RajaRajeswari College of Engineering

#14, Ramohalli cross, Kumbalagodu, Mysore road,Bengaluru - 560 074

(Approved by AICTE, New Delhi. Affiliated to the Visvesvaraya Technological University, Belgaum)

Department of Mechanical Engineering

MECH NEWSLETTER

Volume : 5 Issue: 1

Gear 2017

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Dr.A.C.Shanmugam,
B.A.LLB, FIMSA, Former MLA., MP.,
Chairman
RajaRajeswari Group of Institutions.

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B.Tech (Hons), LMISTE,MIET., (UK).,LMCSI.,
Vice-Chairman
RajaRajeswari Group of Institutions.

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Mr. Jeyabalan.S
Special Officer
RajaRajeswari Group of Institutions.

Dr T R Gopalakrishnan Nair
Rector
RajaRajeswari Group of Institutions.

Principal

Dr.R.Balakrishna,Ph.D.,
RajaRajeswari College of Engineering

Head of the Department

Dr. Yeshovanth H R, Ph.D.,
HOD-Mech

We are very much grateful to the Management, Rector and Principal for their continuous encouragement, inspiration and support extended for the release of this **"NEWS LETTER"- GEAR 2017.**

Dr.H R Yeshovanth,
Head of the Department

Department at a Glance

The Department of Mechanical Engineering was started in the year 2006 has highly qualified faculty with good blend of experience from both Academics and Industry. The department has well equipped laboratories with advanced software's. Within a span of 12 years the department has reached **'Center of Excellence'** by attaining good academic results, conducting many seminars, conferences, workshops, FDPs, Industry - Institute Interactions at State and National levels.

Courses Offered:

UG Programme :

- Bachelor of Engineering in Mechanical Engineering-4 Years.

Research Programme:

- **Doctor of Philosophy**

Centre of Excellence:

Altair HyperWorks

FACULTY PUBLICATIONS IN ACADEMIC YEAR 2016-17

1. N Sreenivasalu Reddy, K Rajagopal, and P H Veena, "Experimental Investigation of Heat Transfer Enhancement of a Double Pipe Heat Exchanger with Helical Fins in the Annulus Side", International Journal of Dynamics of Fluids, volume 13, Number 2 (2017), pp. 285-293,ISSN : 0973-1784.

2. N Sreenivasalu Reddy, K Rajagopal, and P H Veena, " Comparison study of longitudinal Rectangular and helical fins in the annulus side of double pipe heat exchanger", Trends in mechanical Engineering and technology, volume 7, Issue 3, PP 1-7, (2017), pp. 285-293,ISSN : 2231-1793 (online) 2347-9965 (print).

3. N Sreenivasalu Reddy, K Rajagopal, and P H Veena, "Numerical Investigation of Heat Transfer Enhancement and pressure drop of a Double Pipe Heat Exchanger with Rectangular Fins in the Annulus Side", International Journal of Dynamics of Fluids, volume 13, Number 2 (2017), pp. 295-308,ISSN : 0973-1784.

4. N Sreenivasalu Reddy, K. Rajagopal, P.H Veena and V.K Pravin, A Momentum Interpolation Method for Laminar Incompressible flows, International Journal of Research, Volume 1, Number 7 (2014), pp. 327- 332. Impact factor: 7.296.

5. K S Madhu, "experimental investigation of heat transfer in helical coil heat exchanger with varying pitch" at national conference modern trends in mechanical engineering, Rajarajeswari Collage of engineering, Bangalore, held during 19th may 2017.

6. Anad A "Effect of Glutaraldehyde Vulcanization on the Surface Hardness of Natural Rubber", in a National Conference on Emerging Trends in Applied Sciences, ETAS -17, organized by Rajarajeswari college of Engineering during 17th &18th May 2017.

7. Dr.Satheesha V "Experimental and Computational Analysis of Heat Transfer, Fluid Flow & Pressure Distribution of Multi-Jet Impingement Cooling on Concave Surfaces" International Journal of Engineering Research in Mechanical and Civil Engineering (IJERMCE), ISSN 2456-1290, Volume 2, Issue 4, April 2017, pp 654-663.

8. Dr.Satheesha V presented on "Experimental and Computational analysis of Heat transfer, Fluid flow and Pressure distribution of Multi-jet impingement on Concave Surfaces", International Conference on Advances in Mechanical Engineering Sciences, ISBN: 978-81-932966-3-9, on 21st -22nd April-2017 at PES College of Engineering, Mandya.

9. Dr.Satheesha V presented on "Flow Visualization and CFD investigation effect of varying nozzle diameter and height in multi jet impingement over Flat and Curved surfaces", International conference on emerging research trends in Mechanical and Civil Engineering (ICERTMCE-2017-MET028), July 6-7, 2017, Reva University, Bengaluru.

10. Thanuj Kumar M. Raju P., Prashanth H, Praveen H. S., Sujith Kumar S, "Design and Fabrication of Mechanical Pusher", National Conference on Recent Trends on Engineering Science and Technology (NCRTEST-18), 24th May 2018.

11. Thanuj Kumar M., Achutha B, Manjunath H V, Shrigandh M S, "Enhancement of Manufacturing Process For CFRP Thruster Bracket", Two days National Conference on "Modern Trends in Mechanical Engineering – MTME'17, May 2017, RRCE, Bengaluru.

12. Thanuj Kumar M, K. S. Madhu, "Simulation of Humonoid Locomotion Robot in Unknown Terrains", Journal of Mechanical Robotics, (Mat Journals) Vol-1, Issue-2, 2016.

13. Dr.Vishwanath K.C, "Investigation of Effect Of Friction Stir Drilling Parameters on Elasto Plastic Behaviour of Al Alloy" to International Conference on Emerging Research Trends in Mechanical Engineering, ICERTMCE 2017 will be held in Reva University, Bangalore, in the month of 6th & 7th July 2017.

14. Ravikumar T., Abhishek Gowda.S , Akshaykumar S S, Girish K S, Ranjithkumar R "Analysis of Hip joint using FEM technique", Two days National Conference on "Modern Trends in Mechanical Engineering – MTME'17, May 2017, RRCE, Bengaluru.

