Engg.),-2008-Sant. Gadge Baba Amrabai University MBA-Jaipur National University | Lecturer in Mechanical Ebgg. D.O.J.:16/01/2012 | 20 % | 40 % | 40 % | ---- | ---- | 04-years(Teaching) 03 years-(Industry) |
| Shri Sohil Khalani | B.E.(Prod.Engg.)-2007,Bhavnagar University, Gujarat | Lecturer in Production Ebgg. D.O.J.:16/01/2012 | 21 20 % | 22 40 % | 24 60 % | ----- | ------- | 04 years-Industry 04 years-Teaching |
| Shri D.N.Shinde | M.Sc.(Maths)- | Lecturer in Mathematics D.O.J.: 08/06/2001 | 17 % | -- | -- | ---- | ----- | 19 years (Teaching) |
| Shri A.D.Desai | M.Sc.(Physics)- | Lecturer in Physics D.O.J.: 01/07/1994 | 17 % | -- | -- | --- | ---- | 22 years(Teaching) |
| Shri S. Chouhan | M.A.(English) | Lecturer in English D.O.J.: /05/2014 | 17 % | -- | -- | --- | --- | 04 years(Teaching) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Shri M.Billiwal | B.E.(Civil Engg.) | Lecturer in Mechanical Engg. D.O.J.: | --- | 20 % | -- | --- | ---- | 04 years(Teaching) |
| Shri J.K.Rohit | B.E.(Elect.Engg.)-Gujarat Univ.-2004 | Lecturer in Elect.Engg. D.O.J.:03/09/2007 | -- | 20 | -- | --- | ---- | 08years(Teaching) 03 years(Industry) |

**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 this 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(2018) | 90+180=270 | (06+05-02)=09 | 30 |
| CAY(2017) | 90+180=270 | (08+05-02)=11 | 24.54 |
| CAY(2016) | 90+180=270 | (08+05-02=11 | 24.54 |
| CAYm1(2015) | 90+180=270 | (08+05)-02=11 | 24.54 |
| CAYm2(2014) | 90+180=270 | (08+5)-02=11 | 24.54 |
| Average SFR | | | 25.632 |

**a=8**,**b=05**(01-Physics,01=Maths,01=Elect.Engg.,01=Civil Engg.,01=English),

**c=02**(01=Elect.Engg.,01=Civil Engg.)

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=270:1(students faculty ratio N/F)

**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 1:25 faculty student Ratio

x=05+01=06,y=03+04=07,F=13.5(for 20:1 SFR),F=10.8(for 25:1 SFR)

| **Year** | **Y (B.Tech) or equivalent** | **X (M. Tech) or Ph.D(Humanity subjects)** | **F (calculated with 25:1 SFR)** | **F (calculated with 25:1 SFR)** | **FQ = 2* (10X+7 Y)/F (SFR 25:1)** | **FQ = 2* (10X+7 Y)/F (SFR 20:1)** |
|---|---|---|---|---|---|---|
| 2018-19 | 06 | 06 | 270/25= 10.8 | 270/20= 10.8 | 20.74 | 16.592 |
| 2017-18 | 06 | 07 | 270/25= 10.8 | 270/20= 13.5 | 20.74 | 16.592 |
| 2016-17 | 06 | 07 | 270/25= 10.8 | 13.5 | 20.74 | 16.592 |
| 2015-16 | 07 | 06 | 270/25= 10.8 | 13.5 | 20.74 | 16.592 |
| 2014-15 | 07 | 06 | 270/25= 10.8 | 13.5 | 20.74 | 16.592 |

**5.3** Faculty Retention **(20)**

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

(i)total faculties in 2014-15=08, 8/8=100%

(i)total faculties in 2015-16=08, 8/8=100%

(iii)Total faculties in 2016-17=08,(one regular faculty Shri Swapnil S. shrawge expired on 05/01/2017.)

