



**Rajeev Gandhi Memorial College of Engineering & Technology**  
Nandyal - 518501, Andhra Pradesh, INDIA  
(Autonomous Institute, Affiliated to JNTUA)

## **DEPARTMENT OF MECHANICAL ENGINEERING**

Extended a Heartily Welcome  
To  
Honorable Members of NBA Expert  
Committee

Presentation of e-SAR  
By  
**Dr. K. Thirupathi Reddy**  
Professor & HOD



**Rajeev Gandhi Memorial College of Engineering & Technology**  
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## **DEPARTMENT OF MECHANICAL ENGINEERING**

### **OUT LINE OF THE PRESENTATION**

#### **PART – I**

**Introduction:** Institute and Department Profiles, Department Achievements / Recognitions: **a)** Department level, **b)** Faculty level, **c)** Student level

**Criteria 1 :** Vision, Mission and Program Educational Objectives

**Criteria 2 :** Program Curriculum and Teaching – Learning Processes

**Criteria 3 :** Program Outcomes and Course Outcomes

**Criteria 4 :** Students' Performance

**Criteria 5 :** Faculty Information and Contributions

**Criteria 6 :** Facilities and Technical Support – Teaching Labs and Special Laboratories

**Criteria 7 :** Continuous Improvement

#### **PART – II**

**OBE Philosophy of the Department:** Description of OBE Philosophy followed by the Department in attainment of COs & Pos and Assessment methodology



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**DEPARTMENT OF MECHANICAL ENGINEERING**

**Institute  
and  
Department Profiles**



**Rajeev Gandhi Memorial College of Engineering & Technology**  
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## **DEPARTMENT OF MECHANICAL ENGINEERING**

### **The vision of the INSTITUTION**

- ❖ To develop this rural based engineering college into an institute of technical education with global standards
- ❖ To become an institute of excellence which contributes to the needs of society
- ❖ To inculcate value based education with noble goal of " Education for peace and progress"

### **The mission of the INSTITUTION**

- ❖ To build a world class undergraduate program with all required infrastructure that provides strong theoretical knowledge supplemented by the state of art skills
- ❖ To establish postgraduate programs in basic and cutting edge technologies
- ❖ To create conducive ambiance to induce and nurture research
- ❖ To turn young graduates to success oriented entrepreneurs
- ❖ To develop linkage with industries to have strong industry institute interaction
- ❖ To offer demand driven courses to meet the needs of the industry and society
- ❖ To inculcate human values and ethos into the education system for an all-round development of students



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**DEPARTMENT OF MECHANICAL ENGINEERING**

## **Our Quality Policy**

- ❖ **To improve the teaching and learning**
- ❖ **To evaluate the performance of students at regular intervals and take necessary steps for betterment**
- ❖ **To establish and develop centers of excellence for research and consultancy**
- ❖ **To prepare students to face the competition in the market globally and realize the responsibilities as true citizen to serve the nation and uplift the country's pride.**



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## **DEPARTMENT OF MECHANICAL ENGINEERING**

### **Institute Profile**

- ❖ **Year of Establishment : 1995**
- ❖ **Year of Autonomous Status : 2010**
- ❖ **All the UG eligible Courses( CSE, ECE, EEE, M.E & CIVIL) in the institute are accredited three times by NBA and recently in Tier-I category.**
- ❖ **The Institute is Accredited by NAAC with A+ grade (3.54 out of 4.0 CGPA)**
- ❖ **NIRF Ranked Institute in the band of 200 to 250**
- ❖ **World Bank Funded Institute**
- ❖ **Sanctioned UGC - DDUK & CPE**
- ❖ **Sanctioned APSSDC SIEMENS TSDI with 06 Labs**
- ❖ **Sanctioned APSSDC CMs Skill Excellence Center for Dassault 3D Experience**

# DEPARTMENT PROFILE



- **Year of Establishment: 1995**
- **Programmes offered:**

S. No.	Course Name	Programme Name	Year of Start	Present Intake
1	UG (B.Tech)	Mech. Engg.	1995	120
2	PG (M.Tech)	Machine Design	2003	09
3.	Ph.D	Full time Doctoral Degree	2013	-

## Change in intake

Year	1995-96	2009-10	2014-15	2015-16	2018-19	2020-21
UG	60	120	180	240	180	120
PG	2003-04 : 18			2019-20 : 09		

# DEPARTMENT PROFILE



## AICTE APPROVALS

PROGRAM	FIRST APPROVAL	LATEST APPROVAL
B. Tech : Mechanical Engineering	F.No.730-50-33/RC/94 Dt.18-05-1995	F.No: South-Central/ 1-9323235555/2021/ EOA

## NBA APPROVALS

Accreditation and Application No.	Duration	From	To
First Accreditation File No. : NBA/ACCR-183/2003 Dt. 18/09/2003	3 Years	12/09/2003	11/09/2006
Second Accreditation File No. :NBA/ACCR-183/2003 Dt. 09/05/2007	3 Years	04/05/2007	03/05/2010
Third Accreditation File No. : 11-04/2010/NBA Dt. 11/10/2013	2 Years	18/09/2013	17/09/2015
Fourth Accreditation File No. : 11-04/2010/NBA Dt. 22.09.2017	3 Years	30.06.2017	30.06.2020



# Department Achievements/Recognitions



## Department Level - Achievements

- Sanctioned AICTE MODROBS on DOM lab in 2020 worth of Rs.11,00,000.00.
- Sanctioned AICTE-FDP worth of Rs.04,40,000.00 in 2019-20.
- Sanctioned AICTE-STTP on worth of Rs.04,40,000.00 in 2019-20.
- Sanctioned AICTE-FDP worth of Rs.04,00,000.00 in 2019.
- Sanctioned AICTE/ISTE Refresher Programme worth of Rs.03,00,000.00 in 2018
- Sanctioned DST – FIST Level -0 in 2018 worth of Rs.32,00,000.00
- Sanctioned DST SERB National Conference worth of 01,00,000.00 in 2017-18.
- Established APSSDC CMs Skill Excellence Centre for Dassault 3D Experience Lab.
- Established APSSDC SIEMENS TSDI with 06 Labs
- Established Innovation & Incubation center
- Sanctioned DST-SERB Research Project worth of Rs.25,98,030.00 in 2016.
- MOU with Reference Globe-Stee Consulting and software Technologies 28.8.19
- MOU with Code Tantra Tech Solutions Pvt. Ltd., Hyderabad
- MOU with STEP from the HINDU Group, Chennai
- MOU with Jytra Engineering Services, Hyderabad

# Department Achievements/Recognitions



## Department Level - Achievements

ఆంధ్రజ్యోతి



కర్నూలు  
సుక్రవారం  
17 ఆగస్టు 2018

www.andhrajyothy.com

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నీటి ట్యాంక్

పాఠశాల, అగడ్త 16: ఆవరణ ఉత్పత్తి కేంద్రం అంధ్ర ప్రదేశ్ కృషి డౌన్ లోడి చేయడం, అంధ్ర ప్రదేశ్ లోని అనేక విద్యార్థులు సహజ వనరులను వినియోగించి యాంత్రిక ప్రాసెసింగ్ టెక్నాలజీని అభ్యసించే అవకాశం కల్గిన మొదటి పాఠశాలగా గుంటూరు జిల్లాలోని అగడ్త 16 పాఠశాల ప్రస్తుతం నిర్వహించబడుతోంది. ఆవరణ ఉత్పత్తి కేంద్రం ద్వారా పాఠశాల విద్యార్థులు సహజ వనరులను వినియోగించి యాంత్రిక ప్రాసెసింగ్ టెక్నాలజీని అభ్యసించే అవకాశం కల్గిన మొదటి పాఠశాలగా గుంటూరు జిల్లాలోని అగడ్త 16 పాఠశాల ప్రస్తుతం నిర్వహించబడుతోంది.

వైకుంఠ కృషి..

అగడ్త వరకు వెళ్లి వెళ్లి అనేక ఉత్పత్తి కేంద్రాలను సందర్శించి విద్యార్థులు సహజ వనరులను వినియోగించి యాంత్రిక ప్రాసెసింగ్ టెక్నాలజీని అభ్యసించే అవకాశం కల్గిన మొదటి పాఠశాలగా గుంటూరు జిల్లాలోని అగడ్త 16 పాఠశాల ప్రస్తుతం నిర్వహించబడుతోంది.

### పచ్చి సరుకు భద్రం

విద్యార్థులకు అనేక విధాల ప్రయోగ శిక్షణ అందించే అవకాశం కల్గిన మొదటి పాఠశాలగా గుంటూరు జిల్లాలోని అగడ్త 16 పాఠశాల ప్రస్తుతం నిర్వహించబడుతోంది. ఆవరణ ఉత్పత్తి కేంద్రం ద్వారా పాఠశాల విద్యార్థులు సహజ వనరులను వినియోగించి యాంత్రిక ప్రాసెసింగ్ టెక్నాలజీని అభ్యసించే అవకాశం కల్గిన మొదటి పాఠశాలగా గుంటూరు జిల్లాలోని అగడ్త 16 పాఠశాల ప్రస్తుతం నిర్వహించబడుతోంది.



- సైకును ఉపయోగించి సైకులు తయారు చేయడం
- వీలం గిడ్డంగును ప్రయోగించడం
- పచ్చి సరుకులను భద్రం
- అగ్నిని ప్రాసెసింగ్ అభ్యసించడం

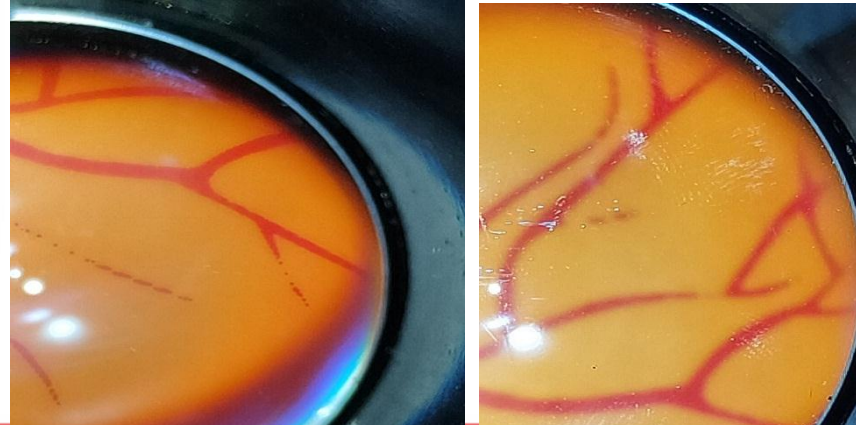
పాఠశాలలోని అనేక విధాల ప్రయోగ శిక్షణ అందించే అవకాశం కల్గిన మొదటి పాఠశాలగా గుంటూరు జిల్లాలోని అగడ్త 16 పాఠశాల ప్రస్తుతం నిర్వహించబడుతోంది. ఆవరణ ఉత్పత్తి కేంద్రం ద్వారా పాఠశాల విద్యార్థులు సహజ వనరులను వినియోగించి యాంత్రిక ప్రాసెసింగ్ టెక్నాలజీని అభ్యసించే అవకాశం కల్గిన మొదటి పాఠశాలగా గుంటూరు జిల్లాలోని అగడ్త 16 పాఠశాల ప్రస్తుతం నిర్వహించబడుతోంది.



సూర్యులు



ప్రయోగ యంత్రం



# Department Achievements/Recognitions



## • Faculty Level - Achievements

- Mr.V.Nageswar Reddy awarded Doctoral Degree from ANU, Guntur in 2018.
- Mr.G.Venkatesh awarded Doctoral Degree from NITK in 2017.
- Mrs. K.Sudha Madhuri awarded Doctoral Degree from JNTUA in 2019.
- Mr Asif Pervez awarded Doctoral Degree from IIT/ IIM-Dhanbad in 2020.
- Mr.Md. Alamgir awarded Doctoral Degree from IIT/ IIM-Dhanbad in 2020.
- M. Manoj Panchal awarded Doctoral Degree from NIT-Warangal in 2020.
- Mr. B. Ramakrishna awarded Doctoral Degree from IT-Warangal in 2020.
- Mr. Y. Siva Kumar Reddy awarded Doctoral Degree from NIT-Warangal in 2020.
- Mr.D.Abhisheik awarded Doctoral Degree from K.L University, Vijayawada in 2020.
- Mr. B. Sidda Reddy received a grant of Rs. 4.0 Lakhs from AICTE for FDP.
- Dr. B. Sidda Reddy received a grant of Rs. 11.0 Lakhs from AICTE MOSROBS
- Dr Syed Altaf Hussain received a grant of Rs. 3.0 Lakhs from AICTE- ISTE for RTP
- Dr. V. Nageswara Rddy received a grant of Rs. 3.74 Lakhs from AICTE for STTP.
- Dr.V.Siva Reddy received a Research grant of Rs.25.98,030/- from DST SERB in 2017
- Dr.V.Siva Reddy received a grant of Rs.32,00,000/- from DST FIST-Level-0 in 2019.

# Department Achievements/Recognitions



## • Faculty Level - Achievements

- Dr Syed Altaf Hussain, Professor of Mechanical Engineering was elected as an Executive Member of ISTE for the period 2020-2024.
- Dr. V. Siva Reddy delivered a Guest Lectures on “Exergy Analysis of Heating, Refrigerating, and Air Conditioning systems & Exergy, Environment and Sustainable Development “ in **GIAN Course** as a **Indian Expert** on “Exergy analysis of industrial process” organized by the Department of Chemical Engineering, NIT Warangal, Telangana ; Feb 11-15, 2019.
- **Dr. V. Siva Reddy has received Maulana Abul Kalam Azad Excellence Award of Education-2020 for outstanding contribution in the field of education from Shikshak Kalyan Foundation (Regd.). August, 2020.**

# Department Achievements/Recognitions



## Faculty Publications, Patents & Books and Book Chapters

S. No	WOS	SCOPUS	OTHERS	NJ	INC	NC	PATENTS	R & D	BOOKS/ BOOK CHAPTERS	INTERACTI ON
1	162	144	233	52	58	65	PG:09 PF:15	11	B:03 B.C : 11	125

## Faculty Publications in Refereed Journals

Academic Year	Web of Science (SCI/SCIE/ESCI)	Scopus
2020-2021	30	15
2019-2020	26	17
2018-2019	15	15

# Department Achievements/Recognitions

## • Student Level - Achievements

### Student Publications

S. No	Academic year	No. of Publications	Award / Prize
1	2018-19	27	04
2	2019-20	13	-
3	2020-21	16	-

### Student Sports & Games

S. No	Academic year	No. of Sports/ Games	Award / Prize
1	2019-20	11	11
2	2018-19	04	04
3	2017-18	06	06

### Industry based Works Shops / Training Programming attended by the students

S.No	year	No. of Students
1	2019-20	187
2	2018-19	120
3	2017-18	154

- Received ISTE Best B.Tech Project Award in 2013.
- Received ISTE Best B.Tech Project Award in 2019.

# 1. Criteria-1 Vision and Mission of the Department



## Vision

To be a center of excellence by offering UG, PG and Research programs in cutting edge technologies of Mechanical Engineering in collaboration with industries.

## Mission

- ❖ To Produce Mechanical Engineers who are exceptionally competent, disciplined and have a sense of devotion to their profession by adapting modern teaching and learning process.
- ❖ To establish modern laboratory facilities to impart quality education in association with Industry- Institute interaction.
- ❖ To inculcate research orientation among the student community.