Faculty participation in workshop and faculty development programme Academic Year 2016-17

1. Anand A participated in Three-day National Workshop on "Hyperworks" conducted from 12th -14th November 2016, by Department of Mechanical Engineering, held at Rajarajeswari college of Engineering.
2. Pramod V Koujalagi participated in Three-day National Workshop on "Hyperworks" conducted from 12th -14th November 2016, by Department of Mechanical Engineering, held at RajaRajeswari college of Engineering.
3. Shivalingaiah.K attended Faculty Development program on 14th to 18th June 2016 at Department of Mechanical Engg, RRCE, Bangalore.
4. Shivalingaiah.K delivered Lecture on "Surface Engineering, Coatings and Emerging applications" at department of mechanical engineering, RRCE, Bangalore on 16th June 2016 in FDP program.
5. Shivalingaiah.K attended Five Day FDP on Altair –Hyper Works From17th to 21stJan2017 at Department Of Mechanical Engg, RRCE, and Bangalore.
6. Shivalingaiah.K attended Three Day National Workshop on Hyper works from 12th to 14th November2016 at Department of Mechanical Engg, RRCE, Bangalore.
7. Shivalingaiah.K as coordinator, Conducted One day technical workshop on 'Cloud Computing' for Mechanical Engineering Applications on behalf of Department of Mechanical Engg, RRCE, and Bangalore on 18th March 2017.
8. Shivalingaiah.K attended One Day Technical Seminar on Futuristic Bearings on March2017 Organized by Department of Mech Engg, RajaRajeswari College of Engineering, Bengaluru-74.
9. Shivalingaiah.K attended One day Technical Seminar on "Energy conservation & Management" on 9 th March2017 organized by Department of Mechanical Engg, ACSCE, Bangalore and PCRA.
10. Shivalingaiah.K attended One day Technical Seminar on Emerging Trends on Advanced materials on 14th March 2017 Organized by Department of Mech Engg, RRCE Bengaluru-74.
11. Shivalingaiah.K attended One day Technical Seminar on Introduction to Nano Materials & NanoComposites on 14th March2017 Organized by Department of Mech Engg, RRCE Bengaluru-74.
12. Shivalingaiah.K elivered a talk on 'Goal setting' in Faculty development program organized by BALC,(computer education Institution), Bangalore-560091 on 8th April 2017.
13. Ravikumar T coordinator for Two Days National Conference on 'Modern Trends in Mechanical Engineering (MTME'17)" dated 19th& 20th of May 2017 in the Dept. of Mech. Engg., RRCE, Bengaluru.
14. Ravikumar T organized 3 days National level workshop on "HYPERWORKS" from 12th to 14th Nov 2016 at RajaRajeswari College of Engineering, Bengaluru-74.

Class Toppers List Academic Year 2016-17				
SEMESTER		 **1st Topper**	 **2nd Topper**	 **3rd Topper**
8th	**USN**: **NAME**: **%**:	1RR13ME025 MANJUNATH 85.6%	1RR14ME407 RANJITHKUMAR B P 80.9%	1RR13ME009 ANIL RAO.N 80.2%
7th	**USN**: **NAME**: **%**:	1RR13ME011 ARCHANA P.S. 80.11%	1RR13ME001 ABHISHEK GOWDA .S 72.33%	1RR13ME025 MANJUNATH 71.67%
6th	**USN**: **NAME**: **%**:	1RR14ME023 DHANUSH KUMAR C 79%	1RR14ME007 AMITH SAGAR GOWDA 76%	1RR14ME092 SULTAN JUNAID ALIKHAN 75%
5th	**USN**: **NAME**: **%**:	1RR14ME092 SULTAN JUNAID ALI KHAN 75.66%	1RR14ME031 JAGADISHWAR MULLUR 72.89%	1RR14ME023 DHANUSH KUMAR C 71.56%
4th	**USN**: **NAME**: **%**:	1RR15ME041 HEMANTH KUMAR S 77%	1RR15ME021 BASAVARAJ SALIMATH 72.75%	1RR15ME020 BASAVARAJ MALLAPPA MELENNAVAR 72%
3rd	**USN**: **NAME**: **%**:	1RR15ME067 PAMPADE SATISH KUMAR 78.6%	1RR15ME094 SHASHANK G 75.7%	1RR15ME020,1RR15ME042 BASAVARAJ MALLAPPA MELENNAVAR K. ,MADHU SUDHAN 70.1%
2nd	**USN**: **NAME**: **%**:	1RR16ME046 MANOJ M 71.3%	1RR16ME002 ABHISHEK B S 71.1%	1RR16ME121 SUDARSHAN RAO Y S 70.2%
1st	**USN**: **NAME**: **%**:	1RR16ME046 MANOJ M 85%	1RR16ME083 RACHANA L 83.3%	1RR16ME107 SANTHOSH O 82.5%

Add-on certificate programme

Academic Year	Name of the Program	Duration	Date	No students attended
2016-17	Six Days Training Program On "Advanced Computational Fluid Dynamics "	6 days	07th to 11th, June, 2016	280
Name of the Resource Persons	1. Dr. Gowreesh Subramanyam S, JSSATE, Bangalore 2. Mr.Prabhu, Assistant manager, Design Tech systems Pvt. Limited, Bangalore 3. Mr.Shrishail., Assistant manager Sales Design Tech systems Pvt. Limited, Bangalore.			

National Workshop on ALTAIR Hyper Works

Three days National workshop on ALTAIR HYPERWORKS was Conducted from 12th to 15th November 2016.

3 Days Staff Development Program on

"Computer Aided Machine Drawing"

22nd to 24th Dec 2016

On day 1 Prof.K S Madhu highlighted new technologies that have made to acquire the knowledge of CAD software and its features. To familiarize the students with Indian Standards on drawing practices. Review of graphic interface of the software. Review of basic sketching commands and navigational commands. Starting a new drawing sheet. Sheet sizes. Naming a drawing, Drawing units, grid and snap. Conversion of pictorial views into orthographic projections of simple machine parts.

On day 2 Conversion of pictorial views into orthographic projections of simple machine parts. Hidden line conventions. Precedence of lines. Conversion of pictorial views into orthographic projections of simple machine parts (with section planes indicated on the part). Thread Forms: Thread terminology, sectional views of threads

On day 3 preparation of assembly drawings manually and using Solid edge packages I.C. Engine connecting rod, Tool head of shaper and Leaver safety valve

5 Days Faculty Development Program on

"Advances in Future Manufacturing Trends"

27th to 31st Dec 2016

On day 1 Mrs. Prathima Holla highlighted new technologies that have made more accessible to manufacturers. Automation for all is the next step in the industry. Dr. R Shankara Reddy addressed the supply chain operation effectively as it reduces costs, while delivery products to the customers when they want it, how they want it.