7/8x100=87.5% **(marks=15)** (if faculties considered = 07 in 2016-17)

(iv) Total faculties in 2017-18=06(Mr.Sohil Khalani resigned from post)

6/8x100=75% **(marks=15)(** (if faculties considered = 07 in 2017-18)

(v) Total faculties in 2018-19=06 till date (file processed for new faculties)

6/8=75%(Marks=15)

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

| Name of Faculty | Max 5 per faculty | | |
|---|---|---|---|
| | CAY m2(2018) | CAY m1(2017) | CAY(2016) |
| Shri C.S.Rao | -- | ----- | --- |
| Dr.B.K.Dandapat | ---- | ---- | 04(Principal-TPO meet of BOAT, National Conference of BOAT, NPTEL Workshop at LIT, NITI AYOG Meeting) |
| Shri B.Moharana | ----- | --- | 01 |
| Shri P.V.Gadge | ---- | ----- | 01 |
| Shri Dipan Patel | ---- | ---- | -- |
| Shri Vishal Dhoke | ----- | ---- | --- |
| Shri Sohil Khalani | ---- | ------ | 01 |
| SUM | 00 | 00 | 07 |
| RF=Number of faculty required to comply with 25:1 student -faculty ratio as per 5.1 | 10.8 | 10.8 | 10.8 |
| Assessment=6x sum/0.5RF(marks limited to 30) | 00 | 00 | 7.77 |
| Average assessment over three years (marks limited to 30)= 2.592 | | | |

**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 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.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.

Lecturers got promotions as per 6th pay AICTE CAS and got promotion to 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-01 | 30ftx 20ft | 90 | 01 | White board with marker pen, black board | Yes ,06 days /week |
| 2 | Room No.02 | 30ftx 20ft | 90 | 01 | White board with marker pen, black board | Yes ,06 days /week |
| 3 | Room No-03 | 30ft x 20 ft | 90 | 01 | White board with marker pen, black board | Yes ,06 days /week |

6.2.1Availability 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 | Fitting Section | 30 | Bench vice, hammer | 06 days /week | Project Room(old projects),Reading room (adjacent to library) | PO2,PO4 ,PO8,PSO1 |
| 2 | Smithy Section | 30 | Anvil, Furnace ,Hammer | 06 days /week | Project Room(old projects),Reading room (adjacent to library) | PO2,PO4 ,PO8,PSO1 |
| 3 | Welding section | 30 | Arc welding machine, welding rod, oxyacetylene welding machine | 06 days /week | Project Room(old projects),Reading room (adjacent to library) | PO2,PO4 ,PO8,PSO1 |
| 4 | Machine shop | 16 | Single point cutting tool,milling cutter,grinder, (lathe | 06 days /week | Project Room(old projects),Reading room (adjacent to library) | PO2,PO4 ,PO8,PSO1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | machine)turning tools | | | |

6.3. Adequate and well equipped laboratories and technical man power

| Sr. No. | Name of the laboratory | No.of students per setup | Name of the important equipment | Weekly utilization status(all the courses for which lab is utilized) | Technical man power support | | |
|---|---|---|---|---|---|---|---|
| | | | | | Name of the technical staff | Designation | Qualification |
| 1 | Thermal Engg. Lab | 30 | 4-Stroke Petrol Engine test Rig, 2-Stroke petrol Test rig, Diesel Engine Test Rig, Air compressor, Refrigeration Test Rig, Air conditioning Test Rig, Vavle timing diagram trainer for petrol and Diesel Engine | 06 hrs | 1.Prakash Bij | Lab. Instructor | Diploma Engg.(Mech.) |
| 2 | Workshop | 20 | Machine lab-Lathe m/c, milling m/c, Fitting section, smithy section | 24 hrs | 1.Mahendra Rohit 2.Bhagwan Korda 3.Subhash Patel 4.Dolu Nadge | Workshop Instructors | I.T.I |
| 3 | MSM lab | 30 | Hardness testing m/c, Metallurgical microscope, Furnace, Polishing machine, Grinder, Standard specimen | 4 hrs | Akhsay Solanki | Lab Attendent | 12th Commerce |
| 4 | CAD/CAM L ab | 20 | CAD design software in 16 computers | 6hrs | 1.Ritesh Vad | Lab. Instructor | Diploma Engg.(Mech.) |

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 Mechanical Engg. equipments, machineries kept in ne lab | To give better understanding of the equipments, machineries | In subjects like Fluid Mechanics, Thermal Engg., Theory of Machines, Power Plant Engg. | In all the courses of Mech. Engg. from sem-1 to sem-6 | Yes |
| 2 | Old Projects of Mechanical Engg. | Better old projects of Mechanical 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 | Yes |

