Department of Mechanical Engineering

Annual Report
2017-18

SWAMI VIVEKANANDA INSTITUTE OF SCIENCE & TEHCNOLOGY, SONARPUR

PREAMBLE

The Department of **Mechanical Engineering, Swami Vivekananda Institute of Science & Technology, Sonarpur** has started its glorious journey in the year 2008. Initially there were 60 intakes but in 2014 another 60 intakes enhanced. The newly built department has the exposure in focusing the students' need in imparting excellence and need based technical education for building up prospective career of the students. The department possesses good infrastructural facilities, well-equipped laboratories, and dedicated and well qualified faculties. Due to the rapid advancement of technologies, mechanical engineers also have to upgrade themselves to satisfy increasing demands of advanced technologies & inter disciplinary subjects and so more and more focus have been made on the fields like computer aided design, materials engineering, environmental engineering, renewable energy sources, 3D printing, CNC etc.

Department always wants to maintain more than 1:20 faculty student ratio but availability of specialized faculty is always a problem. However new faculty recruitment processing already been initiated to recruit faculties as needed.

This year also students' attendance was quite good and most of them attended more than 85% classes.Two students have qualified in GATE 2018 and expecting better performances from upcoming batches.

Though the placement record for mechanical engineering is not up to the mark for present scenario but placement record for 2018 passed out batch is quite satisfactory and still the department is communicating others for further placements.

We expect better achievements during the ensuing years to come.

Institution Name: Swami Vivekananda Institute of Science &Technology, Sonarpur

1.0 NAME OF THE DEPARTMENT : Mechanical Engineering

2.0 YEAR OF STARTING OF THE PROGRAMME: 2008

3.0 AICTE APPROVAL DETAILS OF THE DEPARTMENT:

(a) Date of first approval by AICTE with reference number (for 60 seats)
- Ref. …..dated…

(b) Date of approval by AICTE for current academic year with reference number
- Ref. …..dated…

(c) Approval by West Bengal University of Technology for the current academic year with reference number
- Ref. …dated…

(d) Date of second approval by AICTE with reference number (for 60 seats)
- Ref. …..dated…

(e) Date of approval by AICTE for current academic year with reference number
- Ref. …..dated…

(f) Approval by West Bengal University of Technology for the current academic year with reference number
- Ref. …dated…

4.0 PROGRAMME DETAILS: *B-Tech in Mechanical Engineering*

(a) Nature of Programme: Full time

(b) Duration: 4 years

(c) Sanction Intake: 120

(d) Year wise students:

B. Tech (2017-18)	1st Year	2nd Year	3rd Year	4th Year
No of students	47	61	85	68

Lateral entry –20% in 3rd Semester

5.0 COURSE STRUCTURE:

(As per Affiliating University) :

List of Subjects

Sl. No.	Subject Code	Subject
First Semester		
1	CS-101	Basic Computation &Principles of Computer Programming
2	PH-101	Physics-1
3	M-101	Mathematics-2
4	ES-101	Basic Electrical & Electronic Engineering-I
5	ME-101	Engineering Mechanics
6	CS-191	Basic Computation &Principles of Computer Programming Laboratory
7	PH-191	Physics-1 Laboratory
8	ES-191	Basic Electrical &Electronic Engineering- I Laboratory
9	ME-192	Workshop Practice

Sl. No.	Subject Code	Subject
Second Semester		
10	HU-201	English Language& Technical Communication
11	CH-201	Chemistry – 1
12	M-201	Mathematics-1
13	ES-201	Basic Electrical & Electronics Engineering – II
14	ME-201	Engineering Thermodynamics & Fluid Mechanics

15	CH-291	Chemistry – 1 Laboratory
16	ES-291	Basic Electrical & Electronics Engineering-II Laboratory
17	ME-291	Basic Engineering Drawing & Computer Graphics
18	XC-281	Extra-Curricular Activities(NSS/NCC/NSO) etc