On day 2 Dr. K N Umesh emphasized robots in the industry as primary drives of the manufacturing trend, the robot technology is making automation attainable for all companies. The use of sensors and cloud connectivity powered by the internet. IoT is propelling the advancement in industries. Companies are improving safety, cost, stream line manufacturing with IOT capabilities was addressed by Dr. Usha S.

On day 3 Dr. Pavan highlighted ERP technology in manufacturing technology which was available for many years . But with availability of cloud based option, ERP helps manufacturing automate different areas of operation to make improvements and adjustments where needed. Mr. Holla highlighted importance of Industry 4.0 - 4th industrial revolution which is widely adopted in manufacturing sectors.

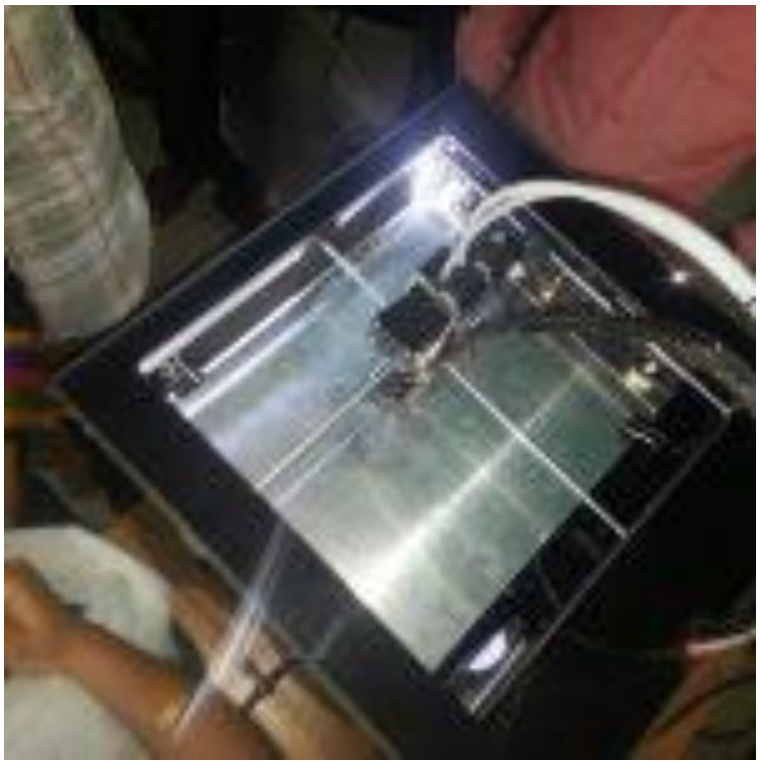
On the day 4 industrial visit to Distinct Productivity Solutions Bangalore who are in to manufacturing precision components for automotive sectors.

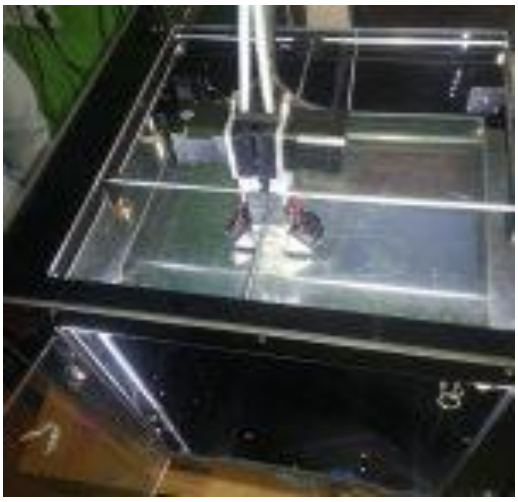
On the day 5 Mr. Prashanth explained 3D printing using CAD software , manufacturers can now custom build parts and products one layer at a time for their customers . the FDP was ended with valedictory function.

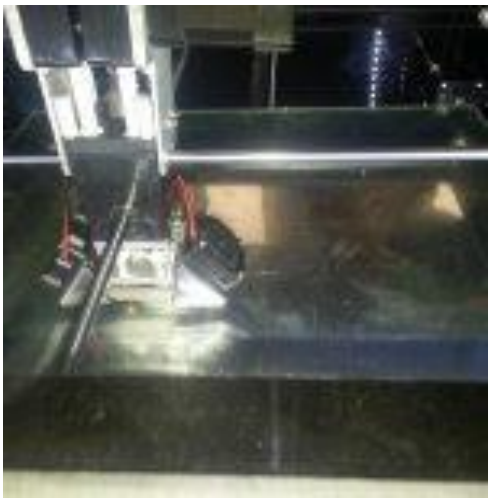
Five Days Faculty Development Program on "Altair Hyper Works"

Five Days Faculty Development Program on “Altair Hyper Works” from 17th to 21st January 2017. Totally 55 participants from various engineering colleges, industries and research scholars were participated in the program. Mr Sudhakar Velu, Principal Engineer, M/s Terex India Pvt, ltd, was the Chief guest for the inaugural function and deliver the lecture on the importance of Hyper works and its applicationguration the chief guest addressed the gathering.

One Day Faculty Development Program







One Days Faculty Development Program on RAPID PROTOTYPING and 3-D PRINTING was conducted on 24th January 2017. Mr. Guru Murthy, M/s HOPE Technologies Pvt. Limited, Chief guest addressed the functions of rapid prototyping and 3D printing. Given demo on rapid prototyping to the participants.

Technical Seminar on "Futuristic Bearings"

Technical seminar on ""Futuristic Bearings"" on 28th February, 2017 Tuesday. 80 students participated in Technical seminar . Dr. V. Arun Kumar, M/s Futuristic Bearings Pvt, ltd, was the Chief Guest and addressed the gathering about the bearings and its applications.

One Day Technical Seminar on "Emerging Trends on Advanced Materials"

Technical seminar on "Emerging Trends on Advanced Materials" conducted on 14th March 2017. 80 students participated in Technical seminar. Dr.H.B. Niranjan, was the chief guest and delivered the lecture on advanced materials and its applications.

Modern Trends in Mechanical Engineering – MTME'17

Organizing Two Days National Conference on "Modern Trends in Mechanical Engineering – MTME'17" during 19th & 20th May, 2017. Faculties/ research scholars and final year students to present their research/project work in the conference.

3 Days Staff Development Program on

"COMPUTER AIDED MODELLING AND ANALYSIS"

15th to 17th May 2017

On day 1 Prof. Radhakrishna highlighted new technologies that To acquire basic understanding of Modeling and Analysis software To understand the concepts of different kinds of loading on bars, trusses and beams, and analyze the results pertaining to various parameters like stresses and deformations.