**6.5 Laboratories: Maintenance and overall ambiance(10)**

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

6.6Availablity of computing facility in the Department

| No. of Computer Terminals | Students computer ratio | Details of legal software | Details of Networking | Details of Printers, scanners etc |
|---|---|---|---|---|
| | | | | |

| | | | | |
|---|---|---|---|---|
| 18 | 270/18=15 | CAD software | 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 |
|---|---|---|---|---|
| (PO1)Basic Knowledge | 2.36 | 2.2 | 0.16 | Lecturers asked to take extra classes in |

| | | | | |
|---|---|---|---|---|
| | | | | related subjects |
| (PO2)Discipline Knowledge | 2.62 | 2.49 | 0.13 | Lecturers asked to take extra classes in related subjects |
| (PO3)Experiments &Practices | 2.68 | 2.54 | 0.14 | Lecturers & lab Technicians were directed to take extra classes in related practicals |
| (PO4)Engineering Tools | 2.67 | 2.53 | 0.14 | Purchase of required Items are placed before the higher authority |
| (PO5)The Engineer & Society | 2.02 | 2.01 | 0.01 | Students were motivated to participate in Social service activities through Engineering |
| (PO6)Environment and sustainability | 2.01 | 2.0 | 0.01 | Students are involved in plantation and swachh Bharat Abhiyan |
| (PO7)Ethics | 1.88 | 1.90 | -- | ---- |
| (PO8)Individual and Team work | 1.90 | 1.92 | 0.02 | Students are motivated through Project work to work as a team for better results |
| (PO9)Communication | 2.13 | 2.10 | 0.03 | Guest lectures had been organised by Institution |

| | | | | |
|---|---|---|---|---|
| (PO10)Lifelong learning | 2.33 | 2.26 | 0.07 | Motivation in classrooms were given |
| PSO-1 | 2.30 | 2.24 | 0.06 | Students encouraged to do better |
| PSO-2 | 2.37 | 2.29 | 0.08 | Students encouraged to 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(2018) | LPB(2017) | LPB(2016) |
|---|---|---|---|
| Success Index(from criteria 4.2.1) | 0.4125 | 0.231 | 0.361 |

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(2018) | LPB(2017) | LPB(2016) |
|---|---|---|---|
| Placement index(from criteria 4.6) | **0.719** | **1.052** | **0.5166** |

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

| Item | LPB(2018) | LPB(2017) | LPB(2016) |
|---|---|---|---|
| Academic performance index(from criteria 4.3) | 5.923 | 2.768 | 4.595 |

7.5 New facility created in the program **(20)**

| Item | CAY(2018) | CAY(2017) | CAY(2016) |
|---|---|---|---|
| Internet (wi fi ) | W i Fi(BSNL) | W i Fi(BSNL) | W i Fi(BSNL) |
| Guest lectures from Industry | Lecture arranged related to soft skills,Technical skills | Lecture arranged related to soft skills,Technical skills | Lecture arranged related to soft skills,Technical skills |
| Expert talk in various subjects | EXPERT TALKS | EXPERT TALKS | To be started from |

| | | | |
|---|---|---|---|
| of Engineering(from IITs,NITs) approved | for Soft Skill from SSR college. | for Mechanical engg, from SVNIT,surat | September-oct. 2017 |
| Apprenticeship training through National Apprenticeship Training Scheme of MHRD(in coordination with Board of Apprenticeship Training(BOAT),WR,Mumbai) | --- | Procedure is followed in Apprenticeship training to be provided to students | 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 counselors 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 Mechanical Department in almost all theory subjects aswell as in final year Project ,to build confidence in the technical aspect of the course. This is done after getting feedback of the students that they used to fail in the viva-voce exam of Gujarat Technological University.

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 incharge and lecturers involved for Mechanical Deptt are:

| Name of Faculty | Responsibility |
|---|---|
| Dr.B.K.Dandapat | TPO,Mechanical &BOAT Overall |
| Shri B.moharana | Mechanical Engg. |
| Shri Sohil Khalani | Mechanical & Production |
| Shri P.V.Gadge | Mechanical & Production |

Also campus placement drive is organized from 2017 to 2019. 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 futher progress in the matter of better training and placement to the students.