## 2. Criteria-1

### Programme Educational Objectives

**PEO1:** To apply modern computational, analytical, simulation tools and techniques to address the challenges faced in mechanical and allied engineering streams.

**PEO2:** To Plan, design, construct, maintain and improve mechanical engineering systems that are technically sound, economically feasible and socially acceptable to enhance the quality of life.

**PEO3:** To Exhibit professionalism, ethical attitude, team spirit and pursue lifelong learning to achieve career and organizational goals.

**PEO4:** To demonstrate leadership & entrepreneurial skills.

PEO	<b>M1:</b> To Produce Mechanical Engineers who are exceptionally competent, disciplined and have a sense of devotion to their profession by adopting modern teaching and learning process.	<b>M2:</b> To establish modern laboratory facilities to impart quality education in association with Industry-Institute interaction.	<b>M3:</b> To inculcate research orientation among the student community
PEO1	3	2	1
PEO2	2	3	1
PEO3	2	2	2
PEO4	2	3	1



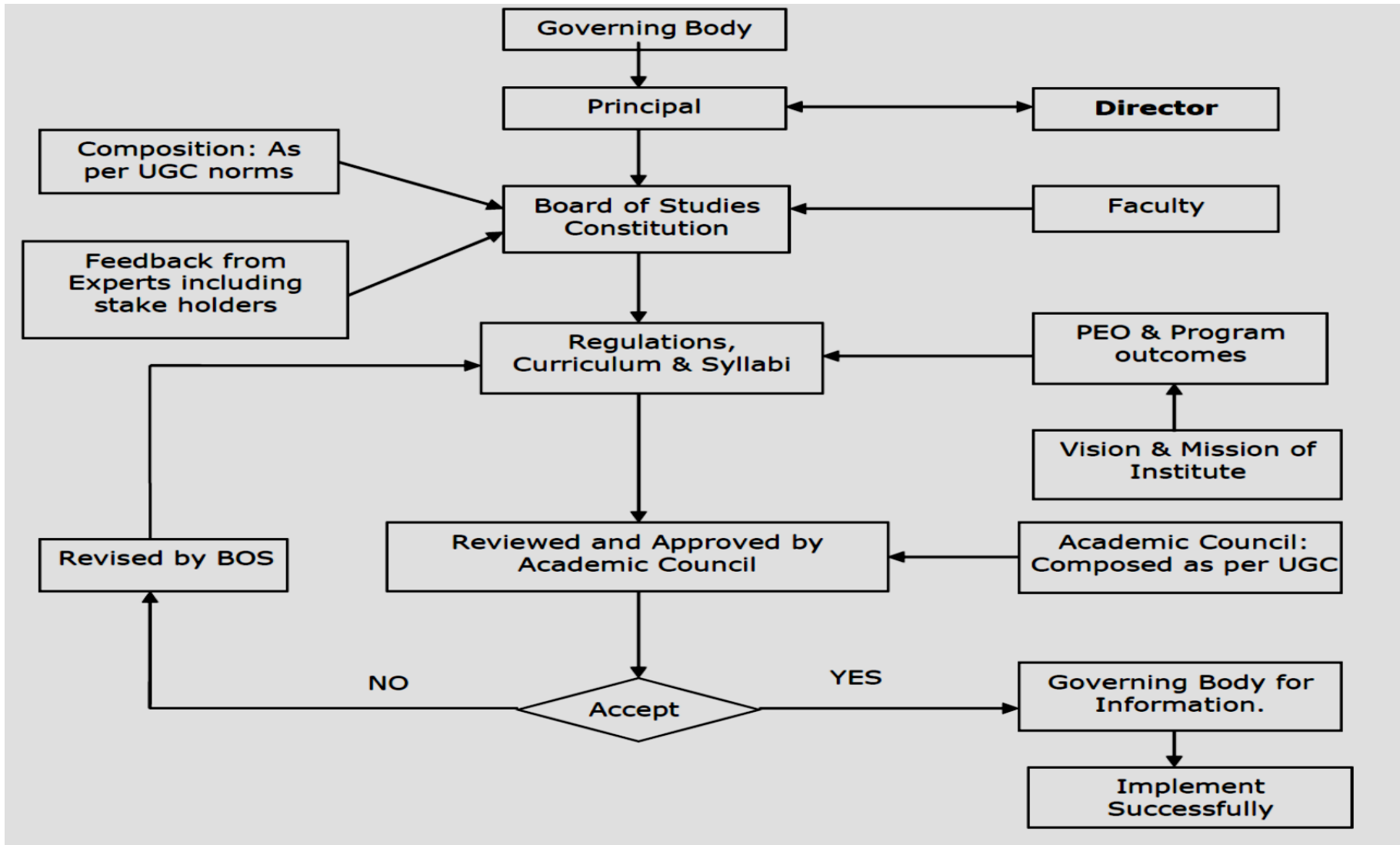
# 1. Criteria-2



## Program Curriculum and Teaching–Learning Processes

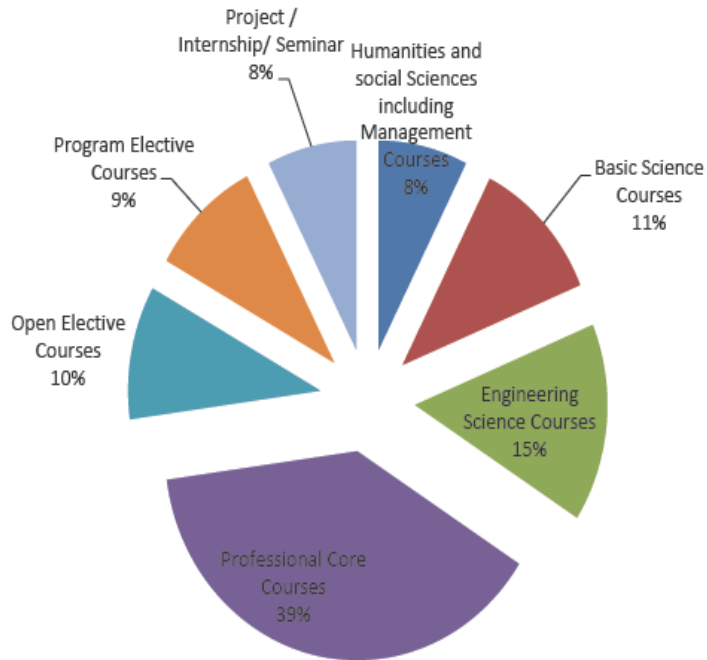
- **B.Tech (M.E) and M.Tech (Machine Design)**
- **2010 Regulations (R10) on conferring UGC Autonomous Status in 2010.**
- **Strengthened the curriculum with Revised Regulations in 2012 (R12)**
- **CBCS with Revised Regulation in 2015 (R15)**
- **Strengthened the curriculum with Revised Regulations in 2019 & 2020 as per AICTE & APSCHE.**

## 2. Criteria-2

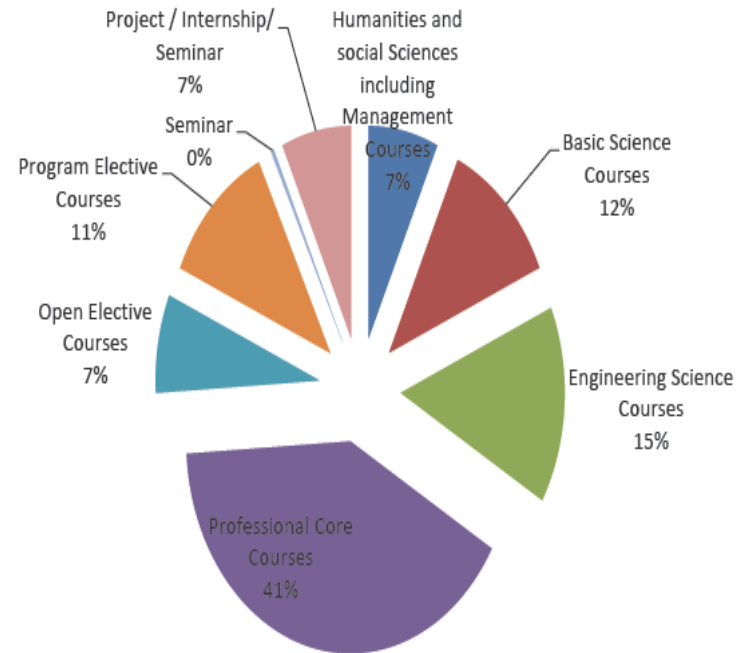


**Flow chart depicting the Process of Program Curriculum**

## 2. Criteria-2



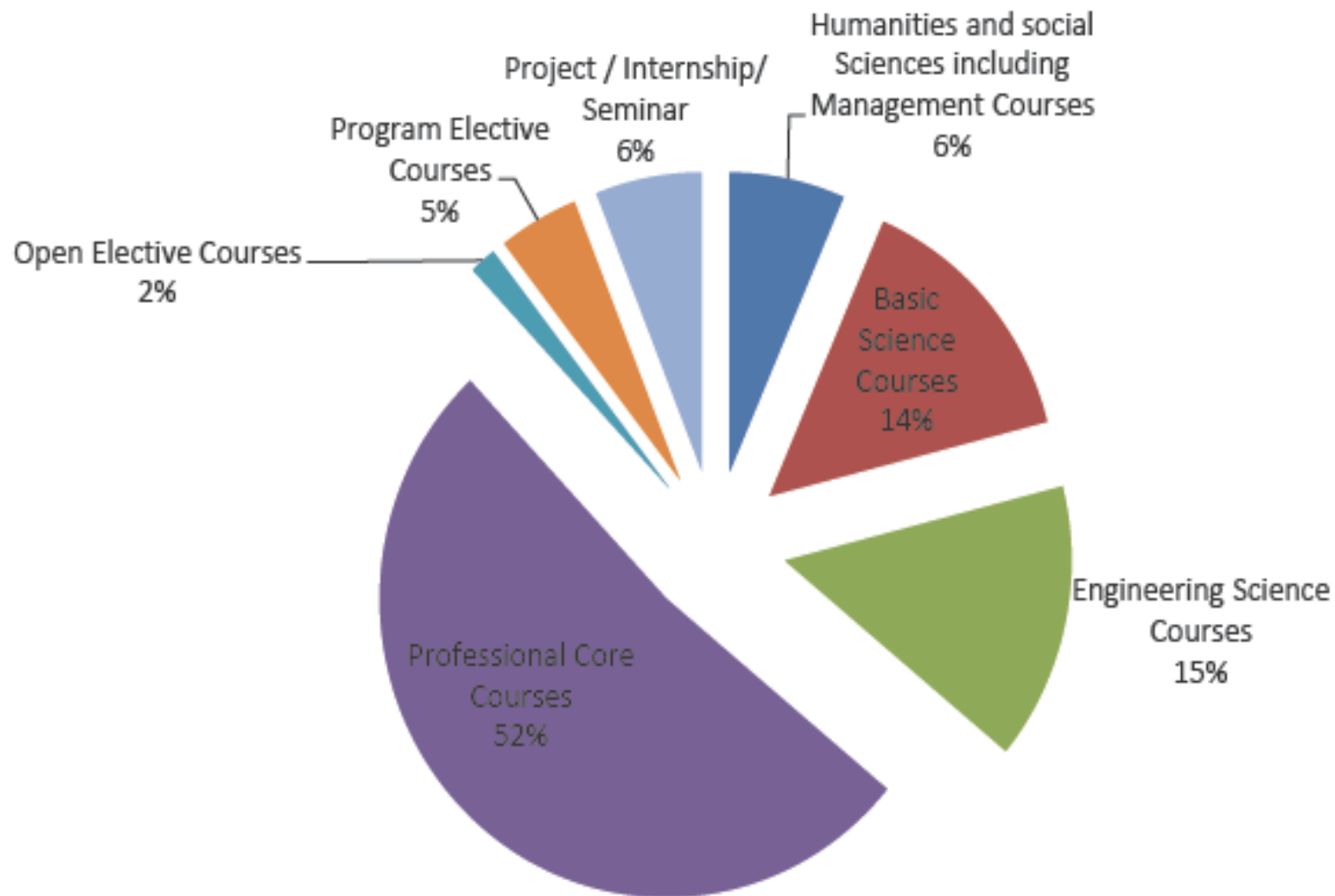
Composition of R-2020 Curriculum



Composition of R-2019 curriculum

## Composition of of Program Curriculum

### 3. Criteria-2



**Composition of R-2015 Curriculum**

### **Composition of of Program Curriculum**

## 4. Criteria-2



### **Teaching Learning Process**

- Seminars, Library and Student Counseling hours are incorporated in the time table in order to improve the student's presentation skills, improving of knowledge by spending time in Library and to discuss the issues personally.
- Department has made parents of students as the stakeholders by sending SMS about the absence of the individual student daily and monthly report. Student assessment in internals and end exams are also informed to parents.
- Group of 5-15 students are allotted a student mentor for keen observation and guidance.
- Remedial classes are arranged for the academically weak students beyond the working hours.
- Feedback is sought from students every semester to assess student faculty interaction and knowledge exchange in every semester and the resolutions are incorporated.

## 5. Criteria-2



### Teaching Learning Process

- Evaluation of Assignments are made part of finalizing the internal marks.
- Seminars, conferences, workshops, guest lectures etc. are arranged in regular intervals by various academicians/industry experts.
- Furthermore, individual faculty are given freedom to conduct assessment tests.
- Project Expo is organized in the campus, which demonstrates all the project models of the students.
- Farewell function will conclude the graduation by exchanging the ideas and feedback of the final year students with juniors.
- Alumni details and regular interaction is maintained in the department office so as to arrange alumni meet further.

# 6. Criteria-2



## Teaching Learning Process

### Methodologies to support weak students

- Identified by faculty members during their class room teaching and/or on basis of performance in Class Test -1.
- Separate special classes are arranged for re-explaining difficult topics and clarifying the doubts.
- Counseled by Mentor.
- Regular monitoring and observing them during teaching-learning.
- Providing reading material and lecture notes.
- Question bank based on previous years question papers.

### Methodologies to encourage bright students

- The bright students are identified from their participation in classroom discussion, performance in the class tests, university result analysis and interest in co- curricular activities
- Additional book facilities are provided in Library.
- Encouraged to publish papers and to participate in technical events.
- Encouraged to pursue online certifications such as Spoken Tutorial and NPTEL.
- Provided more conceptual question set from GATE previous years.

# 6. Criteria-2

## Quality of student Projects

- ❖ Project Identification and allotment
- ❖ Types and relevance of the projects and their contribution towards attainment of PO's
- ❖ Project monitoring and evaluation
- ❖ Process to assess individual and team performance
- ❖ Quality of completed projects/ working prototype
- ❖ Evidences of papers published / Awards received by projects etc.