Sl. No.	Subject Code	Subject
Third Semester		
19	HU-301	Values & Ethics in Profession
20	PH-301	Physics-2
21	CH-301	Basic Environmental Engineering & Elementary Biology
22	ME-301	Applied Thermodynamics
23	ME-302	Strength of Materials
24	ME-303	Engineering Materials
25	HU-381	Technical Report Writing & Language Lab Practice
26	PH-391	Physics Lab-2
27	ME-391	Machine Drawing –I
28	ME-392	Workshop Practice-II
29	ME-393	Applied Mechanics Lab

Sl. No.	Subject Code	Subject
Fourth Semester		
30	M(CS)-401	Numerical Methods
31	M-402	Mathematics-3
32	ME-401	Fluid Mechanics & Hydraulic Machines
33	ME-402	Mechanisms
34	ME-403	Primary Manufacturing Processes
35	M(CS)-491	Numerical Methods Lab
36	ME-491	Fluid Mechanics & Hydraulics Lab
37	ME-492	Manufacturing Technology Lab

38	ME-493	Material Testing Lab
39	ME-494	Machine Drawing-II

Sl. No.	Subject Code	Subject
Fifth Semester		
40	HU-511	Principles & Practices of Management
41	ME-501	Dynamics of Machines
42	ME-502	Heat Transfer
43	ME-503	Design of Machine Elements
44	ME-504	Metrology & Measurement
45	ME-505	*Professional Elective-I
46	ME-581	Seminar-I
47	ME-592	Applied Thermodynamics & Heat Transfer Lab
48	ME-593	Design Practice-I
49	ME-594	Metrology & Measurement Lab
50	ME-595	Professional Elective Lab-I

* List of Professional Elective 1:
1. ME505A-Electrical Machines
2. ME505B-Applied Fluid Mechanics

Sl. No.	Subject Code	Subject
Sixth Semester		
51	HU-611	Production & Operations Management
52	ME-601	IC Engines and Gas Turbines
53	ME-602	Machining Principles & Machine Tools
54	ME-603	Machine Design
55	ME-604	@ Professional Elective-II
56	ME-605	@@ Professional Elective-III
57	ME-691	Machining & Machine Tools Lab
58	ME-692	IC Engine Lab
59	ME-693	Design Practice-II
60	ME-694	Dynamics of Machines Lab
61	ME-695	Professional Elective-II Lab

@ List of Prof. Elective-II:
1. ME604A- Air Conditioning &Refrigeration.

@@List of Prof. Elective-III:
1. ME605A- Materials Handling

2. ME604B- Mechatronics.	2. ME605B- Finite Element Method
3. ME604C- Fluid Power Control.	3. ME605C- Turbo Machinery

Note: Vocational Training to be conducted after sixth semester and to be evaluated in seventh semester

Sl. No.	Subject Code	Subject
Seventh Semester		
62	ME-701	Power Plant Engineering
63	ME-702	Advanced Manufacturing Technology
64	ME-703	^Professional Elective-IV
65	ME-704	^^Professional Elective-V
66	ME-705	^^^Free Elective-I
67	ME-791	Advanced Manufacturing Lab
68	ME-781	Project : Part 1
69	ME-782	Viva Voce on Vocational Training
70	ME-783	Group Discussion

^List of Prof. Elective-IV
ME703A- Maintenance Engineering
ME703B-Renewable Energy Systems
ME703C-Tribology

^^List of Prof. Elective-V:
ME704A- Quantity Production Method
ME704B- Advanced Welding Technology
ME704C- Computational Methods in Engineering

^^^ List of Free Elective-I:
ME705A-Software Engineering
ME705B-Industrial Instrumentation
ME705C-Operations Research
ME705D-Biomechanics & Biomaterials