**8.5 Enterpreneurship cell/Technoogy Business Incubator(5)**

Not available

| | | |
|---|---|---|
| **CRITERION 9** | **Governance, Institutional Support and financial Resources** | 75 |

9.1 Organisation ,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 produce skilled Engineering Diploma Passouts.

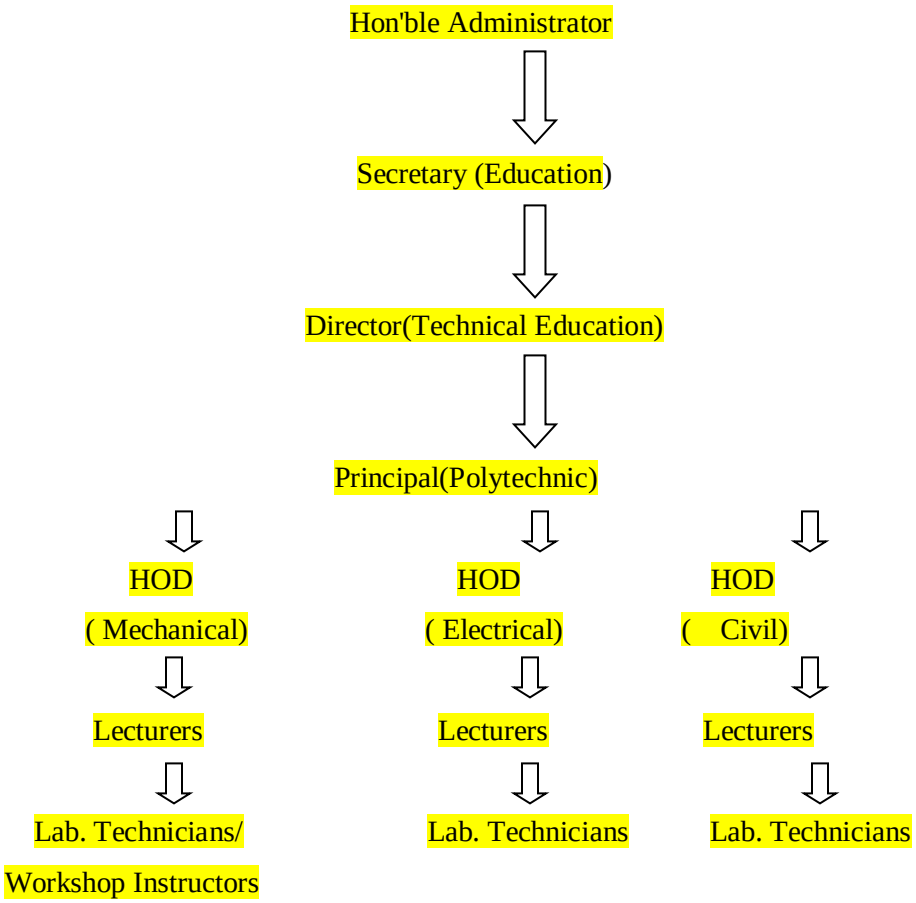
To Ensure Optimal utilization of available resources and manpower.

To Nurture students with knowledge, attitude and skill for their employability 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 1988.The institute was under the Administration of Dadra & Nagar Haveli and Hon'ble Administrator, 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 from 2018-2020 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 R.N.D.Sharma | | |
| 2 | I/C HOD in Mechanical Engg.Department | Shri C.S.Rao | | |
| 3 | I/C HOD in Electrical Department | Shri S.Mishra | | Department level administration,lanboratory development/upgradation,academic weekly revoiew as |
| 4 | I/C HOD in | Shri S.Chennappa | | |