## Best student Projects Awards





# 7. Criteria-2



## Initiatives Related to Industry Interaction

- ❖ Industry participation in designing the Curriculum & Syllabus
- ❖ People from Industry in Mechanical Engineering BOS
- ❖ changes in the curriculum
- ❖ Industrial Visits
- ❖ Expert lectures from the Industry persons

**Industry attached Works Shops / Training Programming attended by the students**

S.No	Academic Year	No. of Students
1	2019-20	217
2	2018-19	120
3	2017-18	397

## 8. Criteria-2

### Initiatives Related to Industry Interaction INTERNSHIPS

S.No	Year	No. of Student Internships
1	2020-21	22
2	2019-20	39
3	2018-19	31
4	2017-18	18

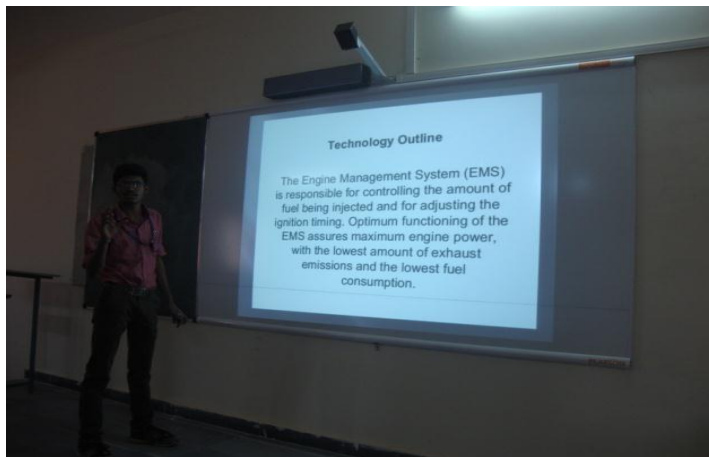
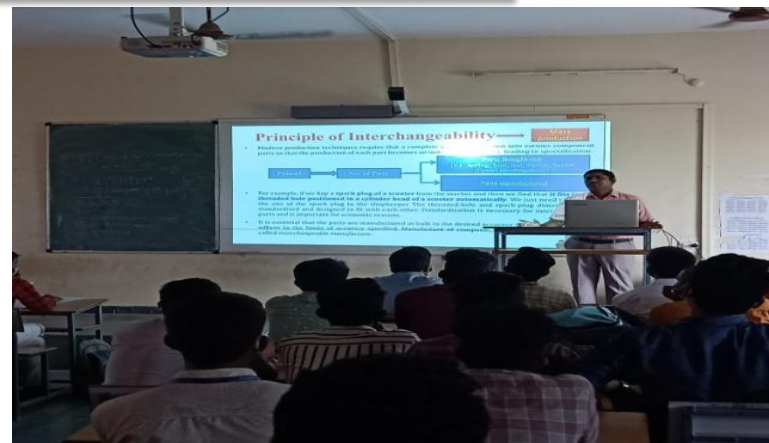
### LIST OF INDUSTRY TRAINING PROGRAMS ORGANISED

S.No	Year	No. of training Programs
1	2020-21	19
2	2019-20	13
3	2018-19	04

# 9. Criteria-2

## Teaching Learning Process

### Glimpses of Digital Class Rooms



# 10. Criteria-2

## Teaching Learning Process

### Glimpses of Industrial Visits



# 1. Criteria-3 - Program Outcomes



## ➤ **PO1: Engineering knowledge**

Apply the knowledge of mathematics, science, engineering fundamentals, and engineering specialization to the solution of complex engineering problems

## ➤ **PO2: Problem analysis**

Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences

## ➤ **PO3: Design/ development of solutions**

Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations

## ➤ **PO4: Conduct investigations of complex problems**

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

## ➤ **PO5: Modern tool usage**

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations

## ➤ **PO6: The engineer and society**

Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice

## 2. Criteria-3 - Program Outcomes



### ➤ **PO7: Environment and sustainability**

Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development

### ➤ **PO8: Ethics**

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

### ➤ **PO9: Individual and teamwork**

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings

### ➤ **PO10: Communication**

Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions

### ➤ **PO11: Project management and finance**

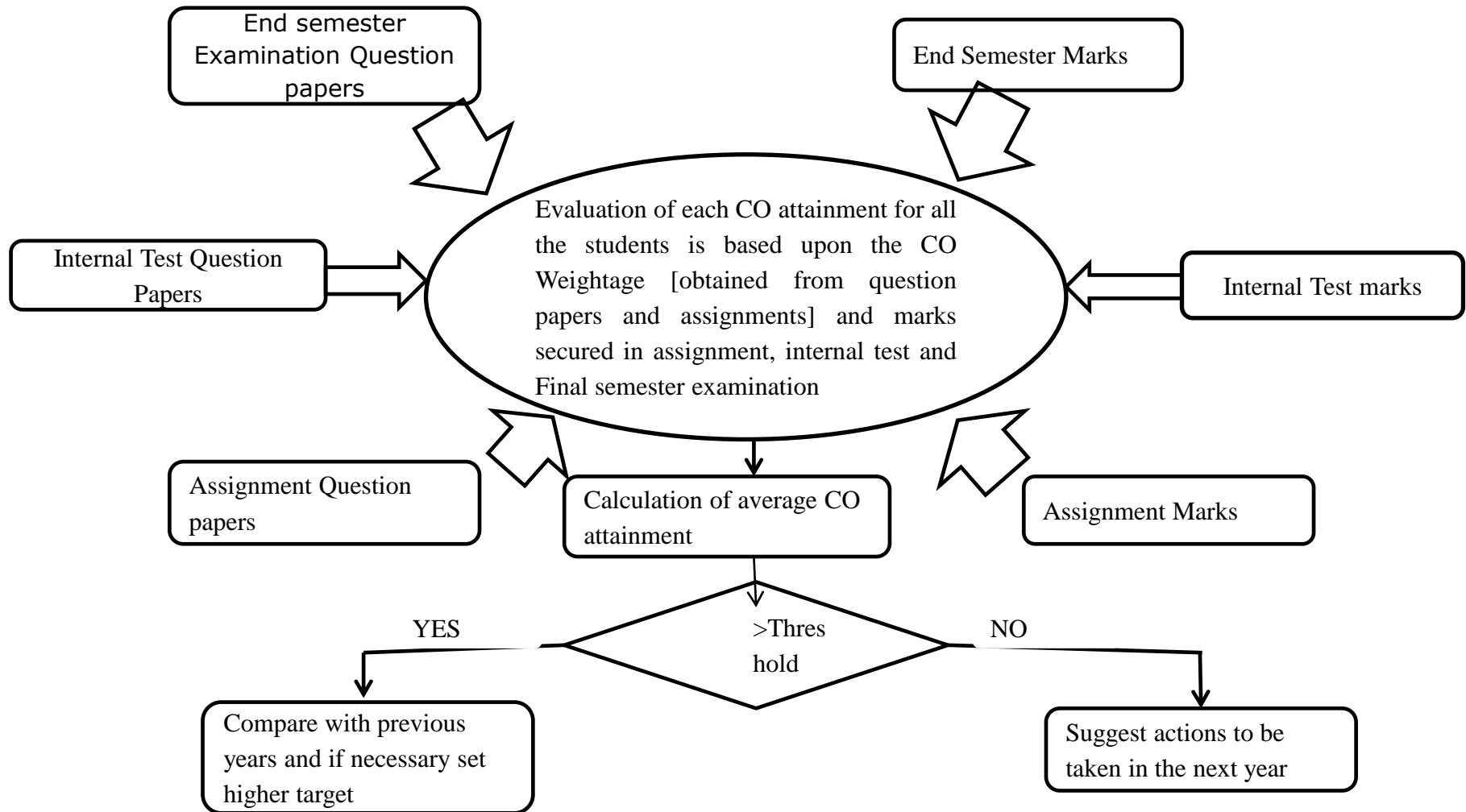
Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments

### ➤ **PO12: Life-long learning**

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

# 3. Criteria-3 - Program Outcomes

## Process of attainment of Course Outcomes



# 4. Criteria-3 - Program Outcomes



## CO-ATTAINMENT METHOD Engineering Metrology: III-I(2017-Admitted), A.Y 2019-2020

### Course Outcomes

**CO 1: Apply the knowledge of the limits, fits and tolerances for the Design the go and NOGO gauges**

**CO2: Understand the metrology instruments & use the same for both linear and angular measurements**

**CO3: Measure the various elements of screw thread and gear using different methods.**

**CO4: Analyze the geometrical irregularities and assess the accuracy & alignment of the different machine tools.**

### Program Articulation Matrix

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	2	2	3	-	-	-	-	-	-	-	-	1	2	1	-	-
CO2	2	1	-	-	2	-	-	-	-	1	-	1	1	-	-	1
CO3	2	3	-	2	1	-	-	-	-	-	-	-	1	-	-	-
CO4	2	2	-	2	1	-	-	-	-	-	-	1	-	-	-	1



# 5. Criteria-3 - Program Outcomes



## Contribution of Marks for Different COs

### Weightage of Marks in Mid Semester Test (I & II) Question paper

Question No.	CO1	CO2	CO3	CO4
1a)	2		2	
b)	2		2	
c)		2		2
d)		2		2
e)		2	2	
2 a)	2		1	
b)	3		4	
3 a)		2	1	
b)		3	4	
4 a)		2		2
b)		3		3
5 a)		2		2
b)		3		3
<b>Total Marks</b>	<b>9</b>	<b>21</b>	<b>16</b>	<b>14</b>
<b>Weighted Average (%)</b>	<b>15%</b>	<b>35%</b>	<b>27%</b>	<b>23%</b>

# 6. Criteria-3 - Program Outcomes



## Contribution of Marks for Different COs

### Weightage of marks in End semester Exam Question paper

Question No.	CO1	CO2	CO3	CO4
1 a)	2			
b)				2
c)		2		
d)			2	
e)		2		
f)				2
g)	2			
2 a)				7
b)				7
3 a)	7			
b)	7			
4)		7		
b)		7		
5 a)			7	
b)			7	
6 a)		7		
b)		7		
7 a)				7
b)				7
<b>Total Marks</b>	<b>18</b>	<b>32</b>	<b>16</b>	<b>32</b>
<b>Weighted Average (%)</b>	<b>18.37%</b>	<b>32.65%</b>	<b>16.33%</b>	<b>32.65%</b>

# 7. Criteria-3 - Program Outcomes



## Weightage in the categories in %.

CATEGORY	CO1	CO2	CO3	CO4	TOTAL
End Semester Exam	18.37%	32.65%	16.33%	32.65%	100.00%
Mid Semester Test	15.00%	35.00%	27.00%	23.00%	100.00%
Assignments	25.00%	25.00%	30.00%	20.00%	100.00%
Weighted Average	19.46%	30.88%	24.44%	25.22%	100.00%

## Weightage for computations of CO attainment

FINAL EXAM	INTERNAL TEST	ASSIGNMENT
70%	25%	5%

## 8. Criteria-3 - Program Outcomes



Normalized CO= $(\text{Average \%Marks of CO in End Semester Exam} * \text{End Semester marks} + \text{Average \%Marks of CO in Mid Semester Test} * \text{Mid Semester Test Marks} + \text{Average \% Marks of CO in Assignment} * \text{Assignment Marks}) / \text{Weighted Average of CO},$

where  $i=1,2,3$  and  $4$ .

Normalized CO1= $(18.37*37+15*13.5+25*4.5)/19.46= 51.115$  Marks

Normalized CO2= $(32.65*37+35*13.5+25*4.5)/30.88= 58.065$  Marks

Normalized CO3= $(16.33*37+27*13.5+30*4.5)/24.44= 45.16$  Marks

Normalized CO4= $(32.65*37+23*13.5+20*4.5)/25.22= 63.781$  Marks

# 9. Criteria-3 - Program Outcomes



## CO -attainment

Normalized CO Marks	Correlation level	CO1	CO2	CO3	CO4
Greater than 50	3	89	90	57	103
Between 30 & 50	2	40	65	70	50
Less than 30	1	26	0	28	2
Total No. of Students	155	155	155	155	155
Attainment value		2.4065	2.5806	2.19	2.65
% Attainment		57.42	58.06	36.77	66.45

Year	Threshold
II	50
III	55
IV	60

# 10. Criteria-3 - Program Outcomes



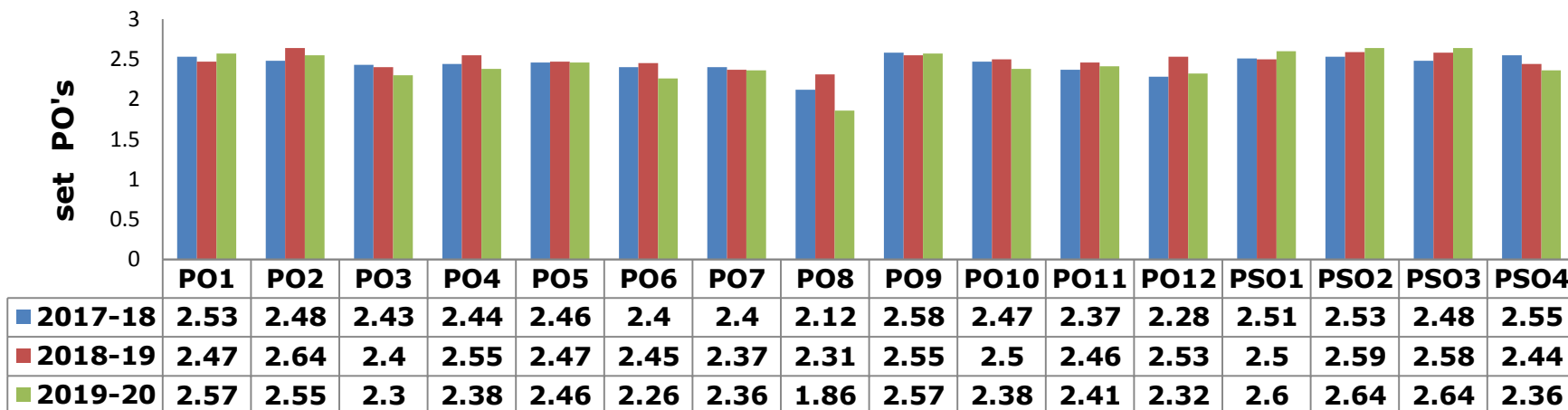
## CO-PO mapping and PO attainment Measurement

CO	CO Attainment Value	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CO1	2.406	3	2	3	1	0	1	1	1	1	1	1	2	3	1	1	1
CO2	2.574	3	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1
CO3	2.21	1	2	1	2	1	1	1	1	1	1	1	1	1	2	1	1
CO4	2.690	1	2	1	2	1	1	1	1	1	1	1	1	1	2	1	1
PO attainment		2.48	2.44	2.44	2.44	2.47	2.46	2.46	2.46	2.46	2.46	2.46	2.47	2.44	2.44	2.48	2.46