On day 2 To lean to apply the basic principles to carry out dynamic analysis to know the natural frequencies of different kind of beams. Study of a FEA package and modeling and stress analysis of a Bars of constant cross section area, tapered cross section area and stepped bar

On day 3 Thermal Analysis – 1D & 2D problem with conduction and convection boundary conditions Dynamic Analysis to find a) Natural frequency of beam with fixed – fixed end condition

b) Response of beam with fixed – fixed end conditions subjected to forcing function c) Response of Bar subjected to forcing functions

Technical workshop on "Cloud Computing for Mechanical Engineering Applications"

Technical workshop on "Cloud Computing for Mechanical Engineering Applications" was conducted on 18th March 2017 . UG/ PG students of all related Engineering fields are invited to participate in Technical Workshop . Mr.Trivikrama Rao .V was the chief guest for the inaugural function and addressed the gathering about the cloud computing and its recent advancements.

One Day Technical Seminar on Introduction to Nano Materials & Nano Composites

One day technical seminar on Introduction to Nano Materials & Nano Composites organised for the Mechcanical Engineering students on 14th March 2017,Dr.Raji George explained the various nano materials and nano composites. Also, explained the structure and production of carbon nano tubes by arc discharge metals, characterization of carbon nano tubes and purification by micro filtration technique explained powder metallurgy to in processing reinforced aluminium carbon nano composites.

5 Days Faculty Development Program on
"Industrial Automation and Robot Technology"
21st to 25th June 2017

On day 1 Mr. Umesh highlighted the essence of automated technology in manufacturing system to achieve the best possible planning and control in a manufacturing environment. Mr. Parasuraman stressed the efficiency of automated transportation, reducing or eliminating the need for human to check in, check out, sort material or to move the work part to different location.

On day 2 Mr. Bhat emphasized the use of computer technology to aid in the process planning of a part or product in manufacturing. Described PPC a link between CAD – CAM. Mr. Rajanna highlighted the difference between inspection and quality control, where inspection is a way or method of maintaining the quality of the object, while quality control is a term involving inspection at various stages of production. Also discussed that MRP as a computer-based inventory mgmt. system will help to improve productivity of business.

On day 3 Dr. H V Ravindra, explained FMS as a production method which will easily adopt to any changes in product design in production system. With CNC machine tools configured to manufacture a variety of change in product design and also the level of production. Mr. Chakraraj Udupa described robot technology as interdisciplinary sector of science and engineering that give robots their potential to use in various sectors of manufacturing like material handling, assembly, inspection and processing.

On the day 4 industrial visit to Britannia Industries Ltd. Bangalore who are in to manufacturing biscuits of different variety.

On the day 5 Mr. Chakraraj Udupaand Prof. Pramod V K highlighted sensors as key component of a robot. Based on the field of application, specific sensors are used. While the use of pneumatic and hydraulic system in automated technology helps in electronically controlled fluid power system.

Industrial Visit

4th Semester, Mechanical Engineering students visited the Govt. Tool Room & Training Centre, Chord Road, Rajajinagar, Industrial Estate, Bangalore - 560 010 on 10th March 2017, Friday. Mr. SHASIDHAR, Technician of Govt. Tool Room & Training Centre explained the various process of their industry.

6th Semester, Mechanical Engineering students visited the ACE Designers Ltd, Plot No. 7 & 8, 2nd Phase, Peenya Industrial Area , Bangalore on 18th March 2017. Mr. Amul Chandra, Manager explained the working of CNC Turning machines, High precision & high technology CNC Turning machines, Special CNC Turning/Boring machines, Gantry robot operated turning, Tooled up CNC Turning machines.

DETAILS OF INFRASTRUCTURE IN THE DEPARTMENT OF MECHANICAL ENGINEERING

Facilities	2016-17
Campus area	5.2 acres of land
Class rooms	7
Laboratories	11
Seminar halls	2
Classrooms with LCD facilities	6
Classrooms with Wi-Fi/LAN	6
Seminar halls with ICT Facilities	5
No. of important equipment's(≥1-0lakh) during the	28
Value of the equipment purchased during the year	132.16041
Air conditioning	5
HOD Cabins	1
Faculty cabins	22
R&D	1
Department library	1
Toilets	2
UPS	4
Reverse Osmosis Water Plant	1
No. of computers for students	119

Laboratory Name	:	CAMD/CIM/CAMA Lab
Room No./Hall No.	:	LG06
Area	:	136 m^2

List of Equipment's :

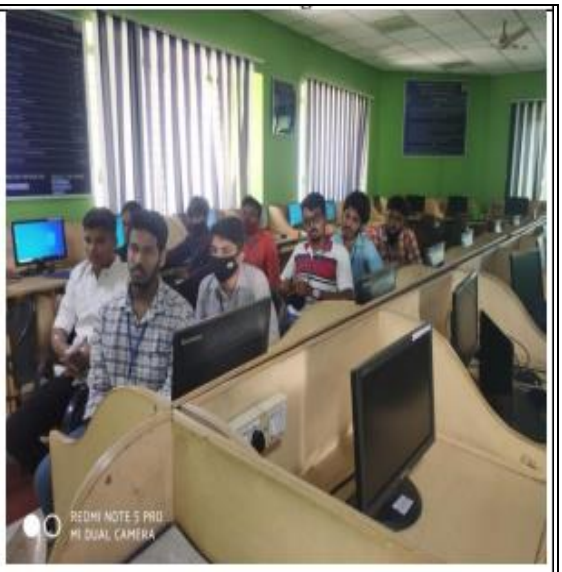
Sl. No.	Name of the Equipment's	Qty.
1	Lenovo CPU	60
2	LenovoMonitor	60
3	Lenovo Key Board	60
4	Mouse	60
5	Ansys V-11, 25 Users	25
6	Swan Soft CNC 20 users Turning Simulator	01
7	Solid Edge V19	60
8	HP Laser Printer	01
9	D Link Hub 24 Port	03
10	Projector Screen	01
11	Projector Hitachi	01
12	Laser jet Xerox	01

Laboratory Name	:	Center for Research on Automated Machining and Robotics
Room No./Hall No.	:	LG01
Area	:	66 m^2

List of Equipment's :