| | | | | |
|---|---|---|---|---|
| | Computer & .I.T.Department | | | per GTU requirements and documentation of all activities |
| 5 | I/C HOD in Electronics & Communicationl Department | Smt.M.G.Desai | | |
| 6 | I/C Humanities &Science Subjects | Shri D.N.Shinde | | |
| 7 | I/C HOD in Textile Manufacturing Technology | Dr.B.K.Dandapat | | |
| 7 | GTU coordinator | Shri K.B.Patel,Shri A.A.Patil,Shri S.S.Mecwan | Shri Sanjay Solanki(Lect.)Shri Bhavin Doshi(Lect.) | Enrollments,Exams work,assesment,,all GTU matters |
| 8 | I/C Student section & Academic Committee | Smt.C.N.Desai, Dr.B.Jha, | Ms.Nisha Singda, Shri Ajay Patel, Shri Akshay Solanki, Shri Santosh Gangoda,Shri Vikram Mali | GTU Certificates & marksheets,Admission data & documents,safe keeping & distribution,bonafide certificates etc,all students record maintainance Filling up GTU Exam forms, Rechecking forms,&reassessment forms |
| | | | All HODs Shri D.L.Sahu, Shri P.V.Gadge | Academic Planning, Inspection-documentation, quality aspects, students attendance and detention issue |
| 9 | Affiliation Committee | Dr.J.B.Rana, Shri S.Chennappa Dr.B.K.Dandapat | Smt.M.G.Desai Shri K.B.Patel, Shri Sanjay Solanki | Affiliation documentation for extension of Approval(EOA) AICTE& GTU Affiliation |
| 11 | I/C Student CoCurricular Activity | Shri P.V.Gadge, Shri Dipan Patel | Shri J.K.Rohit(Sports) Shri A.D.Desai & Smt.Urvi Patel(Cultural), Shri Sachin | Advance planning of all activities,students management and monitoring,students appreciation & aeard distribution |

| | | | | |
|---|---|---|---|---|
| | | | Chouhan(Literary) ,Smt.H.H.Parmar & Shri Suraj Mahala(Technical events & exhibitions) | |
| 12 | GTU Innovation club & Open Source Technology club | Shri B.Moharana, Shri Sanjay Solanki, Shri Vishal Dhoke | Shri Mitesh Billiwala Smt. K.R.Jadeja Smt.Alka Patel Shri Bhaven Doshi Shri Sanjay Solanki | Innovations in projects , as per GTU guidelines & open software workshops |
| 13 | Training & Placement Section | Dr.B.Jha | Shri Vishal Dhoke Shri Dipan Patel Shri J.K.Rohit Shri A.A.Patil Shri Sohit Mecwan, Smt.Alka Patel,Smt.K.R.Jadeja | Training,campus placements,educational & Industrial visits/Tours,Expert talk,Workshops/seminars |
| 14 | Workshop Superintendent | Shri P.V.Gadge | Shri S.C.Patel,Shri B.S.Korda, M.B.Rohit, Shri Dolu Nadge | All Workshop work upgradation etc. |
| 15 | Master Time table Section | Shri D.L.Sahu Shri S.Chennappa Shri D.N.Shinde | ShriSohit Mecwan Shri A.D.Desai | Preparation & compiling maser time table |
| 16 | Library Committee | Mrs..M.S.Desai, Shri Baven Doshi, Shri B.H.Chouhan | Shri Dipen Patel Smt. K.R.Jadeja | All issues of books,journals etc in library,reading section for students and staffs |
| 17 | Discipline Committee | Smt.M.G.Desai,Dr.J.B. Rana& all HODs | Shri S.C.Patel, M.B.Rohit, Smt.H.H..Parmar Shri Suraj Mahala | Disciplinary issues |
| 18 | Institute Magazine Committee | Shri P.V.Gadge, Shri S.Chennappa | All HODs-Chief Contributors,Shri Sachin Chouhan- | To invite records of events from department and compile them |

| | | | | |
|---|---|---|---|---|
| | | | Language Editor | |
| 19 | Rector, Boys Hostel | Shri D.L.Sahu | 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 I/C Computer Programmer | Shri S.Chennappa Shri S.Mecwan | Shri Sanjay Solanki, Shri A.A.Patil | Monitoring & upgradation of website Develop need based computer programs for effective working & public viewing |