# 11. Criteria-3 - Program Outcomes



PO attainment levels Vs POs



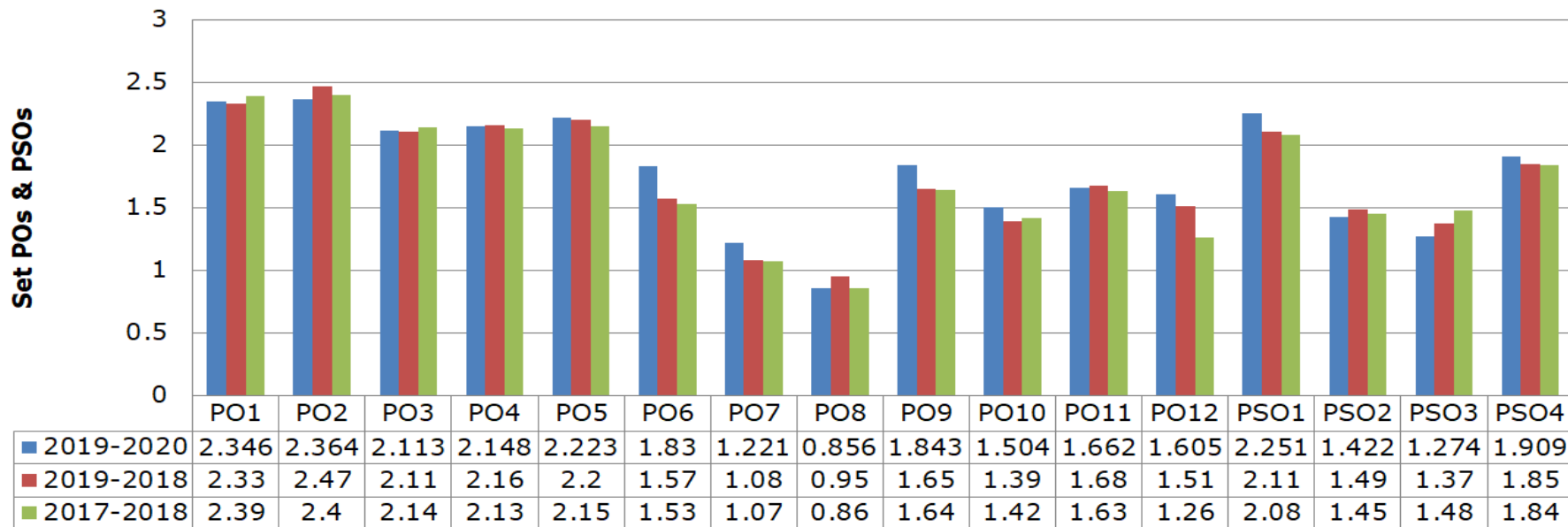
Target attainment levels of POs and PSOs

S.No	Levels	Performance quantity
1	POs / PSOs $\leq$ 1	Unsatisfactory / Does not meet Expectations
2	1 $\leq$ POs / PSOs $\leq$ 2.0	Satisfactory / Marginal Expectations
3	2 $\leq$ POs / PSOs $\leq$ 2.2	Good / Meets Expectations
4	2.2 $\leq$ POs / PSOs $\leq$ 3.0	Excellent / Exceeds Expectations

# 12. Criteria-3 - Program Outcomes



**Overall POs and PSOs Attainment**



S.No	TOOL	Category
1.	CO attainment of all theory Courses ( Mid semester examinations, Teacher assessment and End Semester examination)	<b>Direct Assessment (70%)</b>
1.	CO attainment of all practical courses	
1.	PO /PSO attainment from Student feedback ( Exit Survey) (20%)	<b>Indirect Assessment (30%)</b>
1.	Alumni Survey (10%)	



# 1. Criteria-4: Students Performance



## Admission Details

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAYm1 2019-20	CAYm2 2018-19	CAYm3 2017-18	CAYm4 2016-17	CAYm4 2015-16
Sanctioned intake of the program (N)	180	180	240	240	240
Total number of students admitted in first year minus number of students migrated to other programs/institutions, plus no. of students migrated to this program (N1)	77	91	113	168	207
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	94	78	53	51	52
Separate division students, if applicable (N3)	-	-	-	-	-
Total number of students admitted in the Program (N1 + N2 + N3)	171	169	166	219	259

## 2. Criteria-4: Students Performance



### Results - Passed out Student Details

S. No.	Batch	Total No. of students	Students passed with				Total PC obtained	Percentage %
			FWD	FC	SC	PC		
1	2020-21 (2017 Batch)	160	65	48	01	-	114	71.69
2.	2019-20 (2016 Batch)	183	65	70	20	-	155	84.69
3.	2018-19 (2015 Batch)	248	104	102	20	-	226	91.12
4	2017-18 (2014 Batch)	198	104	61	26	-	191	96.95

# Criteria-4: Students Performance

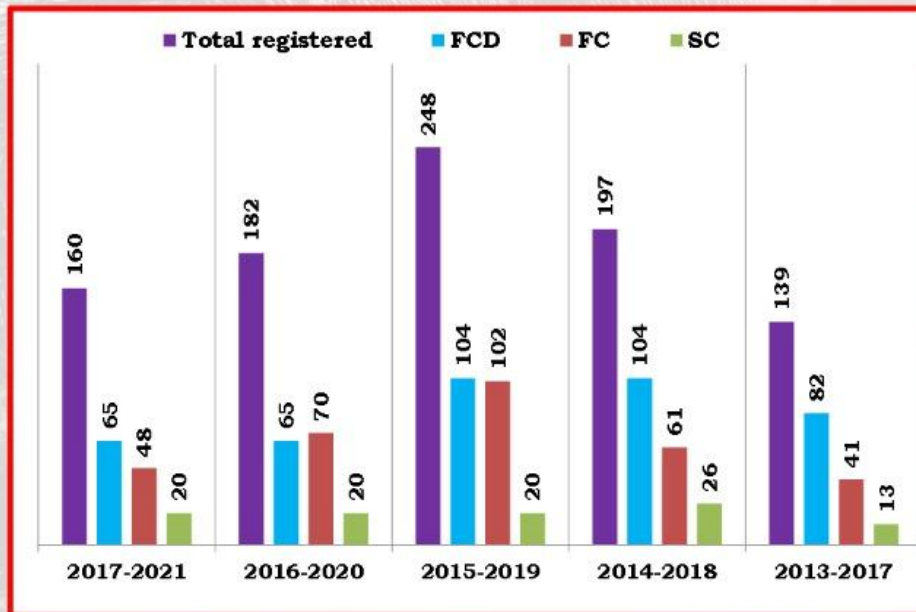
## Results - Passed out Student Details



### Rajeev Gandhi Memorial College of Engg. & Tech. (AUTONOMOUS)

#### DEPARTMENT OF MECHANICAL ENGINEERING

##### Result Analysis of ME



##### Career with ME

Manufacturing: HMT, BHEL  
Refrigeration: VOLTAS  
Aerospace: HAL, Air India  
Shipping: CPT, DP World  
Automobile: TATA  
Heavy Engines: Bosch  
Robotics: Siemens

###### Job opportunities

- TATA
- HAL
- Rolls Royce
- Mahindra
- VOLTAS

###### Mechanical Engineering



UG

###### Job opportunities

- TCS
- Samsung
- Infosys
- BMW

PG

- Design
- Manufacturing
- Thermal
- Industrial

###### Ph.D

- Nano technology
- Renewable Energy
- IC Engines
- SCM

### 3. Criteria-4: Students Performance



#### Success rate without backlogs in any semester / year of study

S. NO	ACADEMIC YEAR	Item		
		X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and separated division	Y Number of students who have graduated without backlogs in the stipulated period	Success Index $SI = Y / X$
1	LYG (2016-17)	219	47	0.21
2	LYGm1 (2015-16)	259	85	0.33
3	LYGm2 (2014-15)	216	92	0.43
<b>Average S.I [ (SI1 + SI2 + SI3) / 3 ]</b>				<b>0.32</b>

## 4. Criteria-4: Students Performance



### Success rate in stipulated Period

S. NO	ACADEMIC YEAR	NO. OF STUDENTS APPEARED	NO. OF STUDENTS PASSED IN FIRST CLASS WITH DISTINCTION	NO. OF STUDENTS PASSED IN FIRST CLASS	NO. OF STUDENTS PASSED IN SECOND CLASS	TOTAL NO. OF STUDENTS PASSED IN 04 YEARS	SUCCESS INDEX
1	LYG (2016-17)	219	65	72	24	161	0.74
2	LYGm1 (2015-16)	259	103	100	21	224	0.86
3	LYGm2 (2014-15)	216	105	60	23	188	0.87
<b>AVERAGE SUCCESS INDEX</b>							<b>0.82</b>

# 5. Criteria-4: Students Performance

## PROFESSIONAL ACTIVITIES



### EVENTS ORGANISED UNDER PROFESSIONAL SOCIETIES & CHAPTERS - IEI & ISTE

S.NO	ACADEMIC YEAR	NO. OF EVENTS ORGANIZED UNDER PROFESSIONALACTIVITIES
1	2020-21	04
2	2019-20	08
3	2018-19	04



# 6. Criteria-4: Students Performance

## PROFESSIONAL ACTIVITIES



**RAJEEV GANDHI MEMORIAL COLLEGE OF ENGINEERING & TECHNOLOGY**  
(AUTONOMOUS)

Approved By AICTE-New Delhi, Affiliated to JNTUA-Ananthapuramu, Accredited by NBA TIER-I and NAAC of UGC New Delhi with 'A++' Grade. Sanctioned UGC-DDU Kaushal Kendra, Participated in World Bank Aided TEQIP - I  
NH-40, NANDYAL-518501, Kurnool (Dist), A.P.

**Bankalp**  
**Ripple - 2K19**

XX NATIONAL LEVEL STUDENT TECHNICAL SYMPOSIUM  
In Association with IE(I), ISTE Student Chapters of RGM CET  
A TWO DAYS WORKSHOP ON  
**AUTOMOBILE ENGINE DIS-ASSEMBLY & ASSEMBLY**  
Date : 22<sup>nd</sup> & 23<sup>rd</sup> February 2019.

ORGANIZED BY :  
**SCHOOL OF MECHANICAL ENGINEERING**

In Association with **HERO**



# 7. Criteria-4: Students Performance

## Publication of Technical Magazines, Newsletters



**RGM RAYS**  
RESPLENDENT ACTIVITIES OF YESTER SEMESTER

THE INSTITUTE NEWS LETTER

Rajeev Gandhi Memorial College of Engineering & Technology (Autonomous) Nandyal - 518501  
Approved by AICTE-Accredited by NBA, Participated in World Bank TEQIP, Affiliated to JNTU, Anantapuramu

VOLUME - XV      ISSUE - 02      JULY-DEC. 2016

**30th ISSUE**

**Chief Patron**  
Dr. M. Santhiramudu  
Chairman - RGM  
Group of Institutions  
NANDYAL

**RAY'S PANEL**  
Dr. T. Jayachandra Prasad  
Principal  
The Department of English

**RAY'S STORY BOARD**  
— CASHLESS ECONOMY | ICSC'16 | FACULTY CORNER —



**Sports in Space:** Space Ball

**Strange But True:** River Under River

**Forgotten Inventions:** One Wheel Motor Cycle

**MAGNET**  
Vol-V March-2015

**MECHANICS - AN ART OF CREATING**

**3-D PRINTING**

**Magazine And Gadget to Narrate Everyone's Thoughts**

**Composites Can't wait.....**

**SOCIAL EMPOWERMENT**

Rajeev Gandhi Memorial College of Engineering & Technology (Autonomous)



## 8. Department Achievements/Recognitions



Participation in inter-institute events by students of the program of study

### Student Publications

S. No	Academic year	No. of Publications	Award / Prize
1	2018-19	27	04
2	2019-20	13	-
3	2020-21	16	-

### Student Sports & Games

S. No	Academic year	No. of Sports/ Games	Award / Prize
1	2019-20	11	11
2	2018-19	04	04
3	2017-18	06	06

### Industry based Works Shops / Training Programming attended by the students

S.No	year	No. of Students
1	2019-20	187
2	2018-19	120
3	2017-18	154

- Received ISTE Best B.Tech Project Award in 2013.
- Received ISTE Best B.Tech Project Award in 2019.

## 9. Criteria-4: Students Performance



### Placement Details

<b>S. No</b>	<b>Academic Year/ Batch</b>	<b>No. of students In IV/II</b>	<b>No. of student Placements</b>
<b>1</b>	<b>2020 - 2021 (2017 Batch)</b>	<b>160</b>	<b>233</b>
<b>2</b>	<b>2019 - 2020 (2016 Batch)</b>	<b>183</b>	<b>144</b>
<b>3</b>	<b>2018 - 2019 (2015 Batch)</b>	<b>248</b>	<b>165</b>
<b>4</b>	<b>2017 - 2018 (2014 Batch)</b>	<b>198</b>	<b>157</b>

# Criteria-4: Students Performance

## Placement Details



### Rajeev Gandhi Memorial College of Engg. & Tech. (AUTONOMOUS)

#### DEPARTMENT OF MECHANICAL ENGINEERING

#### PLACEMENT DETAILS

 17091A0319 GOWTHAM REDDY ASHOK LEYLAND	 17091A0312 K BHASKAR INFOSYS	 17091A0361 PRAVEEN KUMAR MEL	 18095A0317 SYED SAMEER HCL	 18095A0305 G. DEVENDRANATH HYUNDAI	 18095A0308 GURU PAVAN HYUNDAI	 17091A0324 T. HEMANTH SUTHERLAND	 17091A0332 D. KRAFTI KUMAR TCS	 17091A0304 S. AKSHAY CTS	 17091A0346 K. MANUSAIKIRAN CTS	
 17091A0375 S. SAINADHA N-GLOME	 16091A0301 M.A.QHAMAR CTS	 17095A0342 V.SUNKA NAIK KIA Motors	 16091A0362 U.MADHU BABU Toppr	 16095A0319 C.MAHESH WIPRO Infrastructure	 16091A0302 SHAIK ABDULLA Supreme Industries	 16091A0367 S.Y.MAHAMOOD DIVIS Laboratories	 16091A0331 M.GANGADHAR TCS	 16091A03F9 J.VENKATA PRASAD IPSPIL -for Bharat Bens	 15091A0376 G.MAHENDRA JUST DIAL	
 14091A0330 M.HANISHA MAINTEC	 15091A0350 A.BARSHA VARDHAN Hyundai	 14091A0358 B.MADHU SUDHAN Vespa	<b>S.No</b>	<b>Academic Year</b>	<b>No. of Students</b>	<b>No. of Student Placement Offers</b>	<b>Highest Package LPA</b>	 14091A0316 P.C.S.NIDHI SURYA Tech Mahindra	 16095A0311 K.INDRA Hecaware	 14091A0359 S.M. BASHA Galaxy Glass Works
			1.	2020-21	160	233	4.5			
			2.	2019-20	183	144	4.25			
			3.	2018-19	248	165	4.00			
			4.	2017-18	198	157	3.75			

# 10. Criteria-4: Students Performance



## SPORTS & GAMES

ACADEMIC YEAR	NO. OF STUDENTS	PRIZES WON
2019-20	11	11
2018-19	04	04
2017-18	06	06
2017-16	03	03

## NO. OF MOOCS-STEP/NPTEL

ACADEMIC YEAR	NO. OF STUDENTS COMPLETED MOOCS
2020-21	244
2019-20	256
2018-19	375
2017-18	249

## Student's Technical PPTs

Academic Year	No. of Papers Presentation/ Workshop
2020-21	16
2019-20	13
2018-19	27
2017-18	27
2016-17	20

## No. of student projects

Academic Year	No. of Projects
2020-21	32
2019-20	44
2018-19	49
2017-18	34

# 1. Criteria-5: Faculty Information & Contribution



## Faculty & Staff Information

Designation	No. of Faculty
Professor	06
Associate Professor	07
Assistant Professor	32
<b>Total</b>	<b>45</b>

Designation	No. of staff
Technical Staff	15
Administrative staff	01
<b>Total</b>	<b>16</b>

Qualification	No. of Faculty
Ph. D.	16
M.Tech (Ph.D)	05
M.Tech	24
<b>Total</b>	<b>45</b>

## 2. Criteria-5: Faculty Information & Contribution



### Student-Faculty Ratio (SFR)

UG : B.Tech

Year of study	CAY [2020 - 2021]		CAYm1 [2019 - 2020]		CAYm2 [2018 - 2019]	
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students
II Year	180	18	180	18	240	48
III Year	180	18	240	48	240	48
IV Year	240	48	240	48	240	48
Sub total	600	84	660	114	720	144
Total	684		774		864	