Sl. No.	Name of the Equipment's	Qty.
1	CNC Lathe machine with MTAB industrial control	01
2	Minimal Tooling Package for lathe	01
3	Operation and maintenance tool for Lathe	
4	CNC Milling machine with MTAB industrial control	01
5	Minimal Tooling Package for milling	01
6	Operation and maintenance tool for milling	
7	Station automatic tool changer	01
8	5 Axis Robot	01
9	Servo Stabilizer (Lathe and Milling)	02
10	Compressor for XLMILL	01

Laboratory Name	:	Centre of Excellence- Altair-Hyper Works
Room No./Hall No.	:	LG01
Area	:	136m^2
Photos	:	 



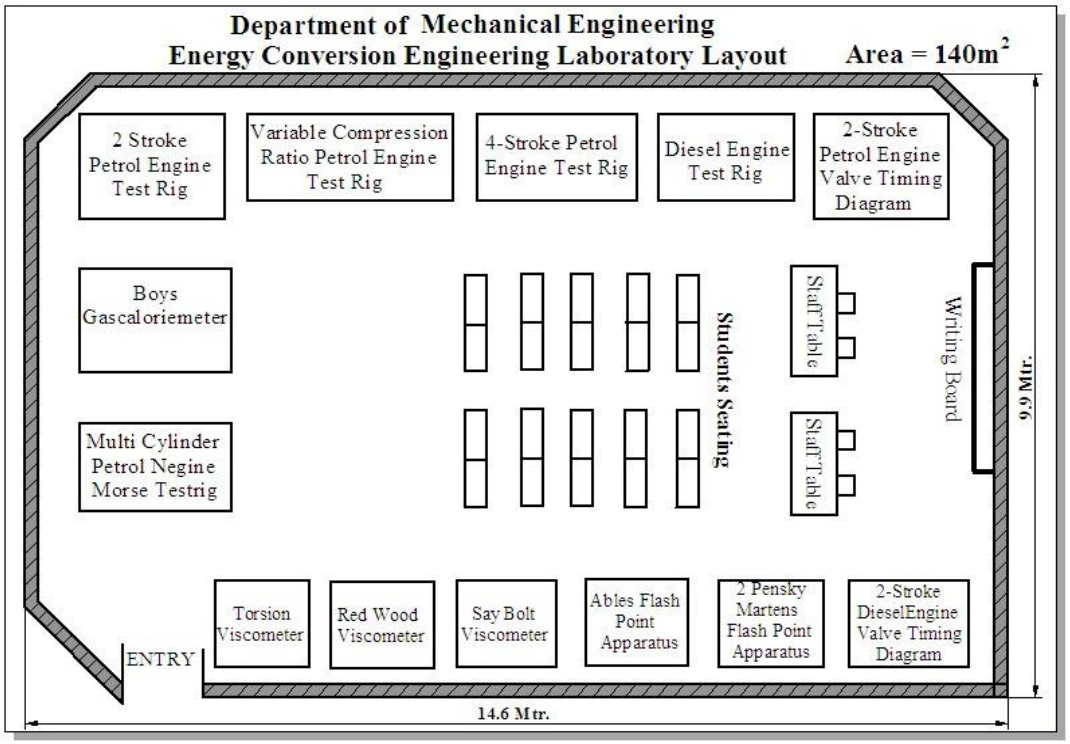
Facilities :

Sl. No.	Name of the Software	Qty.
1	Altair Centre of Excellence- Altair Hyper Works CAE Suite V12.0 or Latest (Academic & Research License) – 20 License	1

Laboratory Name	:	**Design Lab**
Room No./Hall No.	:	LG06
Area	:	89 m^2
Photos	:	

List of Equipment's :

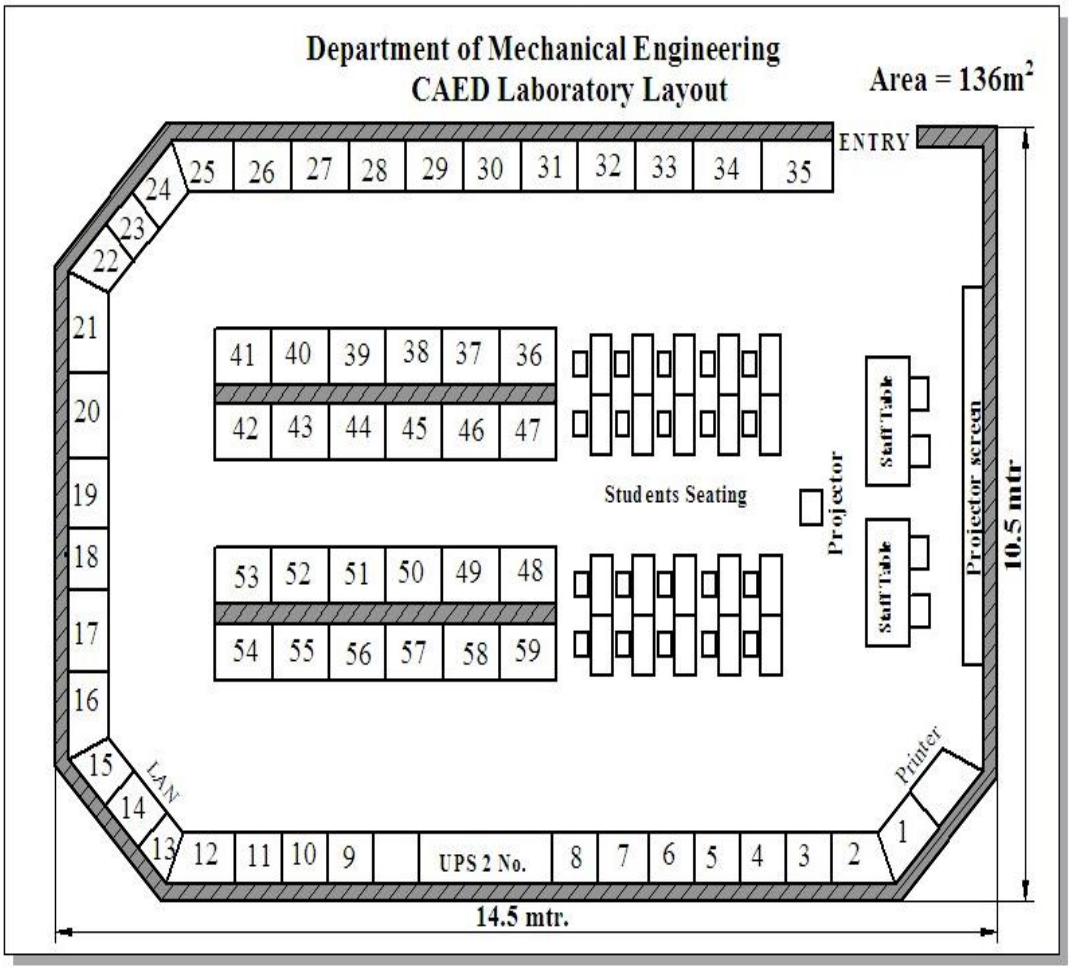
Sl. No.	Name of the Equipment's	Qty.
1	Universal Vibration Tester 1/2HP DC Motors, Wooden box	01 02 01
2	Balancing of Rotating Masses ½ HP DC Motor with 2Amps Dimmer Weight	01 01 04
3	Whirling of Shaft Apparatus½ HP Motor 4.5.6,8mm dia,Length 1000mm to 1500mm rods Stroboscope	01 1pc each01
4	Polaris cope Light Box 2nos Fluorescent tube, sodium lamp Poloriser,Analyser,Dead weight500gms to 10kgs	01
5	Universal Governer Apparatus ½ HP DC Motor 500grm	01 02
6	Gyroscope 1/6HP Motor,Dimmer stater,non contact type Tachometer	01
7	Journal Bearing 1/2HP DC motot&1/4HP Motor weight	01
8	Strain Rosettes Digital strain indicator with footy pump, Cylindrical Specimen	01
9	Strain Gauges,Digital strain indicator,Torqe arm lg 1000mm Dead Weight 1KG	01 05