The functions of various Bodies presently working in Dr. B.B.A. Govt.Polytechnic from 2016-2018 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 reveiew as per GTU requirements and documentation of all activities |
| 2 | I/C HOD in Mechanical Engg.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 | Dr.J.B.Rana | | |

| | | | | |
|---|---|---|---|---|
| | Humanities &Science Subjects | | | |
| 7 | GTU coordinator | Dr.J.B.Rana,/Dr.B.Jha& Shri S.Chennappa | Shri Sanjay Solanki(Lect.)Shri Bhaven Doshi(Lect.) | Enrollments, Exams work, assessment, all GTU matters |
| 8 | I/C Student section | Dr.B.Jha,Shri B.Moharana | Shri Mitesh Billiwala<br>Shri Bhaven Doshi<br>Shri Subhash Patel<br>Shri Bhagwan Korda<br>MS.Nisha Shingda<br>Shri Ritesh Vad | GTU Certificates & mark sheets, Admission data & documents, safe keeping & distribution, bonafide certificates etc, all students record maintenance |
| 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<br>Shri K.B.Patel<br>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)<br>Smt.Urvi Patel& Sohil Khalan(Cultural) & Sachin Chouhan(Literary)<br>Smt Hemangini Parmar& Suraj Mahala(Technical Events & Exhibitions) | Advance planning of all activities,students management and monitoring,students appreciation & aeard distribution |
| 12 | GTU Innovation club & Open Source Technology club | Shri R.N.D.Sharma(GIC)<br>Dr.B.Jha(OSTC) | Shri Mitesh Billiwala<br>Shri Vishal Dhoke<br>Smt. K.R.Jadeja<br>Smt.Alka Patel<br>Shri Bhaven | Innovations in projects , as per GTU guidelines & open software workshops |

| | | | | |
|---|---|---|---|---|
| | | | Doshi<br>Shri Sanjay Solanki | |
| 13 | Training & Placement Section | Dr.B.Jha<br>Dr.B.K.Dandapat | Shri P.V.Gadge<br>Shri B.moharana<br>Shri Sohil Khalani<br>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 Superintendent | Shri P.V.Gadge | Shri Sohil Khalani<br>Shri M.B.Rohit,<br>Shri Dolu Nadge | All Workshop work upgradation etc. |
| 15 | Master Time table Section | Shri D.L.Sahu<br>Shri C.S.Rao | Shri D.N.Shinde<br>Sohit Mecwan<br>Shri A.D.Desai | Preparation & compiling maser time table |
| 16 | Library Committee | Mrs..M.S.Desai,Asst.Librarian-Convener<br>Shri S.Mishra&Mrs.C.N.Desai-members | Shri Dipen Patel<br>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<br>Shri A.A.Patil<br>Smt.H.H..Parmar<br>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<br>Dr.B.Jha& Dr.J.B.Rana | Shri S.Chennappa<br>Shri S.Mecwan | Monitoring & upgradation of website |
| 22 | I/C Computer | Shri S.Chennappa<br>Shri S.Mecwan | Shri Sanjay Solanki | Develop need based computer programs for |

| | | | | |
|---|---|---|---|---|
| | Programmer | | Shri A.A.Patil | 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.The complete administrative and academic work is distributed among the Lecturers, Lab instructors, Office Superintendent. All the activities are properly monitored by Principal, Dr. B.B.A. Govt. Polytechnic.

**9.1.4 Delegation of Financial Powers(5)**

The Principal is also DDO of the Institution. The Office Superintendent (O.S.),Dr.B.B.A.Govt.Polytechnic has been authorized to handle the DDO charge from 27.06. 2018.

The HOD responsibility was given on rotation basis ( two years tenure) from the existing Department faculties.

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

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. Gov. 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

| Total income in CFY(**2018-19**) | | | Actual expenses in CFY (Till,28th January 2019) | | | Total no. of students in CFY |
|---|---|---|---|---|---|---|
| Fee (Rupees in thousands) | Govt. Grants (Rupees in thousands) | Any other sources (Rupees in thousands) | Recurring including salaries (Rupees in thousands) | Non - recurring | Special projects/Any other ,specify | Expenses per students |
| (i)1st sem fees= Data not available (ii)3rd,5th Sem = 1134.6 | Major Head(38900+420+500+430+2500+2127+3873= 48300.00 | -- | 38646.891 | ----- | ---- | Total No.=746, Expenses per students= Rs. Rs.51,805.4839 |
| | | | | | | |
| Total income in CFYm1(**2017-18**) | | | Actual expenses in CFY(Till,25th January 2018) | | | Total no. of students in CFY |
| Fee (Ruppees in thousands) | Govt. Grants (Ruppees in thousands) | Any other sources (Ruppees in thousands) | Recurring including salaries (Ruppees in thousands) | Non - recurring | Special projects/Any other ,specify | Expenses per students |
| (i)1st sem. SP&OS | Major Head(41000+420+500+430+3603 | -- | 42354.228 | ----- | ---- | Total No.=684, Expenses |