### 3. Criteria-5: Faculty Information & Contribution



#### Student-Faculty Ratio (SFR)

PG : M.Tech

Year of study	CAY [2020 - 2021]	CAYm1 [2019 - 2020]	CAYm2 [2018 - 2019]
	Sanction Intake	Sanction Intake	Sanction Intake
I Year	09	09	09
II Year	09	09	18
<b>Total</b>	<b>18</b>	<b>18</b>	<b>27</b>

#### S.F.R

Description	CAY [2020 - 2021]	CAYm1 [2019 - 2020]	CAYm2 [2018 - 2019]
Total No. of Students in the Department(S)	702 Sum total of all (UG+PG) students	792 Sum total of all (UG+PG) students	891 Sum total of all (UG+PG) students
No. of Faculty in the Department(F)	39 F1	39 F1	43 F1
Student Faculty Ratio(SFR)	18.00 SFR1=S1/F1	20.31 SFR2=S1/F1	20.72 SFR3=S3/F3
<b>Average SFR</b>	<b>19.68</b>		

## 4. Criteria-5: Faculty Information & Contribution

### Faculty Cadre Proportion

Year	Professors		Associate Professors		Assistant Professors	
	Required	Available	Required	Available	Required	Available
CAY 2020-21	03	06	07	07	23	26
CAYm1 2019-20	04	06	08	04	26	29
CAYM2 2018-19	04	06	09	02	29	35

### Faculty Qualification

	Ph.D (X)	M.Tech (Y)	Total (F)	FQ = $2.0X[(10X+4Y)/F]$
CAY 2020-21	16	23	35	14.4
CAYm1 2019-20	10	29	39	11.08
CAYm2 2018-19	08	35	44	10.0
<b>Average Assessment</b>				<b>11.83</b>

### Faculty Retention

Description	2019-20 (CAYm1)	2020-21 (CAY)
No. of Faculty Retained	34	27
Total No. of Faculty	43	43
Percentage of Retainment	79	63



## 5. Criteria-5: Faculty Information & Contribution

### Innovations by the Faculty in Teaching and Learning

- ❖ The academic calendar is planned well in advance and communicated to the students and placed in institution website.
- ❖ The lesson plan, indicating the topics covered lecture wise, for each and every subject is prepared by the faculty before the commencement of the semester and made available to the students.
- ❖ For all subject course wares, PPTs, VODs are made available to the students in the college web site/[Youtube channels of concern faculty](#).
- ❖ Digital class rooms regularly used to make the classes more interactive.
- ❖ The evaluated answer scripts are given to the students to discuss the performance and evaluation of the student in all the subjects.
- ❖ The training and placement cell conducts necessary training sessions to impart Logical, Interpersonal, Communication and Technical Skills.
- ❖ Through training, students get exposure to new technologies, thereby securing placements in the best industries.
- ❖ Department invites Industry experts and academicians to impart knowledge on emerging technologies and industry trends.
- ❖ The attendance at the end of every month is communicated to the students and their parents

## 6. Criteria-5: Faculty Information & Contribution

### INNOVATIONS BY THE FACULTY IN TEACHING AND LEARNING

#### GLIMPSES OF YOUTUBE LINKS

1] Dr. V. Siva Reddy Professor of M.E developed YouTube videos

Channel link: <https://www.youtube.com/user/sivanitt1>

- ❖ Thermodynamics
- ❖ Applied Thermodynamics/Thermal Engineering
- ❖ Engineer Opportunities
- ❖ Renewable Energy Laboratories
- ❖ NBA Tier-I Accreditation

2] Dr. B.Sidda Reddy Reddy Professor of M.E developed YouTube videos

<https://www.youtube.com/channel/UCjZSEmdAnaXjuhU004iRUuQ>

- ❖ Engineering Metrology
- ❖ Engineering Metrology Lab
- ❖ Renewable Energy
- ❖ HVAC

3] Dr. Syed Altaf Hussain Professor of M.E developed YouTube videos

<https://www.youtube.com/channel/UCUul8JuzjKFRmYJbkyX7HLA>

- ❖ Material Science
- ❖ Material Science Lab

## 7. Criteria-5: Faculty Information & Contribution

### Ph. D Guiding by Faculty & Ph. D Awarded to the Faculty

NAME OF FACULTY	2020-21		2019-20		2018-19	
	GUIDING	AWARDED	GUIDING	AWARDED	GUIDING	AWARDED
Dr. K. Thirupathi Reddy	03	01	04	01	04	-
Dr. V. Siva Reddy	--	--	--	--	-	01
Dr. Syed Altaf Hussain	03	--	01	01	02	--
Dr. M. Ashok Kumar	03	--	03	--	03	--
Dr. V. Chandra sekhar	01	-	-	-	-	-
Dr. B. Sidda Reddy	02	-	02	-	02	-

**No. of Patents Granted : 09**

**No. of Patents filed : 15**

**No. of Books Published by the faculty : 03**

**No. of Book Chapters Published by the faculty : 11**

## 8. Criteria-5: Faculty Information & Contribution



### Faculty Publications, Patents & Books and Book Chapters

S. No	WOS	SCOPUS	OTHERS	NJ	INC	NC	PATENTS	R & D	BOOKS/ BOOK CHAPTERS	INTERAC TION
1	162	144	233	52	58	65	PG:09 PF:15	11	B:03 B.C : 11	125

### Faculty Publications in Refereed Journals

Academic Year	Web of Science (SCI/SCIE/ESCI)	Scopus
2020-2021	30	15
2019-2020	26	17
2018-2019	15	15
2017-2018	11	4

# 9. Criteria-5: Faculty Information & Contribution



S. No	Faculty Name	Research Publications			Conferences		R&D	Patents		Books/ Book Chapters
		WoS	Scopus	Others	INC	N.C		Filed	Granted	
1.	Dr. K. Thirupathi Reddy	05	12	28	13	14	03			00/03
2.	Dr. V. Nageswara Reddy	00	08	14	04	04	01			00/00
3.	Dr. V. Chandra Sekhar	07	01	31	05	06	00			
4.	Dr. B. Sidda Reddy	07	15	35	11	13	02			
5.	Dr. Syed Altaf Hussain	08	13	38	09	05	02			01/00
6.	Dr. V. Siva Reddy	20	01	05	07	03	03			01/00
7.	Dr. K. Sudha Madhuri	01	05	08	04	02	00			
8.	Dr. Y. Siva Kumar Reddy	03	00	00	00	01	00			
9.	Dr. M. Ashok Kumar	15	03	60	10	15	01			
10.	Dr. G. Venkatesh	02	01	01	00	00				
11.	Dr. B. Rama Krishna	08	03	00	08	00		03	02	00/00
12.	Dr. Ashif Perwez	04	01	01	02	00		01		
13.	Dr. Md. Alamgir	06	00	02	02	02		01		
14.	Dr. Manoj Panchal	11	04	00	04	01		03	01	00/01

S. No	Faculty Name	Research Publications			Conferences		R&D	Patents		Books/ Book Chapters
		WoS	Scopus	Others	INC	NC		Filed	Granted	
15.	Dr. Upendra Rajak	33	09	04	03	03		04	03	01/06
16.	Dr. Dasore Abhishek	09	18	02	04	03		03	03	00/01
17.	Mr. Y. Suresh Babu		01	07	01	00				
18.	Mr. M. Sateesh Kumar		00	00	00	00				
19.	Mr. N. Upendra		01	06	02	00				
20.	Mr. B. Dinesh Babu		00	00	00	00				
21.	Mr. G. V. Satyanarayana		00	01	02	00				
22.	Mr. M. Khaja Gulam Hussain		00	18	00	04				
23.	Mr. B. Chinna Ankanna	01	00	03	02	03				
24.	Mr. T. John Babu		00	17	00	05				
25.	Mr. B. Suresh		01	03	00	00				
26.	Mr. B. Veerandra		00	01	00	01				
27.	Ms. Shaik Mullan Karishma		01	01	00	00				
28.	Mr. Mohammed Anees Sheik				00	02				
29.	Mr. A. Gouse Peera			06						

# 10. Criteria-5: Faculty Information & Contribution



## Sponsored Research

Academic Year	Project Title with details	Funding Agency	Duration	Amount Sanctioned	Present Status
2019-20	AICTE- MODROBS	AICTE	02	11,00,000.00	ONGOING
	DST FIST	DST	02	32,00,000.00	ONGOING
	DST-SERB	DST	03	25,98,030.00	COMPLETED
	ACTE-FDP	AICTE	01	04,00,000.00	COMPLETED
	AICTE-STTP	AICTE	01	04,00,000.00	COMPLETED
2018-18	AICTE/ISTE	AICTE	01	03,00,000.00	COMPLETED
2017-18	AICTE-FDP	AICTE	01	04,00,000.00	COMPLETED
	AICTE- UNNATH BHARATH ABHIYAN	AICTE	01	02,50,000.00	COMPLETED
	DST-SERB -NC	DST-SERB	01	01,00,000.00	COMPLETED

# 11.Criteria-5: Faculty Information & Contribution




## Sponsored Research



## Rajeev Gandhi Memorial College of Engg. & Tech. (AUTONOMOUS)

### DEPARTMENT OF MECHANICAL ENGINEERING


### FUNDING PROJECTS, SEMINARS, CONFERENCES, STTPs & MODROBS DETAILS

LABORATORY: DYNAMICS OF MACHINERY LAB		
Reference Number	AICTE FN. 9-4/RIFD/MOD/Policy-1/2018-19	
Sanctioned Year	09-01-2020 to 08-01-2022	
Sanctioned Amount	₹ 11,00,000/-	
Principal Investigator	Dr. B. Sidda Reddy	
	MODROBS/AICTE Govt. of India	

FDP : FDP on Advances in Materials and Manufacturing Technology		
Reference Number	AICTE FN. 34-55/97/RIFD/FDP/Policy -1/2017-18	
Sanctioned Year	10-5-2019 to 20-12-2019	
Sanctioned Amount	₹ 4,00,000/-	
Principal Investigator	Dr. Syed Altaf Hussain	
	FDP/AICTE Govt Of India	

National Conference "Engineering Trends & Advanced Sciences"		
Reference Number	DST- SERB SERB/F/5072/2017-18	
Sanctioned Year	21-08-2017 to 30-08-2018	
Sanctioned Amount	₹ 1,00,000/-	
Principal Investigator	Dr. M.Ashok Kumar	
	DST-SERB Govt Of India	

LABORATORY: IC ENGINES LAB		
Reference Number	R.No.12/AICTE/RIFD/MOD(POLICY-4) Pvt-78 / 2012-13 Dated:03.07.2013	
Sanctioned Year	2013-2014	
Sanctioned Amount	₹ 18,40,000/-	
Principal Investigator	Dr.K.Thirupathi Reddy	
	MODROBS/AICTE Govt. of India	

FDP : FDP on Renewable energy intervention in industry, Commercial and domestic applications		
Reference Number	AICTE FN. 34-67/105/FDC/FDP/ P -1/ 2019-20	
Sanctioned Year	20-07-2020 To 28-02-2021	
Sanctioned Amount	₹ 4,00,000/-	
Principal Investigator	Dr. B. Sidda Reddy	
	FDP/AICTE Govt Of India	

FDP : FDP Refresher Training program on Advances in Mechanical Engineering		
Reference Number	ISTE/AICTE-ISTE Induction/Refresher Program/2018	
Sanctioned Year	23-7-2018 to 28-7-2018	
Sanctioned Amount	₹ 3,00,000/-	
Principal Investigator	Dr. Syed Altaf Hussain	
	FDP/AICTE Govt Of India	


LABORATORY: INNOVATION & INCUBATION CENTER (IIC)		
Reference Number	DST-SERB ECR/2016/000016	
Sanctioned Year	01-10-2016 to 14-09-2020	
Sanctioned Amount	₹ 25,98,030 /-	
Principal Investigator	Dr. V. Siva Reddy	
	Early Career Research/ DST-SERB Govt Of India	

LABORATORY: COMPOSITE MATERIALS LAB		
Reference Number	R.No.8023/RID/RPS-53/Pvt (II Policy) / 2011-12 Dt:07.02.2012	
Sanctioned Year	2012-2014	
Sanctioned Amount	₹ 11,00,000/-	
Principal Investigator	Dr.K.Thirupathi Reddy	
	RPS/AICTE Govt Of India	

STTP: Short Term Training Program on New Trends in IC Engines		
Reference Number	AICTE FN. 34-66/465/FDC/STTP/Policy-1/2019-20	
Sanctioned Year	10-08-2020 to 20-12-2020	
Sanctioned Amount	₹ 4,00,000/-	
Principal Investigator	Dr. V. Nageswar Reddy	
	STTP/AICTE Govt Of India	

LABORATORY: INNOVATION & INCUBATION CENTER (IIC)		
Reference Number	DST-FIST SR/FST/COLLEGE-/2017/19	
Sanctioned Year	16-01-2018 To 15-01-2023	
Sanctioned Amount	₹ . 32,00,000/-	
Principal Investigator	Dr. V. Siva Reddy	
	level 'IV' / DST-SERB Govt Of India	

LABORATORY: INNOVATION & INCUBATION CENTER (IIC)		
Reference Number	DST/TM/SERI/2k12/60(G)	
Sanctioned Year	2014-2017	
Sanctioned Amount	₹ 79,95,200.00	
Principal Investigator	Dr. V. Siva Reddy	
	SERI/DST Govt. of India	

LABORATORY: FLUID MECHANICS AND HYDRAULIC MACHINES LAB		
Reference Number	R.No.8024/RIFD/MOD-253/2010-11 Dated: 31.03.2011	
Sanctioned Year	2011-2012	
Sanctioned Amount	₹ 6,50,000/-	
Principal Investigator	Dr.K.Thirupathi Reddy	
	MODROBS/AICTE Govt. of India	

Seminar Grant For ETMESD - Rs. 2,00,000/- (R.No. 7/27/RIFD/SG/Policy - 1/2013-14), P.I. : Dr.K.Thirupathi Reddy

Total Grant Received from Funding Agencies: ₹ 2,02,83,230-00 (Rupees Two Crore Two Lakh Eighty-Three Thousand Two Hundred and Thirty Rupees only)



# 16. Criteria-5: Faculty Information & Contribution

## SPONSORED RESEARCH PROJECTS

S. NO	Year	Project Title	Funding agency	Project Cost (Rs.)	Reference number / Status
1	CAYm1 2019-20	Vibration Fundamental Trainer kit	AICTE-MODROBS	11,00,000/-	Ongoing F.No.9-74/RIFD/MOD/Policy-1/ 2018-19
2		FDP on Renewable Energy	AICTE FDP	04,00,000/-	F.No:34-67/105/FDC/FDP
3		New Trends in IC Engines	AICTE STTP	04,00,000/-	F.No:34-66/465/ FDC /STTP/Policy-1/2019-20
4		DST FIST-Post harvest Loss reduction by using solar energy - Level-0	DST FIST	32,00,000/-	DST-FIST/SR/FST/ College/2017/2019
5		Development and performance evaluation of high efficient solar hot fluid generator (100- 120 °C) based dryer for agro-industrial application	SERB, DST	25,98,030/-	Successfully Completed with an expert remark of <b>Very Good</b> FILE NO.ECR/2016/000016