Laboratory Name	:	Energy Conversion Lab
Room No./Hall No.	:	LG09
Area	:	140 m^2
Layout	:	
		

Photos :

List of Equipment's :

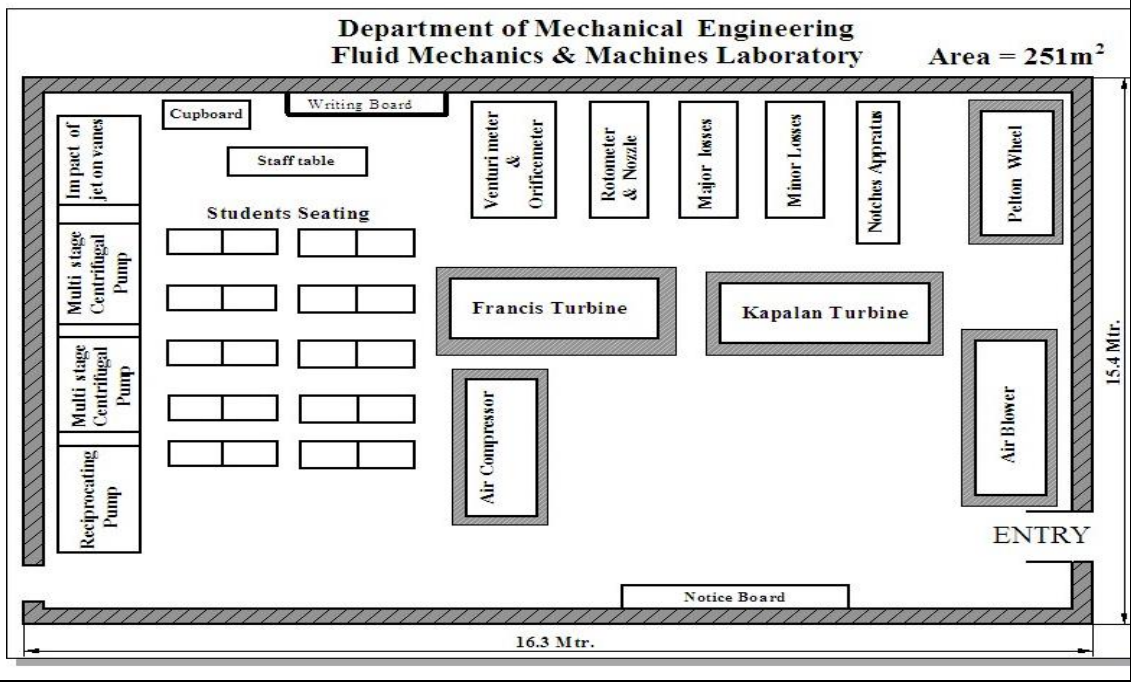
Sl. No.	Name of The Equipment	Qty.
1	Flash and Fire Point (Penskey)	01
2	Flash and Fire Point (Abel's)	01
3	Redwood Viscometer	01
4	Planimeter	01
5	Say Bolt's Viscometer	01
6	Torsion Viscometer	01
7	Bomb Calorimeter	01
8	Boy's Gas Calorimeter	01
9	Port Timing Diagram For Two Stroke	01
10	Valve Timing Diagram for four Stroke Diesel Engine	01
11	Four stroke single Cylinder Diesel Engine	01
12	Two Stroke Single Cylinder Petrol Engine test rig	01
13	Four stroke single Cylinder Petrol Engine	01
14	Variable Compression ration Petrol Engine Test Rig	01
15	Tool Kit	01

Laboratory Name	:	Engineering Graphics
Room No./Hall No.	:	307
Layout	:	
Area	:	136 m^2
Photos	:	

List of Equipment's	:	

Sl. No.	Name of the Equipment's	Qty.
1	UPS 10 KVA with 30 no. Batteries	02
2	Monitor (Acer)	59
3	CP U (Acer)	59
4	Keyboards(Acer)	59
5	Mouse(Acer)	59
6	D Link Switch 24 port with	03
7	Printer CANON B2900	01
8	Projector Epson LBP 350	01
9	Projector Screen	01

Laboratory Name	:	Fluid Mechanics
Room No./Hall No.	:	LG08
Area	:	251 m^2
Layout	:	