| | | | | | | |
|---|---|---|---|---|---|---|
| .=756.700,(ii)1st,3rd,5th Sem DO=1221.575,(iii)4th,6thSem DO=308.200,**Total=2286.475** | +3000+3181+200+200+100+100=51884 | | | | | per students= Rs.61.921 |
| Total income in CFYm2(**2016-17**) | | | Actual expenses in CFY(Till March 2017) | | | Total no. of students in CFY |
| Fee (Ruppees in thousands) | Govt. Grants (Ruppees in thousands) | Any other sources (Ruppees in thousands) | Recurring including salaries (Ruppees in thousands) | Non - recurring | Special projects/Any other ,specify | Expenses per students |
| 2511 | Major Head(39737+434+2921+2959+349+1832)=48232 | -- | 47997 | ----- | ---- | Total No.=749, Expenses per students= Rs.64,081.44 |

B.CFYm1

| Total income in CFYm3(**2015-16**) | | | Actual expenses in CFY(Till .....) | | | Total no.of students in CFYm1 |
|---|---|---|---|---|---|---|
| Fee (Ruppees in thousands) | Govt. Grants | Any other sources | Recurring including salaries | Non - recurring | Special projects/Any other ,specify | Expenses per students |
| 4192 | 60700 | -- | 44538 | ------ | --- | Total No.=698, Expenses per students=Rs.63808.02 |

C.CFYm4

| Total income in CFYm4(**2014-15**) | | | Actual expenses in CFY(Till .....) | | | Total no.of students in CFYm2 |
|---|---|---|---|---|---|---|
| Fee (Rs. in thousand) | Govt. Grants (Rs. in thousand) | Any other sources | Recurring including salaries (Rs. in thousand) | Non - recurring (Rs. in thousand) | Special projects/Any other ,specify (Rs. in thousand) | Expenses per students (Rs. in thousand) |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1434 | 94400 | --- | 51419 | --- | ---- | No.=720, Expenses per students=Rs.71,415.27 |

D.CFYm5(**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 |
| -- | --- | ---- | ---- | ---- | ----- | --- |

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 **2015-16** (Rs. in thousands) | Actual expense in **CFYm12015-16** (till ) (Rs. in thousands) |
|---|---|---|---|---|
| Infrastrcture built up | --- | --- | -- | --- |
| Library | --- | --- | -- | --- |
| Laboratory Equipment | --- | --- | --- | --- |
| Teaching &Non Teaching staff salary | 39737<br>+349 | 39516<br>+348 | 40000<br>+420 | 35368<br>+355 |
| Maintenance and spares | 2921 | 2921 | 5000 | 5276 |
| R&D | --- | --- | -- | -- |
| Training and travel | 434 | 434 | 150 | 123 |
| Miscellaneous expenditures | 1832 | 1819 | 2000+130 | 805<br>+0 |
| Others/Specify | 2959 | 2959 | 3000<br>+5000<br>+5000 | 2611<br>+0<br>+0 |
| Total | 48232 | 47997 | 60700 | 44538 |

| **Item** | **Budget in CFY 2017-18 (Rs. in thousands)** | **Actual expense in CFY2017-18(till jan 25/2018 ) (Rs. in thousands)** | **Budget in CFY 2018-19 (Rs. in thousands)** | **Actual expense in CFY2018-19(till jan 28/2019 ) (Rs. in thousands)** |
|---|---|---|---|---|
| Infrastrcture built up | --- | --- | --- | --- |
| Library | --- | --- | --- | -- |
| Laboratory Equipment | --- | --- | --- | -- |
| Teaching &Non Teaching staff | 41000+420 | 35376+294 | 38900+420 | 32851.388+262.628 |

| | | | | |
|---|---|---|---|---|
| salary | | | | |
| Maintenance and spares | 3000 | 1824.931 | 2127 | 505.546 |
| R&D | --- | --- | --- | --- |
| Training and travel | 430 | 59.029 | 430 | 391.47 |
| Miscellaneous expenditures | 2500+1103= 3603 (office expenses) | 2676.346 | 2500+50 | 2314.54+0 |
| Others/Specify | 2000+1181+ 500 | 2122.85 | 3873 | 2673.639 |
| Total | 51884 | 42354 | 48300 | 38646.891 |