# 17. Criteria-5: Faculty Information & Contribution

## SPONSORED R&D PROJECTS

S. No	Year	Project Title	Funding agency	Project Cost (Rs.)	Reference number / Status
1	CAYm2 2018-19	Refresher Training Programme on Advances in Mechanical Engg.	AICTE/ ISTE	03,00,000/-	ISTE/AICTE-ISTE Indusction/Refresher Programme/2018
1	CAYm3 2017-18	Faculty Development Programme on Advances in Materials & Manufacturing Technology	AICTE	04,00,000/-	AICTE F.N-34-55/ 97/ RIFD/FDP/Policy-01/2017-18
2		Unnath Bharath Abhiyan	Govt. of India	02,50,000/-	
3		National Conference in Engineering Trends in Advanced Sciences	DST SERB	01,00,000/-	DST-SERB SERD/ F/5072/2017-18

## 18. Criteria-5: Faculty Information & Contribution

<b>S. NO</b>	<b>Project Title</b>	<b>Funding agency</b>	<b>Project Cost (Rs.)</b>	<b>Reference number / Statues</b>
<b>1</b>	<b>FM &amp; HM Lab</b>	<b>Modrobs, AICTE</b>	<b>6,50,000/-</b>	<b>Completed R.No. 8024/RIFD/MOD/253/ 2010-11</b>
<b>2</b>	<b>Design &amp; Development of Composite Materials</b>	<b>RPS, AICTE</b>	<b>11,00,000/-</b>	<b>Completed R.No. 8023/RID/RPS- 53/2011-12</b>
<b>3</b>	<b>IC Engine Lab</b>	<b>Modrobs, AICTE</b>	<b>6,50,000/-</b>	<b>Completed R.No. 12/AICTE/RIFD/MOD[Policy -4] Pvt-78/2012-13</b>
<b>4</b>	<b>National Conference on ETMESD</b>	<b>AICTE</b>	<b>02,00,000/-</b>	<b>R.No:7-27/RIFD/SG/Plicy- 1/2013/14 Dated:25.07.2013</b>
<b>5</b>	<b>Efficiency enhancement of scheffler dish solar concentrating technology</b>	<b>SERI - DST</b>	<b>79,95,200/-</b>	<b>Completed Sanction Order No: DST/TM/SERI/2k12/60( G) dated 04-06-2014</b>

## 12.Criteria-5: Faculty Information & Contribution



### Development Activities

#### 1] Product Development:

- ❖ 2020-21 : 32
- ❖ 2019-20 :44
- ❖ 2018-19 : 49
- ❖ 2017-18 : 34

#### 2] Research Laboratories: 08

#### 3] Instructional Materials : 17 Manuals & DIGITAL CLASS ROOMS : 08

#### 4] Working Models / Charts / Monograms : Available in all Labs and Drawing Halls

### Consultancy

Academic Year	Total Number of Consultancy Projects	Total Amount Received Rs.
2019-20	6	11,22,052.00
2018-19	14	11,76,022.00
2017-18	6	99,500.00

# 13.Criteria-5: Faculty Information & Contribution



## Contribution of the department faculty in the courses offered by other departments

S. No.	Programme	Courses offered to other Departments	Subjects & Labs
1	B. Tech	CE EEE ECE CSE CSE-DS CSE-BS	Engineering Drawing Engineering Workshop
2		EEE	Fluid Mechanics & Hydraulic Machinery Fluid mechanics & Hydraulic Machinery Lab

# 14.Criteria-5: Faculty Information & Contribution



## FACULTY PURSUING Ph.D.

Faculty	Research supervisor	Research Area	Type of program	University
Mr. Y. Suresh Babu	Dr. Syed Altaf Hussain	Machining of CMCs	Part-Time	JNTUA-Ananthapuramu
Mr. B.Chinna Ankanna	Dr. K. Govindarajulu	Functionally graded metals	Part-Time	JNTUA-Ananthapuramu
Mr. T. John Babu	Dr. Syed Altaf Hussain	Machining of MMCs	Part-Time	JNTUA-Ananthapuramu
Mr. G.V. Satyanarayna	Dr. G. Murali	RAC	Part-Time	KL university, Vijayawada
Mr. Md. Anees Sheik	Dr. M.K. Aravindan	Thermal Power Engineering	Part-Time	Jain University, bangalore

## 15. Criteria-5: Faculty Information & Contribution

### SUMMARY OF PUBLICATIONS DETAILS

Year	WOS/ SCI	Scopus	Other (INJ]	International Conferences	National Conferences	Total
2020-21	30	15	4	7	5	61
2019-20	26	17	3	3	3	52
2018-19	15	15	2	1	2	35
2017-18	11	4	2	3	7	27
<b>Total</b>	<b>82</b>	<b>51</b>	<b>11</b>	<b>14</b>	<b>17</b>	<b>175</b>

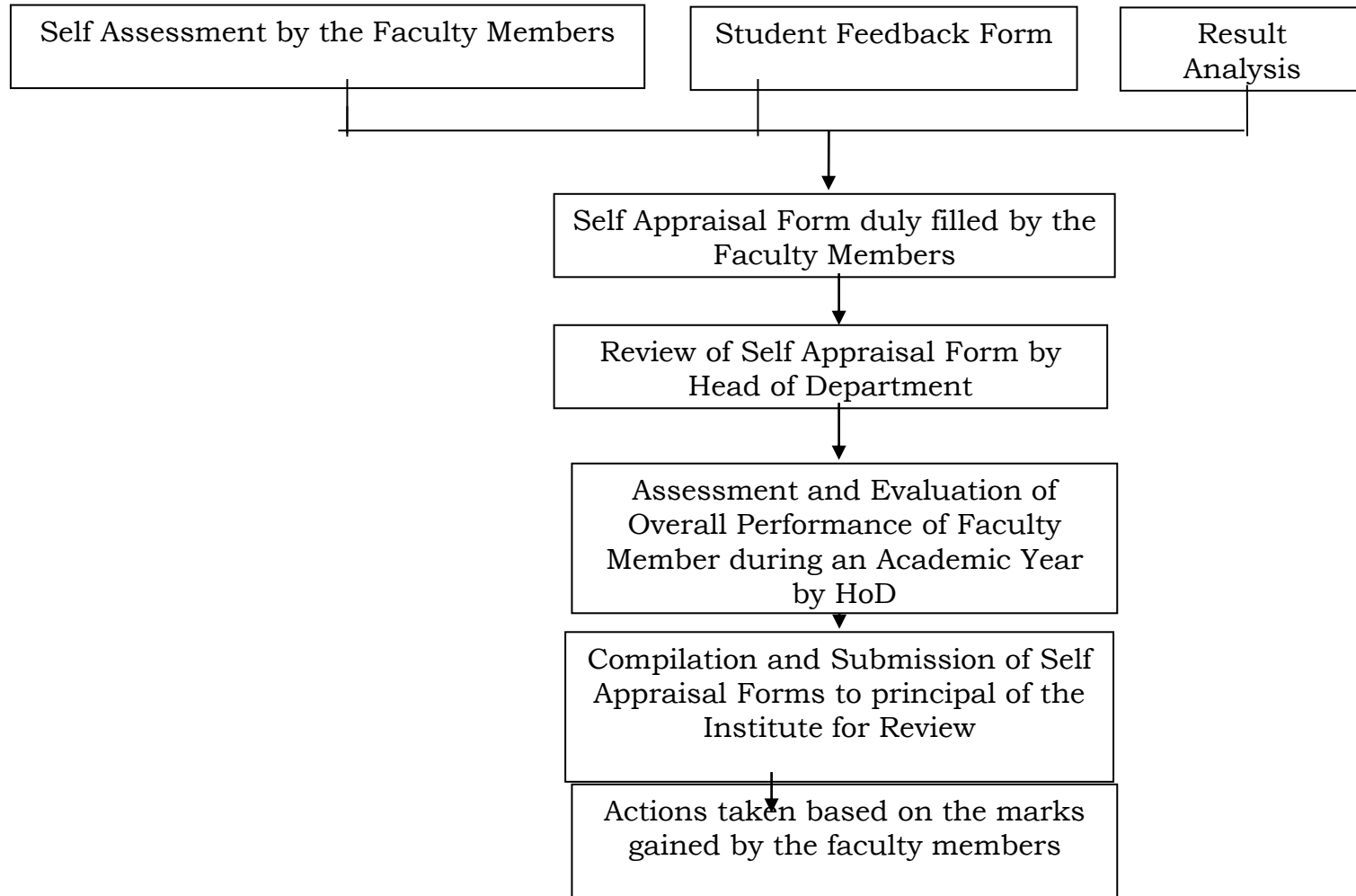
### CONSULTANCY PROJECTS

Academic Year	Funding Amount (Rs.)	Cumulative Amount (Rs.)
CAYm1 [2019-20]	11,22,052.00	23,97,574.00
CAYm2 [2018-19]	11,76,022.00	12,75,522.00
CAYm3 [2017-18]	99,500.00	-

# 19. Criteria-5: Faculty Information & Contribution



## Faculty Performance Appraisal and Development System Faculty Assessment Process





## 20. Criteria-5: Faculty Information & Contribution

### WORK SHOPS/SYMPOSIUMS/SEMINARS/FDP'S ORGANIZED:: 101 No's

S.No	Academic Year	Total
1.	2020-21	55
2.	2019-20	25
3.	2018-19	06
4.	2017-18	15

### WORK SHOPS/SYMPOSIUMS/SEMINARS/FDP'S ATTENDED:: 508 No's

S.No	Academic Year	Total
1.	2020-21	66
2.	2019-20	380
3.	2018-19	25
4.	2017-18	37

## 21. Criteria-5: Faculty Information & Contribution

Visiting / Adjunct / Emeritus Faculty etc. :: 19 No's

<b>S.No</b>	<b>Academic Year</b>	<b>Total</b>
1.	2020-21	05
2.	2019-20	07
3.	2018-19	07

# 1. Criteria-6: Facilities & Technical Support



## Adequate and well equipped laboratories and technical Manpower

S.No	Name of the Laboratory	Technical Manpower support		
		Name of the Technical Staff	Designation	Qualification
1.	Engineering Workshop	Mr.D.Siva Kumar Mr.S.Mahaboob Bahsa Mr.G.Pravin Kumar Mr.N.Sivaiah	Lab Technician Lab Helper Lab Helper Lab Helper	DME, B.Tech ITI ITI ITI
2.	Engineering Mechanics	Mr.S.Bala Subramanyam Mr.PV. Jaya Sankar	Lab Helper Asst. Prof.	ITI M.Tech
3.	Internal Combustion Engines	Mr.A.V.Papaiah Mr.TV.Sudarsan Reddy Mr.P.Jaya Sankar	Lab Technician Lab Helper Asst.Prof	DME,MBA ITI M.Tech
4.	Manufacturing Technology	Mr.K.Bhupal Reddy Mr.T.Srihari babu	Lab Helper Lab Helper	ITI ITI
5.	Materials Science	Mr.TV Sudarsan Reddy Mr. Subba Rao	Lab Helper Lab Technician	ITI B.Tech
6.	Fluid Mechanics & Hydraulic Machinery	Mr. M.Md. Nawaz Mr.S.Rama Krishna	Lab Helper Lab Helper	ITI ITI

## 2. Criteria-6: Facilities & Technical Support



7.	Metrology & Machine Tools	Mr.G. Srinivasulu Mr.T.Rajasekhar Mr.T.Srihari Babu	Lab Technician Lab Helper Lab Helper	DME,B.Tech ITI ITI
8.	Heat Transfer	Mr.TV Sudharshan Reddy Mr.Gouse Peera	Lab Helper Asst.Prof	ITI M.Tech
9.	Thermal Engineering	Mr. AV Papaiah Mr.PV.Jaya Sankar	Lab Technician Asst.Prof	DME, MBA M.Tech
10.	Dynamics	Mr.K. Bhupal Reddy Mr.B.Srinivasa Redy	Lab Helper Lab Helper	ITI ITI, BA
11.	Instrumentation	Mr.K. Bhupal Reddy Mr.B.Srinivasa Redy	Lab Helper Lab Helper	ITI ITI, BA
12.	Computer Aided Drafting	Mr.G.Pandu Ranga Swamy	Asst.Prof	M.Tech
13.	Computer Aided Manufacturing	Mr.G.Srinivasulu Mr.G.Pandu Ranga Swamy	Lab Technician Asst.Prof.	DME,B.Tech M.Tech
14.	Incubation Center	Mr.Rama Maddilety Mr.A.Bala Chendchi Reddy B.Virendra	Lab helper Lab Helper Lab Helper	ITI ITI ITI

### 3. Criteria-6: Facilities & Technical Support



#### LABORATORIES MAINTENANCE AND OVERALL AMBIANCE

##### Maintenance of Laboratory equipment's:

- ❖ The lab assistant is responsible for ensuring proper training and providing supplementary equipment as needed.
- ❖ Laboratory apparatus should be inspected at least once in a month and cleaned after each use.
- ❖ All trained laboratory personnel should know where the equipments are located in the work area and should learn how to use them.
- ❖ Inspect equipment regularly (e.g., every 3 to 6 months) to ensure that it will function properly when needed.
- ❖ The lab assistant or faculty member is responsible for establishing a routine inspection system and verifying that inspection records are appropriately maintained.
- ❖ Maintenance of computers is taken care by IT and CSE departments.
- ❖ Major repairs of the equipment's are outsourced by following the procedure of the institute.

##### Overall Ambience:

- ❖ Adequate well equipped state of art labs to meet the curriculum requirements.
- ❖ The laboratories are equipped with computing resources, state of art equipment and tools relevant to the program.
- ❖ Appropriate guidance/training is given to the students prior to the schedule of the experiments for using the equipment, tools, computers and laboratories.
- ❖ Availability of laboratories with technical support within and beyond working hours.
- ❖ Availability of adequate and qualified technical supporting staff for program specific labs.