Sl. No.	Subject Code	Subject
Eighth Semester		
71	ME-801(HU)	Economics for Engineers
72	ME-802	* Professional Elective-VI
73	ME-803	@ Free Elective-II
74	ME-881	Deign of a Mechanical System
75	ME-882	Project : Part II
76	ME-883	Comprehensive viva

***List of Prof. Elective-VI:**
ME802A-CAD/CAM
ME802B-Industrial Robotics

@List of Free Elective-II:
ME803A-Safety & Occupational Health

ME802C-Energy Conservation & Management ME803B-Automation & Control
ME803C-Water Resource Engineering ME803D-Automobile Engineering
ME802D- Quality & Reliability Engineering

6.0 COURSE STRUCTURE:

List of Subjects

First Semester:

Theory		Contacts hours per week				Credit Point	Marks					
Code	Subject	L	T	P	Total		UT 1	UT 2	Assignment	Total Internal	Total External	TOTAL
HU101	English Language & Technical Communication	2	0	0	2	2	10	10	10	30	70	100
PH101	Physics-1	3	1	0	4	4	10	10	10	30	70	100
M101	Mathematics-1	3	1	0	4	4	10	10	10	30	70	100
ES101	Basic Electrical & Electronics Engineering – 1	3	1	0	4	4	10	10	10	30	70	100
ME 101	Engineering. Mechanics	3	1	0	4	4	10	10	10	30	70	100
Total Theory					18	18						
Practical		**Contacts hours per week**				Credit Point	**Marks**					
Code	Subject	L	T	P	Total					Total Internal	Total External	TOTAL
PH191	Physics	0	0	3	3	2				40	60	100
ES191	Basic Electronic Engineering	0	0	3	3	2				40	60	100
ME192	Workshop Practice	1	0	3	4	3				40	60	100
Total Practical					10	7						
Sessional		**Contacts hours per week**				Credit Point	NONE			**Marks**		
Code	Subject	L	T	P	Total					Total Internal	Total External	TOTAL
HU181	Language Laboratory	0	0	2	2	1				100		100
XC181	Extra Curricular Activities (NCC/NSS/NSO etc)	0	0	2	2	1				100		100
	Total of Sessional				4	2						
	Total of Semester				32	27						

List of Subjects

Second Semester:

Theory		Contacts hours per week				Credit Point	NONE Marks					
Code	**Subject**	**L**	**T**	**P**	**Total**		**UT 1**	**UT 2**	**Assignment**	**Total Internal**	**Total External**	**TOTAL**
CS 201	Basic Computation & Principles of Computer Programming	3	1	0	4	4	10	10	10	30	70	100
CH201	Chemistry 1	3	1	0	4	4	10	10	10	30	70	100
M201	Mathematics-2	3	1	0	4	4	10	10	10	30	70	100
ES201	Basic Electrical & Electronic Engineering-II	3	1	0	4	4	10	10	10	30	70	100
ME201	Engineering Thermodynamics & Fluid Mechanics	3	1	0	4	4	10	10	10	30	70	100
Total Theory					20	20						
Practical		**Contacts hours per week**				Credit Point	Marks					
Code	Subject	L	T	P	Total		Total Internal				Total External	TOTAL
CS291	Basic Computation & Principles Of Computer Programming	0	0	3	3	2	40				60	100
CH291	Chemistry 1	0	0	3	3	2	40				60	100
ES291	Basic Electrical Engineering	0	0	3	3	2	40				60	100
ME292	Basic Engineering Drawing & Computer Graphics	1	0	3	3	3	40				60	100
Total Practical		0	0		12	9						
Total Semester					32	29						

List of Subjects

Third Semester:

Theory		Contacts hours per week				Credit Point	NONE Marks					
Code	**Subject**	**L**	**T**	**P**	**Total**		**U T1**	**U T2**	**Assignment**	**Total Internal**	**Total External**	**TOTAL**
HU-301	Values & Ethics in Profession	3	0	0	3	3	10	10	10	30	70	100
PH-301	Physics-2	3	1	0	4	4	10	10	10	30	70	100
CH301	Basic Environmental Engineering & Elementary Biology	3	0	0	3	3	10	10	10	30	70	100
ME 301	Applied Thermodynamics	4	0	0	4	4	10	10	10	30	70	100
ME 302	Strength of Materials	3	0	0	3	3	10	10	10	30	70	100
ME 303	Engineering Materials	3	0	0	3	3	10	10	10	30	70	100
Total Theory					20	20						
Practical		**Contacts hours per week**				Credit Point	Marks					
Code	Subject	L	T	P	Total		Total Internal				Total External	TOTAL
HU-381	Technical Report Writing & Language Lab Practice	0	0	2	3	2	40				60	100
PH391	Physics Lab-2	0	0	3	3	2	40				60	100
ME 391	Machine Drawing –I	0	0	3	3	2	40				60	100
ME 392	Workshop Practice-II	0	0	3	3	2	40				60	100
ME 393	Applied Mechanics Lab	0	0	3	3	2	40				60	100
Total Practical		0	0		15	10						
Total Semester					35	30						

List of Subjects

Fourth Semester:

Theory		Contacts hours per week				Credit Point	NONE Marks					
Code	Subject	L	T	P	Total		UT1	UT2	Assignment	Total Internal	Total External	TOTAL
M(CS)401	Numerical Methods	2	1	0	3	2	10	10	10	30	70	100
M-402	Mathematics-3	3	1	0	4	4	10	10	10	30	70	100
ME 401	Fluid Mechanics & Hydraulic Machines	4	0	0	4	4	10	10	10	30	70	100
ME 402	Mechanisms	3	0	0	3	3	10	10	10	30	70	100
ME 403	Primary Manufacturing Processes	4	0	0	4	4	10	10	10	30	70	100
Total Theory					18	17						
Practical		**Contacts hours per week**				Credit Point	Marks					
Code	Subject	L	T	P	Total		Total Internal				Total External	TOTAL
M(CS)491	Numerical Methods Lab	0	0	2	2	1	40				60	100
ME491	Fluid Mechanics & Hydraulics Lab	0	0	3	3	2	40				60	100
ME 492	Manufacturing Technology Lab	0	0	3	3	2	40				60	100
ME493	Material Testing Lab	0	0	3	3	2	40				60	100
ME 494	Machine Drawing-II Lab	0	0	3	3	2	40				60	100
Total Practical					14	9						
Total Semester					32	26						

List of Subjects

Fifth Semester:

Theory		Contacts hours per week				Credit Point	NONE Marks					
Code	**Subject**	**L**	**T**	**P**	**Total**		**UT 1**	**UT 2**	**Assignment**	**Total Internal**	**Total External**	**TOTAL**
HU511	Principles & Practices of Management	2	0	0	2	2	10	10	10	30	70	100
ME 501	Dynamics of Machines	3	0	0	3	3	10	10	10	30	70	100
ME 502	Heat Transfer	4	0	0	4	4	10	10	10	30	70	100
ME 503	Design of Machine Elements	4	0	0	4	4	10	10	10	30	70	100
ME504	Metrology & Measurement	3	0	0	3	3	10	10	10	30	70	100
ME505A	Electrical Machines	3	0	0	3	3	10	10	10	30	70	100
ME505B	Applied Fluid Mechanics	3	0	0	3		10	10	10	30	70	100
Total Theory					19	19						

Practical		Contacts hours per week				Credit Point	Marks		
Code	Subject	L	T	P	Total		Total Internal	Total External	TOTAL
ME 592	Applied Thermodynamics & Heat Transfer Lab	0	0	3	3	2	40	60	100
ME 593	Design Practice-I Lab	0	0	3	3	2	40	60	100
ME594	Metrology & Measurement Lab	0	0	2	2	1	40	60	100
ME 595A	Electrical Machines Lab	0	0	3	3	2	40	60	100
ME 595B	Applied Fluid Mechanics Lab	0	0	3			40	60	100
Total Practical					11	7			