**9..2.1** Adequacy of budget allocation **(4)**

In the F.Y.2016-17,2015-16,2014-15 the budget is always 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(Branchwise) document is not available.

| Total Budget in CFY**(2018-19):** | | Actual expenses in CFY**(2018-19)**(Till .....) | | Total No.of students in CFY**(2018-19):** |
|---|---|---|---|---|
| Non Recurring | Recurring | Non Recurring | Recurring | Expenses per student |
| --- | --- | ---- | ---- | --- |
| -- | --- | --- | --- | --- |

| Total Budget in CFYm1:(2017-18) | | Actual expenses in CFYm1(**2017-18**) | | Total No.of students in CFYm1(**2017-18**): |
|---|---|---|---|---|
| Non | Recurring | Non | Recurring | Expenses per student |

| | | | | |
|---|---|---|---|---|
| Recurring | | Recurring | | |
| --- | --- | --- | --- | --- |
| --- | --- | --- | --- | --- |

| Total Budget in CFYm2:(2016-17) | | Actual expenses in CFYm2(2016-17) | | Total No. of students in CFY:(2016-17) |
|---|---|---|---|---|
| Non Recurring | Recurring | Non Recurring | Recurring | Expenses per student |
| ---- | --- | --- | --- | --- |
| --- | ---- | ---- | --- | --- |
| --- | --- | ---- | --- | --- |

**9.3.1.**Adequecy of Budget Allocation **(07)**

In the F.Y.2018-19,2017-18,2016-17,2015-16,2014-15 the budget is always more than actual expenditures

**9.3.2** Utilization of allocated funds **(8)**

Though total Budget is prepared combined for all the Departments, maximum funds are utilized in the financial years 2018-19,2017-18,2016-17,2015-16,2014-15 properly. After the actual expenditure every year, the funds are surplus, which can be realised from the table at 9.2.

**9.4**.Library and Internet **(20)**

(It is assumed that zero deficiency report was received b 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 Mechanical 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 assessed 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. Wi fi availability: yes, BSNL

iv. Internet access in labs, classrooms, library and offices of all Departments: Yes through wi fi networks of BSNL

v. Security arrangements: The security within the campus was provided by "NEWGEN SECURITY SERVIES". 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)**

1.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 Mechanical Engineering have done projects related to farming, green toilet, cleaning of Drainage system 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 NBA'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

Place: Karad(D.P.)

Signature

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**

1. An ability to apply knowledge of basic Mathematics, science and Engineering to solve the broadly defined Mechanical Engineering problems.(Basic Knowledge)
2. An ability to apply discipline-specific knowledge to solve broadly defined Mechanical engineering problems.(Discipline knowledge)
3. An ability to conduct standard tests and measurements and to conduct, analyze and interpret experiments.(Experiment and practices)
4. An ability to apply the knowledge, techniques, skills and modern tools of their discipline to narrowly-defined engineering technology activities.(Engineering tools)
5. Demonstrate knowledge to asses societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering practice.(The Engineer &society)
6. Understand the impact of engineering solutions in societal and environmental contexts, and demonstrate the knowledge and need to sustainable development.(Environment and sustainability)
7. Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice(Ethics)
8. Function effectively as an individual, and as a member or leader in diverse/multidisciplinery teams.(individual and team work)
9. An ability to apply written ,oral and graphical communication in both technical and nontechnical environments and the ability to use appropriate technical literature.(Communication)
10. Recognise the need for and have the preparation and ability to engage independent and life-long learning in the context of technological changes.(Lifelong learning)

The curriculum for Mechanical 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:** The program must demonstrate that diploma Engineer can apply specific program principles to Design, fabrication, test, operation, or documentation of basic mechanical systems or processes.

**PSO2:** The program make diploma Engineer design , develop, test society needed products and engage in manufacturing or processing such quality products with utmost environment safety and commitment and provide good service to the society.