### 3. Criteria-6: Facilities & Technical Support



#### LABORATORIES MAINTENANCE AND OVERALL AMBIANCE

S.No	Name of the Laboratory	Total Cost (Rs.)
1	CAD/CAM lab	92,59,375.00
2	Engineering Mechanics Lab	2,53,500.00
3	Fluid Mechanics & Hydraulic Machinery Lab	13,91,349.00
4	Internal Combustion Engines Lab	38,48,185.00
5	Manufacturing Technology Lab	5,58,899.00
6	Material Science Lab	17,53,681.00
7	Dynamics Lab	5,01,545.00
8	Instrumentation lab	2,30,291.00
9	Heat Transfer Lab	7,48,525.00
10	Metrology & Machine Tools Lab	13,72,825.00
11	Thermal Engineering Lab	5,52,703.00
12	Engineering Workshop	16,28,224.00
13	R & D Lab / Incubation Centre	32,57,135.00
<b>Total Cost</b>		<b>02,53,56,237.00</b>

# 4. Criteria-6: Facilities & Technical Support



## LABORATORIES OVERALL AMBIANCE



# 5. Criteria-6: Facilities & Technical Support



## Laboratories maintenance and overall ambiance





# 6. Criteria-6: Facilities & Technical Support



## Laboratories maintenance and overall ambience



# 7. Criteria-6: Facilities & Technical Support

## Laboratories maintenance and overall ambiance



# 8. Criteria-6: Facilities & Technical Support



## Laboratories maintenance and overall ambiance



## 9. Criteria-6: Facilities & Technical Support



### Lecture Halls

S.No	Class Room	Room No	Remarks
1.	II-YEAR-A	MB-4010	
2.	II-YEAR-B	MB-4020	Digital Class Rooms
3.	II-YEAR-C	MB-4030	
4.	III-YEAR-A	MB 3010	
5.	III-YEAR-B	MB 3020	Digital Class Rooms
6.	III-YEAR-C	MB 3030	
7.	IV-YEAR-A	MB2010	
8.	IV-YEAR-B	MB2020	Digital Class Rooms
9.	IV-YEAR-C	MB2030	
10.	I-YEAR (PG-M.D)	RB 1120	
11.	II-YEAR (PG-M.D)	RB 1130	

# 10. Criteria-6: Facilities & Technical Support



## Faculty Rooms

S.No	Room No
1.	MB 1040
2.	MB1031
3.	MB 1071
4.	MB 1060
5.	MB 1061
6.	MB 1070
7.	MB 2031
8.	MB 2050
9.	MB 2060
10.	MB 2061
11.	MB 2070
12.	MB 2071
13.	MB 3050
14.	MB 3060

S.No	Room No
15	MB 3061
16	MB 3070
17	MB 3071
18	MB 4031
19	MB 4050
20	UG 1570
21	UG 1130
22	UG 1600
23	UG 1640
24	UG 1630
25	UG 1560
26	UG 1590
27	UG 1580
28	UG 1570

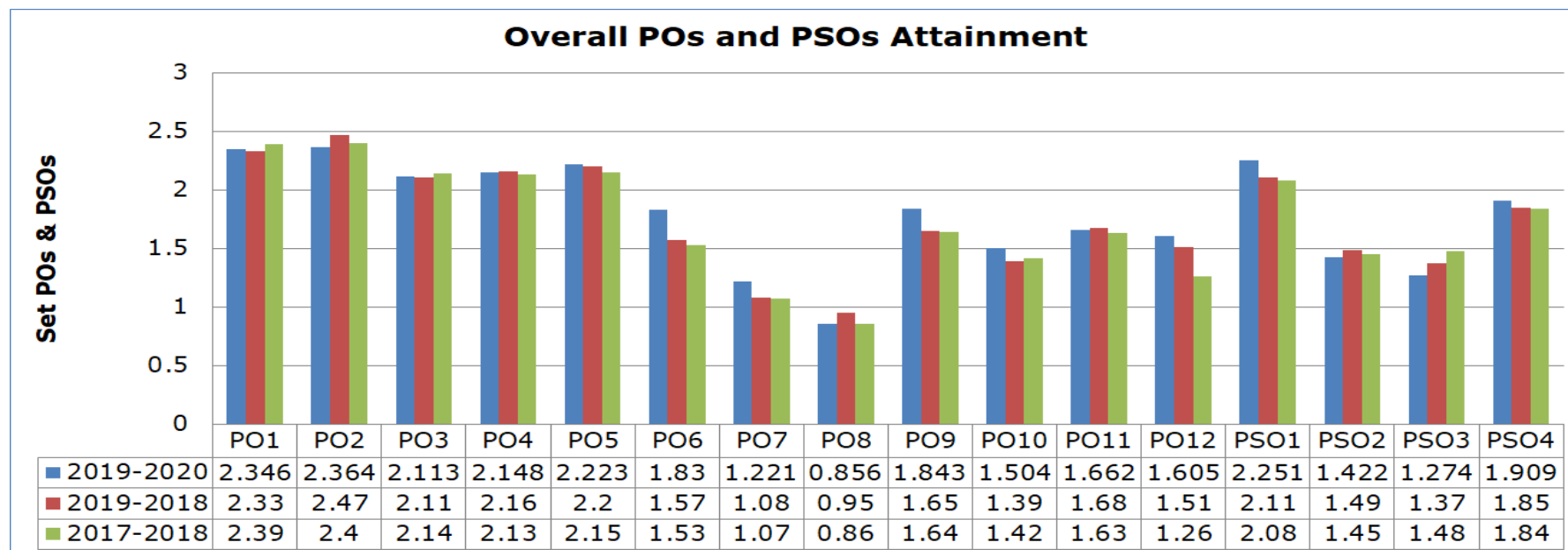
# 11. Criteria-6: Facilities & Technical Support



## Adequate and well equipped Laboratories & Utilization

S.No.	Name of Lab	Student per experiment	Weekly utilization
1.	CAD LAB	1	36 HOURS
2.	CAM LAB	2	27 HOURS
3.	ENGINEERING MECHANICS LAB	3	30 HOURS
4.	ENGINEERING WORKSHOP	1	36 HOURS
5.	FLUID MECHANICS & HYDRAULIC MACHINERY LAB	3	36 HOURS
6.	HEAT TRANSFER LAB	2	27 HOURS
7.	INTERNAL COMBUSTION ENGINES LAB	3	36 HOURS
8.	DYNAMICS LAB	3	27 HOURS
9.	INSTRUMENTATION LAB	3	27 HOURS
10.	MANUFACTURING TECHNOLOGY LAB	1	36 HOURS
11.	METROLOGY AND MACHINE TOOLS LAB	3	27 HOURS
12.	MATERIAL SCIENCE LAB	3	36 HOURS
13.	THERMAL ENGINEERING LAB	3	27 HOURS
14.	COMPOSITE MATERIALS LAB	1	03 HOURS

# 1. Criteria-7: Continuous Improvement



## Target Levels for POs and PSOs

Particulars	Target Values
Set Targets for PO1, PO2, PO3, PO4, PO5	70% (2.1)
Set Targets for PO6, PO7, PO8, PO9, PO10, PO11, PO12	50% (1.5)
Set Targets for PSO1, PSO2, PSO3, PSO4	60% (1.8)

## 2. Criteria-7: Continuous Improvement



POs	Target Level	Attainment level	Observations
<b>PO1. Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
<b>PO1</b>	<b>2.1</b>	<b>2.346</b>	<b>TARGET LEVEL ATTAINED</b> Students have fundamental knowledge in the basic subjects like; Mathematics, Physics, Chemistry, Mechanics and electrical Engineering Sciences, due to which the performance in the Midterm examinations as well. Therefore, student attainment level is more than the target value
Action 1: To maintain the level of attainment achieved, More number of problems are to be solved by taking additional classes.			
<b>PO2. Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
<b>PO2</b>	<b>2.1</b>	<b>2.364</b>	<b>TARGET LEVEL ATTAINED</b> The average student attainment level is more than the target value because; students have the ability to analyze and solve complex engineering problems. Therefore, student's attainment level is more than the target value
Action 1: More emphasis was given on tutorial classes for problem-solving. Action 2: Assignments were given on regular basis and monitoring the same. Action 3: Students are encouraged to raise questions that were solved in the classes			

In the similar steps action taken was illustrated from PO3 to-PO12 and PSO1 to PSO4



### 3. Criteria-7: Continuous Improvement



Academic Audit Committees are formulated in the department with a group of 2-3 faculty members including Deans, Directors. The duties and responsibilities of the different committees are listed below.

#### **OBJECTIVES:**

To encourage Department/Programs to evaluate their "Teaching - Learning process".

To streamline academic functions and standardize practices.

To ensure every faculty member performs his/her best in teaching and research.

To provide feedback to faculty members on area in which improvement is required.

To monitor the progress of Ph. D work of scholars and provide relevant guidance

## 4. Criteria-7: Continuous Improvement

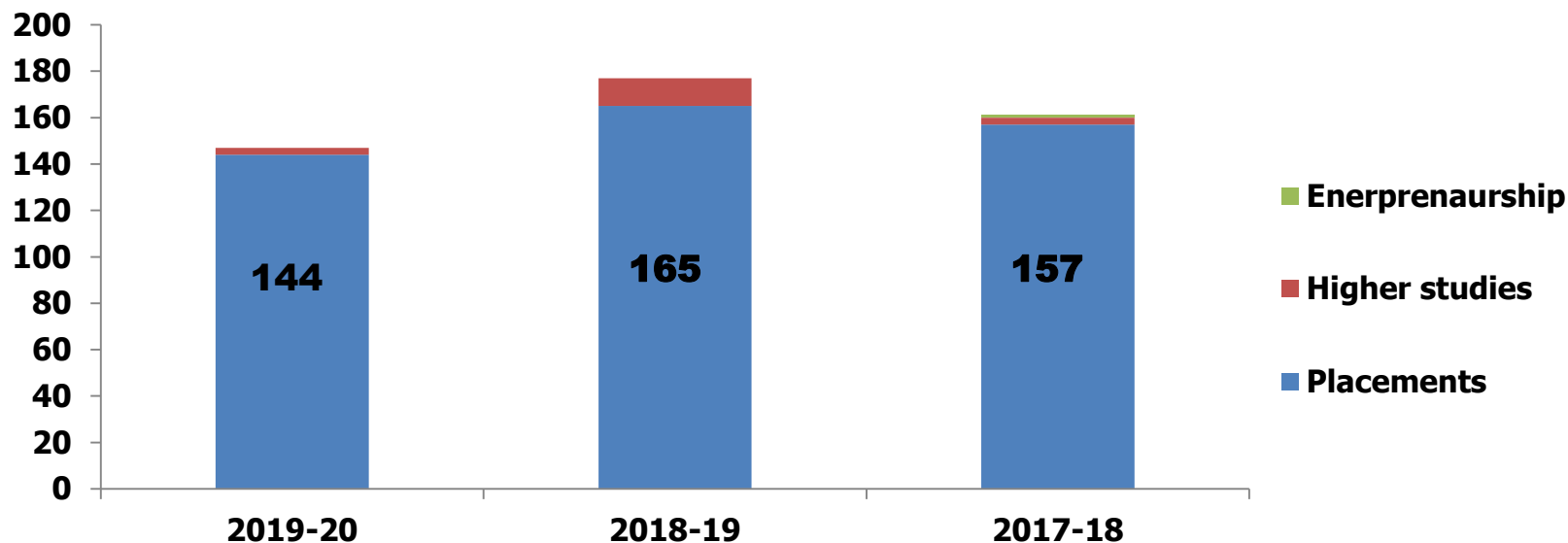


### **EVIDENCE OF SUCCESS**

- ❖ The Audit mechanism has enhanced faculty members' contribution and their teaching quality which is reflected in student performance and engaged.
- ❖ The attendance and assessment record maintained by the faculty members is up to the standards
- ❖ Overall performance of the students in written examination is Excellent which exhibits the effective and innovative teaching methodology of the faculty members.
- ❖ Students have excelled in their creative skills and have emerged with outputs such as improved in percentage marks, pass percentage.
- ❖ The assessment pattern especially the components of Quality assessment adopted by the members of Faculty were found to be innovative and unique.
- ❖ **OTHER BEST PRACTICES** : Remedial classes are arranged for academically weak students by respective subject teachers after the college working hours.
- ❖ Digital class room facility is provided to meet advancement in technology.
- ❖ Laboratory facility is also provided for improving the student practical skills after the college working hours.

## 5. Criteria-7: Continuous Improvement

### Improvement in Placement, Higher Studies and Entrepreneurship



Year	No. of Placements	Higher studies	Entrepreneurs
2020-21	233	-	-
2019-20	144	04	5
2018-19	165	12	5
2017-18	157	03	5

## Part II

# OBE Philosophy of the Department



## What is OBE?

**OBE is an educational approach and a learning philosophy, focusing and organizing the entire academic programs (curriculum) and instructional efforts around clearly defined 'outcomes' we want all students to demonstrate when they complete the program. It is a student-centered instruction model that focuses on measuring student performances through outcomes.**

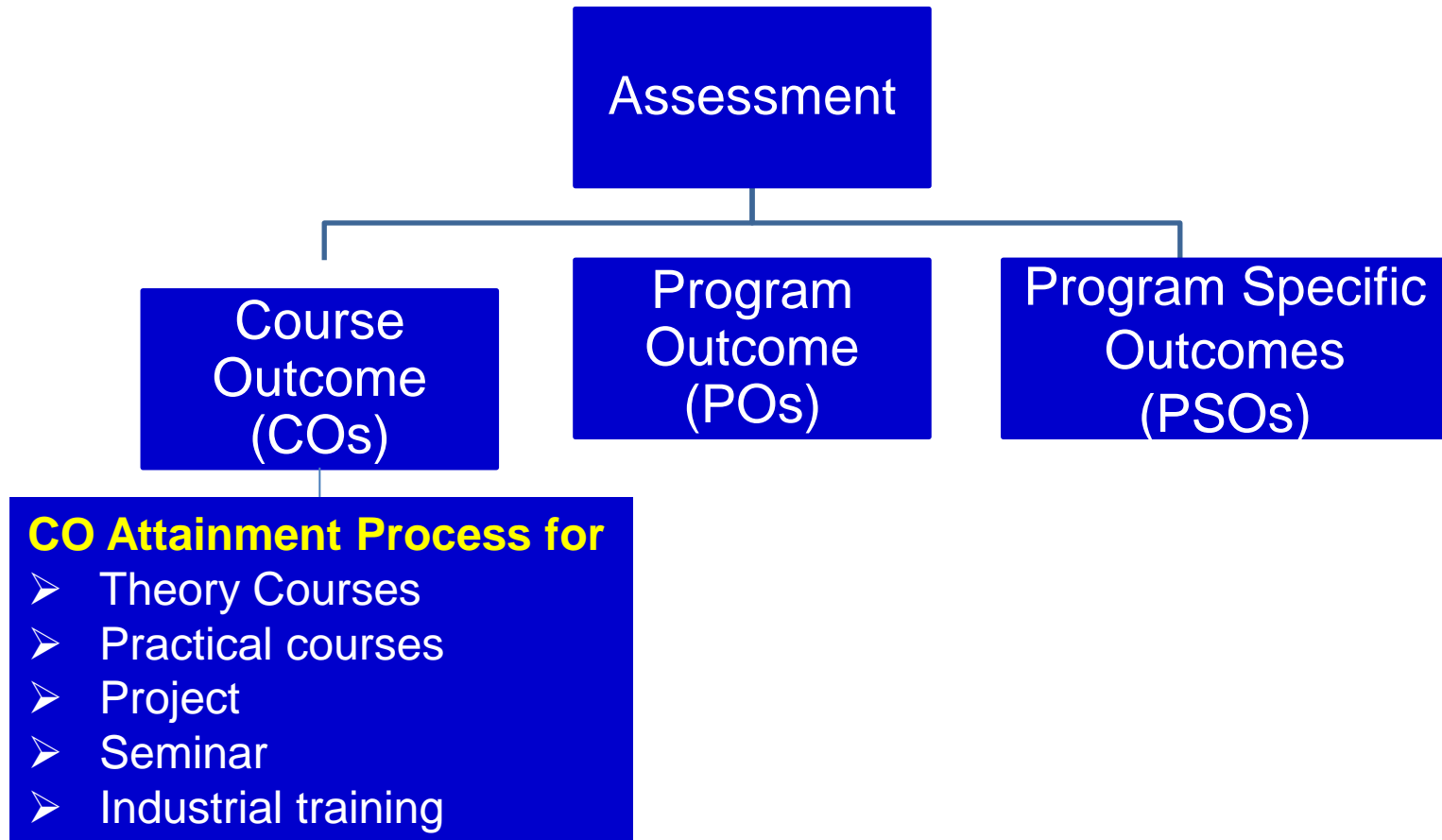
**Outcomes are usually expressed in terms of a mixture of knowledge, skills, abilities, attitudes and understanding that a student will attain as a result of his/her successful engagement in a particular set of higher ducation experience.**

## Part II

# OBE Philosophy of the Department



**Outcome Based Education (OBE) Philosophy followed by the Department in attainment of COs and POs and Assessment Methodology**



## Part II

# OBE Philosophy of the Department



### A. CO Attainment Process for Theory Courses

1. Course Outcomes (COs), are defined by the faculty member for the allotted course and tagged with cognitive levels.

2. Calculation of Direct CO Attainment using Mid semester Test (MST), End Semester Test (EST) and Quiz, Assignment and regularity (QAR)

a. Questions in the MID semester exams, End Semester Test (EST) and Quiz, Assessment and regularity (QAR) are tagged with relevant COs.

b. For each CO, Normalized CO attainment marks are calculated for each student.

c. Then CO attainment is Calculated for the entire course.