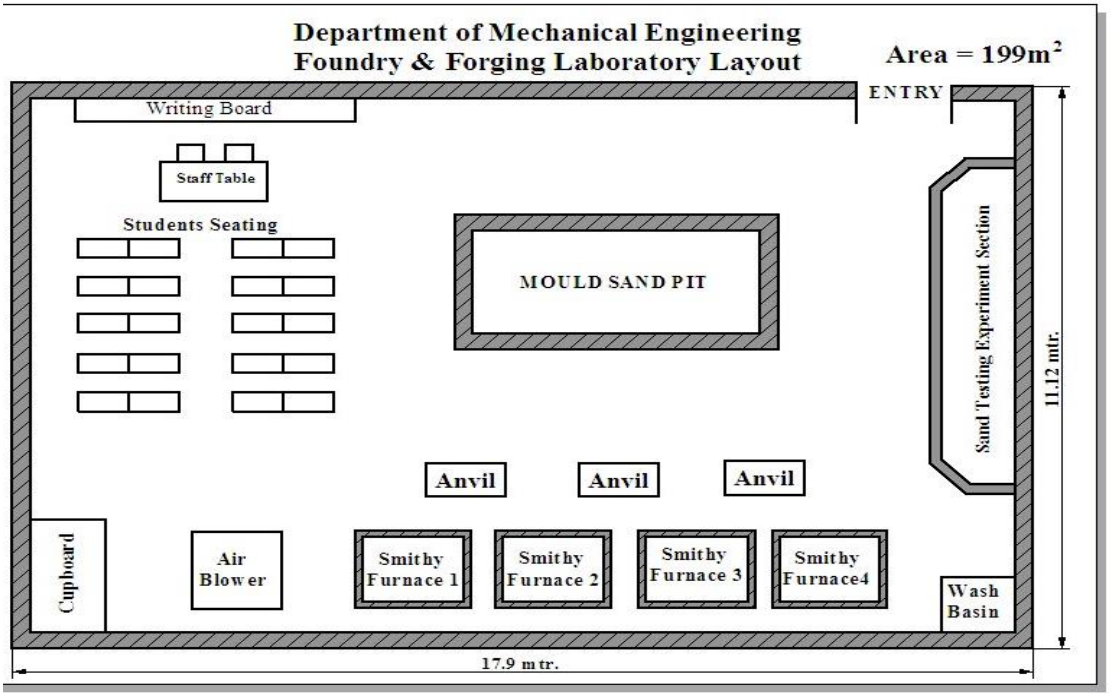


Photos :

List of Equipment's :

Sl. No.	Name of the Equipment's	Qty.
1	Orifice Meter and venturi Meter (combined)	01
2	Flow Through Nozzle and Rota Meter (combined)	01
3	Flow Through Notches (All type)	01
4	Impact of jet on vanes	01
5	Flow through Pipes (Major Losses, Friction in pipe)	01
6	Flow Through pipe (Minor Losses in pipe)	01
7	Air Blower	01
8	Air Compressor(two stage reciprocating)	01
9	Single Stage Centrifugal Pump	01
10	Multi Stage Centrifugal Pump	01
11	Reciprocating Pump	01
12	Pelton Wheel	01
13	Francis Turbine	01
14	Kaplan Turbine	01
15	Pressure Gauge	02
16	Vacuum Gauge	02

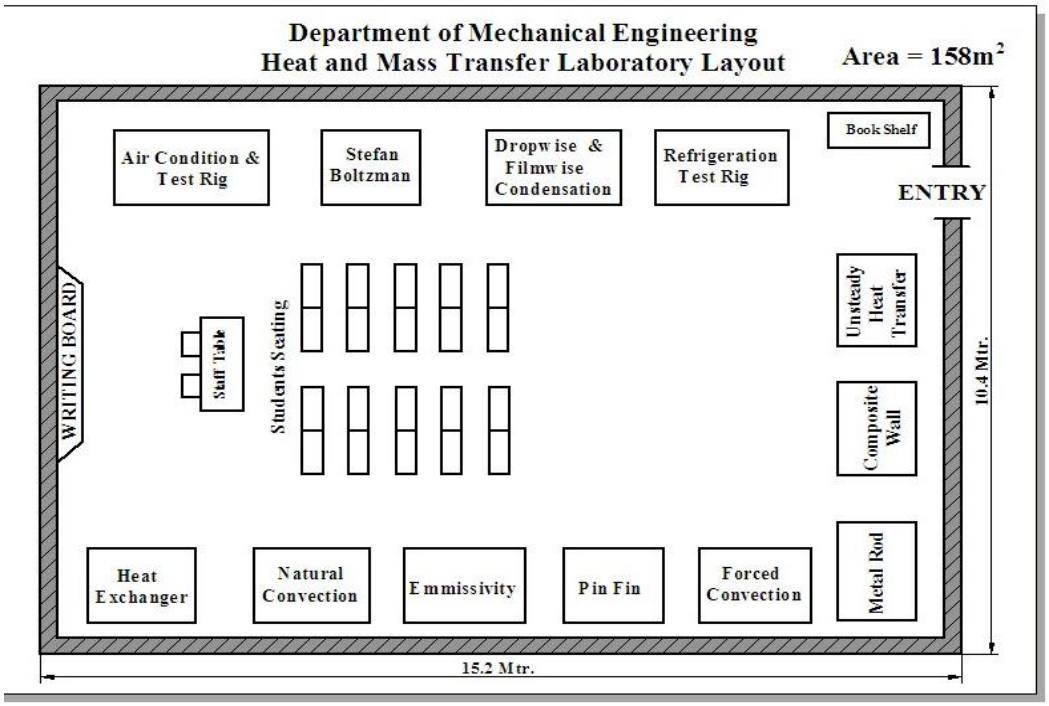
Laboratory Name	:	Foundry and Forging Lab
Room No./Hall No.	:	LG02
Area	:	199.9 m^2

Layout	:	
Photos	:	 

List of Equipment's :

Sl. No.	Name of the Equipment's	Qty.
1	Moldings Boxes (12x12x4)	15
2	Dumbbells Split 6∅	10
3	Single pieces pattern 6∅	05
4	Split pattern grooved pulley	05
5	Round rammer, peen hammer, rectangular trowel Leaf trowel, lifter cleaner, vent wire, draw spicks, smothers, small leaf, Runner, Riser, Small cleaner, slick cleaner, all in the GI kit	10kit
6	Sand Sieve 1/8 HP single phase	01
	Sand Rammer with attachments	01
7	Permeability Tester water tank manometer, permeability chart and two orifices and siphon unit	01
8	Universal Sand Strength Testing Machine with compression, shear & Tensile attachment	01
9	Spirit Level	02
10	Mould Permeability Tester	01
11	Smithy Chimney Mild Steel Fabricated, with 2 HP Motor	04
12	Smithy Furnace 3x3'	04
13	Round Tongs	10
14	Flat Tongs	10
15	Bent Tongs	10
16	Hammers	10
17	Flatters	05
18	Swage (Top)	05
19	Swage (Bottom)	05
20	Upsetting Tongs	05
21	Shovels (Kite Brand)Std. Size	05
22	Shovels (Kite Brand) small	05
23	Swage Blocks cast iron 50kg	02
24	Sledge Hammers 2.5 kg	10
25	Anvils 50kg	05
26	Inter connecting pipes blower to furnace	04
27	Centrifugal Blower 5HP 2880rpm	01
28	Fokker	05
29	Crucible 20kg capacity (graphite)	01
30	Core Hardness Tester	01
31	Mould Hardness Tester	01
32	Clay Content Tester	01
33	Rapid Moisture Tester	01
34	Heat Treatment Furnace	01
35	Digital weighing balance 0.1grm accuracy	01
36	Flat Tongs	10
37	Half Round Tong	10
38	Square Tong	05
39	Upsetting Tong	10
40	L P G smithy furnace	02
41	LPG cylinder with gas (19kg)	03
42	Welding machine 20v-250 vats	01
43	Welding machine oil cooled	01
44	Welding shield with glass	02