3 Checking the attainment of CO:

Threshold values were set for each course/ year wise, if the CO attainment for the course is greater than the Threshold level it is presumed that all the COS are attained.

## Part II

# OBE Philosophy of the Department



### B. CO Attainment Process for Practical Courses

1. Course Outcomes, are defined by the faculty member and tagged with cognitive levels.
2. Calculation of CO Attainment using Continuous Internal Evaluation (CIE).
  - a) Rubrics are defined for Lab Continuous Evaluation and Lab Internal Examination.
  - b) COs are mapped with rubrics.
  - c) For each CO, Normalized marks are calculated for each student and attainment level is calculated for that particular lab.
3. Calculation of CO Attainment using Semester End Examination (SEE).
  - a) Rubrics/are defined for Semester End Examination (SEE) marks.
  - b) For each CO, Normalized marks are calculated for each student and attainment level is calculated for that particular lab.

## Part II

# OBE Philosophy of the Department



### B. CO Attainment Process for Practical Courses

4. CO Attainment gap is determined by comparing CO attainments with CO Targets.
5. Action Plan is prepared for next offering of course in case of gap, otherwise Targets are enhanced.

**Rubrics used for Practical courses for Continuous Internal Evaluation are as:**

Continuous Internal Evaluation of Practical Courses	Rubrics
Lab Continuous Evaluation	R1: Conduction
	R2: File Record
	R3: Regularity
Lab Internal Examination	R4: Execution
	R5: Write-up
	R6: Viva-Voce



## Part II

# OBE Philosophy of the Department



### C. CO Attainment Process for Project

1. Course Outcomes (COs), are defined by Project Assessment Committee and tagged with cognitive levels.
2. Calculation of CO Attainment using Continuous Internal Evaluation (CIE).
  - a) Rubrics are defined for phase-wise Evaluation by Internal Department Committee (IDC) and Evaluation by Project Supervisor and External Examiner.
  - b) COs are mapped with rubrics.
3. CO Attainment is calculated by considering 33% of CO attained using Continuous Internal Evaluation (CIE) and 67% of CO attained using Semester End Examination (SEE), that is,  $CO = 0.33 * CIE + 0.67 * SEE$ .
4. CO Attainment gap is determined by comparing CO attainments with CO Targets.
6. Action Plan is prepared for next offering of course in case of gap, otherwise Targets are enhanced.

## Part II

# OBE Philosophy of the Department



## Rubrics Used for Evaluation of Project work

No.	Rubrics	No.	Rubrics	No.	Rubrics
R1	Title & Feasibility	R2	Abstract & Depth of Knowledge	R3	Presentation as team and as an Individual
R4	Questions and Answer	R5	Design, Analysis and Work Distribution among Team Members	R6	Implementation strategy
R7	Assessed Project Progress up to satisfaction level	R8	Individual Contribution	R9	Sincerity towards Work as Team

## Part II

# OBE Philosophy of the Department



### D. CO Attainment Process for Seminar

1. Course Outcomes(Cos), are defined and tagged with cognitive levels.
2. Calculation of CO Attainment using Continuous Internal Evaluation (CIE).
  - a) Rubrics are defined for phase-wise Evaluation by Internal Department Committee (IDC) and Evaluation by Project Supervisor and External Examiner.
  - b) COs are mapped with rubrics.
  - c) For each CO, Normalized marks are calculated for each student and also attainment level is calculated for that particular lab.
3. CO Attainment gap is determined by comparing CO attainments with CO Targets.
4. Action Plan is prepared for next offering of course in case of gap, otherwise Targets are enhanced.

## Part II

# OBE Philosophy of the Department



## Rubrics used for Internal Evaluation of Seminar

Internal Evaluation of Seminar	Rubrics
<b>Internal Evaluation</b>	<b>R1: Understanding of the topic.</b>
	<b>R2: Organization of Presentation.</b>
	<b>R3: Presentation Skills.</b>
	<b>R4: Question and Answers.</b>
	<b>R5: Seminar Report</b>

## Part II

# OBE Philosophy of the Department



### E. CO Attainment Process for Core Comprehensive Viva-voce

1. Course Outcomes(Cos), are defined and tagged with cognitive levels.

2. Calculation of CO Attainment using Continuous Internal Evaluation (CIE).

- a) Rubrics are defined for by Internal Department Committee (IDC) and Evaluation by External Examiner as well as Internal Examiner.
- b) COs are mapped with rubrics.
- c) For each CO, Normalized marks are calculated for each student and also attainment level is calculated for that particular lab.

## Part II

# OBE Philosophy of the Department



## Rubrics used for Internal Evaluation of Core Comprehensive Viva-Voce

Internal Evaluation of Seminar	Rubrics
Internal Evaluation	R1: Knowledge and understanding of core subjects of the Programme
	R2: Analytical Skills.
	R3: Presentation Skills.
	R4: Question / Answers handled.
	R5: Professional behavior

## Part II

# OBE Philosophy of the Department



### Process for PO/PSO Attainment

1. Program Outcomes (POs) are given by National Board of Accreditation (NBA) and Program Specific Outcomes are defined by Program.
2. PSO/PO Targets are defined for Program.
3. Calculation of **Direct Attainment** and **Indirect Attainment** of **POs/PSOs**
  - a. For Each Course, PO attainment is calculated as
    - I. Course Outcomes are defined by faculty and tagged with cognitive levels.
    - II. CO is mapped with POs and PSOs.
    - III. Mapping Strength of each PO and PSO is computed.
    - IV. CO attainment is computed as per process.
    - V. For Each PO/PSO, relevant COs are Identified.
    - VI. For Each PO/PSO, PO/PSO Attainment = (Sum of (CO attainment value \* Actual mapping correlation strength of the PO) / Total Correlation strength of a particular PO
  - b. Direct Attainment = Average of attainments of POs and PSOs.

## Part II

# OBE Philosophy of the Department



### 5. Calculation of Indirect attainment of POs/PSOs.

- a) Student's Exit Survey for all POs/PSOs is taken from graduating students.
- b) Attainment from Student's Exit Survey is computed by taking average of all entries for each PO/PSO.
- c) Alumni Survey for all POs/PSOs is taken from Alumni's.
- d) Attainment from Alumni Survey is computed by taking average of all entries for each PO/PSO.
- e) **Indirect Attainment** = 20% of weightage was given to the Attainment from Student's Exit Survey + 10% of weightage. was given to the Attainment from Alumni Survey

### 6. For Each PO/PSO,

**Total Attainment** = 70% of Direct Attainment + 30% of Indirect Attainment.



## Part II

# OBE Philosophy of the Department

### Notable Outcome from Outcome Based Education

In order to meet the Programme independent POs students have taken up the Projects on environment & sustainability



The developed **solar still** purifies the seepage water.

### Solar Assisted Hydrogen Production From Water



Electrolysis is a promising option for hydrogen production from renewable resources. Electrolysis is the process of using electricity to split water into hydrogen and oxygen

## Part II

# OBE Philosophy of the Department



## Bio Gas Generation From Kitchen Waste



kitchen waste produces biogas, a valuable energy resource Anaerobic digestion is a microbiological process for production Biogas can be used as energy source and also for numerous purposes

## Fabrication Of Solar Hybrid Cycle



The developed product uses the kinetic energy stored in the flywheel for its propulsion in non-pedaling period

# Part II

## OBE Philosophy of the Department



**ISTE National Award for Best B.Tech Projects**

## Part II

# OBE Philosophy of the Department



## EXTENTION ACTIVITIES

As a part of Social responsibility, the institution has adopted Adopted Bhupanpadu and Nerawada village - Constructed toilets (200) and Erected 300 street lights in four villages namely Adopted Bhupanpadu, Nerawada, Ramatheeratham and Kondajutur



# Part II

## OBE Philosophy of the Department



### NATIONAL SERVICE SCHEME ACTIVITIES - 2018-2019



**International Yoga Day**



**Blood Donation Camp**



**Vanam Manam**



**Meditation Camp**



**Health check up**



**Voters Day Pledge**



**Chart distribution**



**Charts Distribution**



**Ceiling Fans Distribution**



**Water Tank Distribution**



**Medical camp**



**Valendictory Function**

# Part II

## OBE Philosophy of the Department



**nirf** 201-250  
Rank Band  
2021



**26** YEARS OF  
ENRICHING  
STUDENTS'  
LIVES

### DEPARTMENT OF MECHANICAL ENGINEERING

### PLACEMENTS @ 2020 - 21

### PRESTIGIOUS RECRUITERS 2021

\* 8 Offers



**D. Kranthi Kumar**  
(MECH Engg) 17091A0332

CTS, TCS, Nissan Automobiles,  
Mobis, KIMIL, Polyhose, RDS Infotech  
& Sutherland Global

\* 5 Offers



**Y. Siva Krishna**  
17091A0382

KIMIL, Mobis, Nissan,  
Deduce, Divis



**V. Jaganmohan Achari**  
18095A0311

Caparo, Mobis, Nissan,  
Deduce, Divis



**AS ON 13-09-2021**

**No. of MNC's Visited : 23**



## Part II

# OBE Philosophy of the Department



## LIST OF STUDENTS WHO BECAME AN ENTREPRENEURS

### Silicon Planet Recycling Plant & iWheels

Rohit Kumar ,Venugopal & Swaroop Chandu Rao ,  
Alumnus of Mechanical Engineering  
He is Founder of Silicon Planet Recycling; Co-Founder of i-Wheels, both the companies were establish in the year 2018.

Stuck in the middle of the road?  
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can help you

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P. Dinesh Kumar Reddy, Alumnus of Mechanical Engineering in the year 2013.

He established Sri Vaayuputra Granites, Pavanaputra Granites & Sumitra Granites at Kodikonda, Tadipatri and Madanapalli respectively.



**Mr. Swaroop Chandu Rao & Mr. Rohith Kumar of 2009 Batch were the Founders of Silicon Planet Recycling and Co-Founder of i=Wheels, both the companies were establish in the year 2018.**



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+91-(0)9177177788  
🌐 www.siliconplanet.in

**Mr. Dinesh Kumar Reddy. P of 2009 Batch has become Entrepreneur by establishing M/s. Pavana Puthra Granite Processing Palnt at Madanapalli**





**Mr.Imran of 2008 batch established M/s. Sana Plastic Industries at Dhone, Andhra Pradesh**



**Mr.Imran of 2008 batch established M/s. Navabharath Plastic Industries at Dhone, Andhra Pradesh**



**Mr. Rama Soumith Reddy of 2008 batch established M/s. VR Moto- the Bike Clinic at Hyderabad, Telangana State**



**Mr. Rama Soumith Reddy of 2008 batch established M/s. VR Moto- the Bike Clinic at Hyderabad, Telangana State**



# TOP ALUMNI

## Chakradhar Byreddy, PhD

- UL, Asia Pacific , Renewables  
**Director Renewables APAC, Jun 2018 – Present,**  
7 mos, Bangalore
- Envision Energy **Title: Head Of Solutions, Name, May :**  
May 2018, 1 yr 1 mo, Bangalore
- **DNV GL Energy, Renewables Certification, Total Duration 3 yrs**  
9 mos,  
**Title: Regional Manager, Asia Pacific, Mar 2014 – May 2017, 3**  
yrs 3 mos,  
**Title: Country Manager India, Sep 2013 – May 2017, 3 yrs 9**  
mos
- Germanischer Lloyd Industrial Services GmbH, Renewables  
Certification,  
**Deputy Head of International Operations/ Head of Group India**  
Sep 2012 – Sep 2013, Employment Duration 1 yr 1 mo



# Ranjith Yengoti

**President & CEO** at SMOACT Works,  
Columbus, Ohio Area



- Founded in 2013, SMOACT Works is a leading management and enterprise IT services company.. We serve organizations ranging from medium-sized businesses to Fortune 500 companies in public sector, healthcare, education and commercial sectors.
- **Executive Vice President - Delivery & Operations**
- Jan 2010 – Dec 2016
- **ERP Project and Program Manager**, 2004 – Jan 2010

# Nethaji Chapala

Tata Consultancy Services



- **IT Strategy & Architecture Consultant, Transformation Partner, Insurance and Healthcare Unit, Aug 2014 – Present.**
- **Enterprise Architecture & IT Strategy Consultant, Jul 2007 – Jul 2014.**
- **Program Manager, Solution Architect, Jan 2004 – Jul 2007.**

- **Narasinga Rao Miniskar, Ph.D.**

Principal Engineer in Samsung Neural Processor (SNP) team  
Bengaluru, Karnataka, India



- **Principal Engineer in Samsung Electronics, Mar 2016 – Present**
- **Senior Chief Engineer, Jan 2014 – Feb 2016**
- **Doctor of Philosophy (Ph.D.), Katholieke Universiteit Leuven 2007-2011**
- **Pre-doctoral degree, KU Leuven, 2006 - 2007**
- **M.Tech, Computer Science and Engineering, Indian Institute of Technology, Delhi**



- **HARI KESAVA RAO**

**SAP Certified PM Consultant at Larsen & Toubro,  
Bengaluru, Karnataka, India**

- **Larsen & Toubro Infotech Ltd., Consultant, Jul 2018  
– Present**  
**Associate Consultant, May 2015 – Jun 2018**
- **SAP PM Consultant, Wipro Infotech, Dec 2014 – Apr  
2015**

- **Jithender Reddy** ,  
**MBA, B. Tech (Mechanical)**



- **Sr. LNG Specialist (LNG/FLNG/FSRU/LPG Projects), Lloyd's Register, Feb 2014 – Present London, United Kingdom**
- **Full time MBA Student, Cass Business School Sep 2012 – Jan 2014, London, United Kingdom.**



# V Suresh Babu

AI Team Lead at Servis BOT, Ireland  
April 2018 till now



- Senior Research Scientist, United Technologies Research Center Ireland , From Nov 2014 – Mar 2018, Location: Cork, Ireland
- Post Doctoral Research Fellow, University of New Brunswick, Canada, May 2011 – Dec 2011
- PhD, Computer Science, Indian Institute of Technology, 2005 – 2009
- [linkedin.com/in/suresh-veluru-11666723](https://www.linkedin.com/in/suresh-veluru-11666723)
- [veluru.sureshbabu@gmail.com](mailto:veluru.sureshbabu@gmail.com)
- +353(0)851293968 (Mobile)

# **Guru Santhosh Pabbisetty (06091A0321)**

**Researcher at Toshiba Corporation**

**Nov 2017 to Present**

**Kawasaki, Kanagawa, Japan**



**Solutions Engineer, Toshiba Digital Solutions Corporation, Nov 2013  
– Oct 2017, Kawasaki, Kanagawa, Japan**

**ERP End-to-end lifecycle support. Global deployment support of ERP  
in manufacturing companies.**

**Master of Science - MS (by Research), Telecommunications  
Engineering, Grade 9.1/10, IIT, Madras, (2010 – 2013)**

**[linkedin.com/in/gurusanthosh-pabbisetty](https://www.linkedin.com/in/gurusanthosh-pabbisetty)**

**[p.gurusanthosh@gmail.com](mailto:p.gurusanthosh@gmail.com)**



**THANK YOU**