45	Welding goggles	05
46	Flat tongs	01
47	Welding wire brush	01
48	Welding gloves	01
49	Welding cable	01
50	Welding holder	02
51	Earthing clamp	01
52	Apron	01

Laboratory Name	:	Heat Transfer Lab
Room No./Hall No.	:	LG07
Area	:	158 m^2
Layout	:	
Photos	:	

List of Equipment's :

Sl. No.	Name of the Equipment's	Qty.
1	Pin Fin Apparatus	01
2	Natural Convection Apparatus	01
3	Force Convection Apparatus	01
4	Emissivity Measurement Apparatus	01
5	Parallel Flow and Counter Flow Apparatus	01
6	Thermal Conductivity of Metal Rod	01
7	Composite Wall Apparatus	01
8	Stefan Boltzman Constant Apparatus	01
9	Drop/ Film Wise Condensation Apparatus	01
10	Vapour Compression Air Refrigeration Test Rig	01
11	Vapour Compression Air Condition Test Rig	01
12	Transient Conduction Apparatus	01

HOD Room

Name	**:**	ME-HoD Room
Hall No.	**:**	101
Area	**:**	57 m^2
Shared / Exclusive	**:**	Exclusive

Facility	**:**	• one computer facilitie for HoD with internet connection
		• one computer facilitie for office with internet connection
		• wifi
		• Department Library
		  • Production 407 Volumes
		  • Design 257 Volumes
		  • Thermal 329 volumes
		  • CAD/CAM 38 volumes
		  • Total Volumes =1031
		• 1Printer,1 scanner • 1 table S-shaped with drawers attached with computer table • 1 cushion wheel chair,7 S-type metal chairs,1 table • 4 plastic chairs,2 long wooden tables, 2 metal almirahs • 4 wooden book/file self, 3 fans,3 tube lights • 2 curtains,1 intercom telephone,1 dustbin • 1 departmental notice board,1 suggestion box • 1 attached wash room

Laboratory Name	:	Machine Shop
Room No./Hall No.	:	LG03
Area	:	231 m^2
Photos	:	

List of Equipment's :

Sl. No.	Name of the Equipment's	Qty.
1	Turner Brand All Geared head Lathes 4"	05
2	Turner Junior Belt Drive Lathe 6"	10
3	Shaping Machine 18"Stroke	02
4	AMT, Universal Horizontal geared Milling Machine	01
5	Amt, Winner Gujarat Make Radial Drilling Machine	01
6	Hydraulic Hack Saw Cutting Machine	01
7	Bench Grinder Medium Size	01

Laboratory Name	:	Material Testing Lab

Room No./Hall No.	:	LG06
Area	:	71m^2
Photos	:	 

List of Equipment's :

Sl. No.	Name of the Equipment's	Qty.
1	Impact Testing Machine	01
2	Monocular Metallurgical Microscope	01
3	Universal Testing Machine	01
4	Torsion Testing Machine	01
5	Rock well Hardness Testing Machine	01
6	Vickers Hardness Testing Machine	01
7	Ultrasonic flaw Detector	01
8	Brinell Hardness Testing Machine	01
9	Fatigue Testing Machine	01
10	Magnetic Crack Detector	01
11	Double Disc polishing machine	01

Laboratory Name	:	Metrology & Measurements and Lab

Room No./Hall No.	:	LG06
Area	:	72 m^2
Photos	:	
List of Equipment's	:	

Sl. No.	Name of The Equipment	Qty.
1	Thermocouple with bridge circuit	01
2	Thermometer with 1^o c resolution	01
3	Strain gage bonded load cell	01
4	Strain gage bonded load cell Tension type	01
5	Mechanical comparator with dial indicator	01
6	Bevel Protractor	01
7	Micrometer (25-50)	02
8	Slip Gauges (83 pieces)	01
9	Vernier Caliper 0 to 200 mm	01
10	Adjustable Snap Gauge (25 to 32 &44 to 51mm)	02
11	Sine bar	01
12	Magnetic base	02
13	Strain gauge cantilever	01
14	Dial gauge 0.01	01
15	Surface plate	02
16	Tool Maker's Microscope	01
17	Lathe Tool Dynamometer	01
18	Drill Tool Dynamometer	01
19	Floating carriage Micro meter (2 /3 wire method)	01
20	Profile projector	01
21	Portable surface roughness (Tally surf)	01

Laboratory Name	:	Research and Development Lab

Room No./Hall No.	:	LG05
Area	:	66 m^2
Photos	:	  
List of Equipment's	:	

Sl. No.	Name of the Equipment's	Qty.
1	Lenova Think- CPU &19″Monitor	03
2	Pin-on-Disc Wear Testing Machine Programmable Spin coating system	01

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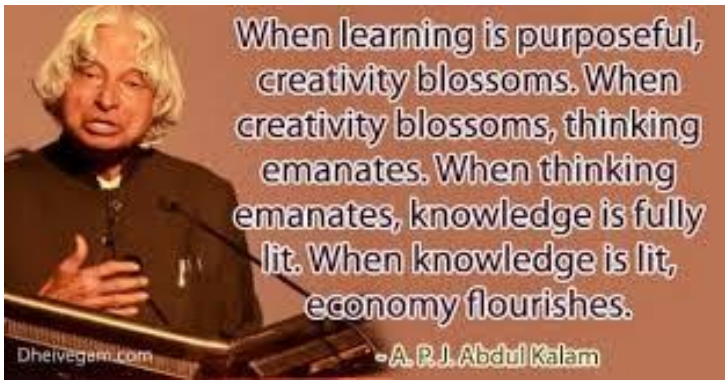

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