Sessional		Contacts hours per week				Credit Point	Marks		
Code	Subject	L	T	P	Total		Total Internal	Total External	TOTAL
Seminar-I		0	0	3	3	2	100		100
Total **Sessional**					3	2			
Total Semester					33	28			

Sixth Semester:

List of Subjects

Theory		Contacts hours per week				Credit Point	Marks					
Code	**Subject**	**L**	**T**	**P**	**Total**		**UT 1**	**UT 2**	**Assignment**	**Total Internal**	**Total External**	**TOTAL**
HU 611	Production & Operations Management	2	0	0	2	2	10	10	10	30	70	100
ME 601	IC Engines and Gas Turbines	3	0	0	3	3	10	10	10	30	70	100
ME 602	Machining Principles & Machine Tools	3	0	0	3	3	10	10	10	30	70	100
ME 603	Machine Design	3	0	0	3	3	10	10	10	30	70	100
ME604A	Air Conditioning & Refrigeration	3	0	0	3	3	10	10	10	30	70	100
ME604B	Mechatronics	3	0	0			10	10	10	30	70	100
ME604C	Fluid Power Control	3	0	0			10	10	10	30	70	100
ME605A	Materials Handling	3	0	0	3	3	10	10	10	30	70	100
Total Theory					17	17						

Practical		Contacts hours per week				Credit Point	Marks		
Code	Subject	L	T	P	Total		Total Internal	Total External	TOTAL
ME 691	Machining & Machine Tools Lab	0	0	3	3	2	40	60	100
ME 692	IC Engine Lab	0	0	3	3	2	40	60	100
ME 693	Design Practice-II Lab	0	0	3	3	2	40	60	100
ME 694	Dynamics of Machines Lab	0	0	3	3	2	40	60	100
ME 695	Professional Elective-II Lab	0	0	3	3	2	40	60	100
Total Practical					15	10			
Total Semester					32	27			

List of Subjects

Seventh Semester:

Theory		Contacts hours per week				Credit Point	Marks					
Code	Subject	L	T	P	Total		UT 1	UT 2	Assignment	Total Internal	Total External	TOTAL
ME 701	Power Plant Engineering	4	0	0	4	4	10	10	10	30	70	100
ME 702	Advanced Manufacturing Technology	4	0	0	4	4	10	10	10	30	70	100
ME 703	Renewable Energy Systems	3	0	0	3	3	10	10	10	30	70	100
ME704 A	Quantity Production Method	3	0	0	3	3	10	10	10	30	70	100
ME704B	Advanced Welding Technology	3	0	0			10	10	10	30	70	100
ME705 A	Software Engineering	3	0	0	3	3	10	10	10	30	70	100
ME705B	Industrial Instrumentation	3	0	0			10	10	10	30	70	100
ME705C	Operations Research	3	0	0			10	10	10	30	70	100
Total Theory					17	17						
Practical		**Contacts hours per week**				**Credit Point**	**Marks**					
Code	Subject	L	T	P	Total					Total Internal	Total External	TOTAL
ME 791	Advanced Manufacturing Lab	0	0	3	3	2				40	60	100
Total Practical					3	2						
Sessional		**Contacts hours per week**				**Credit Point**				**Marks**		
Code	Subject	L	T	P	Total					Total Internal	Total External	TOTAL
ME 781	Project : Part 1	0	0	4	4	2				100		100
ME 782	Viva Voce on Vacational Training	0	0	0	0	2				100		100
ME783	Group Discussion	0	0	0	0	2				100		100
	Total of Sessional				4	6						
	Total of Semester				24	25						

List of Subjects

Eighth Semester:

Theory		Contacts hours per week				Credit Point	Marks					
Code	Subject	L	T	P	Total		UT 1	UT 2	Assignment	Total Internal	Total External	TOTAL
ME 801 (HU)	Economics for Engineers	3	0	0	3	3	10	10	10	30	70	100
ME802 C	Energy Conservation & Management	3	0	0	3	3	10	10	10	30	70	100
ME802 D	Quality & Reliability Engineering	3	0	0			10	10	10	30	70	100
ME803 A	Safety & Occupational Health	3	0	0	3	3	10	10	10	30	70	100
ME803 D	Automobile Engineering	3	0	0			10	10	10	30	70	100
Total Theory					9	9						

Sessional		Contacts hours per week				Credit Point	Marks		
Code	Subject	L	T	P	Total		Total Internal	Total External	TOTAL
ME 881	Deign of a Mechanical System	0	0	6	6	4	100		100
ME 882	Project : Part II	0	0	12	12	6	100		100
ME 883	Comprehensive viva	0	0	0	0	2	100		100
	Total of Sessional				18	12			
	Total of Semester				27	21			

7.0 FACULTY PROFILE:

Sl. N0.	NAME	Qualification	Date of Birth	Designation	Date of joining
1.	Mr. Suman Das	BE., ME.	15/01/1974	Associate Professor & HOD	06/08/2009
2.	Mr. Sudipta Nath	BE., M.Tech	07/02/1977	Assistant Professor	03/08/2010
3.	Mr. Utpal Madhu	BE., M.Tech	01/08/1978	Assistant Professor	30/01/2010
4.	Mr. Somnath Das	B.Tech, ME., Ph.D (Thesis Submitted)	23/02/1988	Assistant Professor	20/08/2013
5.	Mr. Dhrubajyoti Chakraborty	B.Tech, ME	18/10/1987	Assistant Professor	20/07/2013
6.	Mr. Biplab Baran Mandal	B.Tech, ME	04/01/1990	Assistant Professor	01/08/2014
7.	Mr. Arindam Chakraborty	B.E, M.Tech	31/01/1990	Assistant Professor	25/06/2015
8.	Mr. Pappu Maity	B. Tech, M.Tech	02/02/1989	Assistant Professor	01/08/2015
9.	Mr. Gourab Sarkar	B. Tech, M.Tech	21/03/1991	Assistant Professor	17/01/2017
10.	Mr. Subrata Barman	BE, ME	02/10/1988	Assistant Professor	09/08/2016
11.	Mr. Dipankar Das	B. Tech, M.Tech	15/01/1990	Assistant Professor	19/01/2017
12.	Mr. Saumya Singha	B.Tech, ME	01/02/1988	Assistant Professor	20/01/2016
13.	Mr. Ranjit Kr. Das	B.Tech, ME	01/04/1988	Assistant Professor	02/08/2016
14.	Mr. Souvik Mullick	B. Tech, M.Tech	20/08/1991	Assistant Professor	15/01/2017
15.	Dr. Abhishek Kundu	B. Tech, Ph.D	20/06/1989	Assistant Professor	07/01/2018
16	Mr. Ashok Kr. Laha	BE, ME	25/08/1957	Assistant Professor	16/08/2008
17	Mr. Arkaprava Bhattachryya	B.Tech, M.Tech	03/06/1990	Assistant Professor	17/01/2017
18	Mr. Abhijit Bhowmik	B.Tech, M.Tech	18/07/1987	Assistant Professor	01/08/2017

8.0 TECHNICAL STAFFS:

1. Mr. Amit Kumar Dutta
2. Mr. Gouranga Bor
3. Mr. Samanta Kumar Sardar
4. Mr. Tarun Bhattachryya
5. Mr. Netai Bor
6. Mr. Swagata Banerjee
7. Mr. Krishna Mohan Barman

9.0 DELEGATION OF RESPONSIBILITY:

Institutional:

- Academic Council – Mr. Suman Das (member)
- Examination Cell – Mr. Subrata Barman, Mr. Saumya Singha, Mr. Amit Kumar Dutta (member)/Mr. Somnath Das, Mr. Ranjit Kumar Das (Member), Mr. Suman Das (O.I.C)
- Routine Committee – Mr. Somnath Das
- Disciplinary Committee – Mr. Suman Das (member)
- Anti-ragging Committee – Mr. Suman Das, Mr. Utpal Madhu (member)
- Sports committee- Mr. Arkaprava Bhattachryya/ Mr. Swagata Banerjee

Departmental:

- Research and Development – Mr. Suman Das/ Mr. Somnath Das/ Mr. Dhrubajyoti Chakraborty
- University Affairs – Mr. Subrata Barman / Mr. Saumya Singha
- Students' Mentorship – Mr. Sudipta Nath/ Mr. Ranjit Kumar Das
- Departmental Library – Mr. Arindam Chakraborty / Mr. Krishna Mohan Barman

10.0 STUDENTS ACTIVITY

- Two Students of Mechanical Engineering Department have qualified Gate in 2018.
  1. SANDIP KUMAR SINGH (52.35 Out of 100)
  2. DEBOBRATA GHOSH (45.9 Out of 100)

11.0 SPACE ALLOCATION

A) Laboratories

1. Workshop Practice Laboratory-Room No. A121, 2745ft^2.
2. Engineering Drawing & Computer graphics- Room No: A301, 810 ft^2.
3. Machine Drawing-I& II- Room No: B301, 1150 ft2.
4. Workshop Practice-II, Room No: A122, 460 ft^2.
5. Applied Mechanics lab, Room No: (B 101& B102), (448 ft^2 & 215 ft^2).

6. Fluid Mechanics & Hydraulic Machines lab. Room No: B 105, 696ft^2.
7. Manufacturing Technology Laboratory, Room No: B 105, 172 ft^2.
8. Material Testing Laboratory, Room No. B 302, 576 ft^2.
9. Applied Thermodynamics & Heat Transfer Laboratory,Room No.: B 302, 522ft^2
10. Design Practice-I & II, Room No: A 417, 752ft^2.
11. Metrology & Measurement Lab, Room No: A 309,506 ft^2.
12. Applied Fluid Mechanics Lab, Room No: A 104, 630 ft^2.
13. Machining & Machine Tools Lab, Room no: A122/2, 2745 ft^2.
14. I.C. Engine lab, Room No: A122/1, 489 ft^2
15. Dynamics of machines lab, Room No: B 201, 1133 ft^2
16. Air Conditioning & Refrigeration Lab, Room No: B 203, 1022 ft^2
17. Fluid Power Control Lab, Room No: A 124, 481 ft^2
18. Advanced Manufacturing Technology Laboratory: Room No: A 105, 470 ft^2
19. Design of Mechanical System Lab, Room No: A 417, 752ft2.

B) Class Rooms

1. 1st year ME Classroom - Room No A405 & C104, 600 ft^2 & 714 ft^2
2. 2nd year ME Classroom - Room No A318 & C106, 800 ft^2 & 714 ft^2
3. 3rd year ME Classroom -Room No A213 & A313, 650 ft^2 each
4. 4th year ME Classroom - Room No A411 & C108, 620 ft^2 & 714 ft^2

C) Others

1. HOD Room - Room No A308, 288ft^2
2. Faculty Room - Room No A306, 324 ft^2

12.0 RESOURCES:

12.1 DEPARTMENTAL LIBRARY:

Books available: 35 nos.

12.2 LABORATORY:

WORKSHOP PRACTICE ROOM NO: A121 FLOOR: Ground	1. Carpentry (Wood Working)
	2. Metal Joining
	3. Bench work and Fitting
	4. Different types of operation performed in lathe
	5. A job is performed in milling machine
	6. Welding
ENGINEERING DRAWING & COMPUTER GRAPHICS ROOM NO: A301 FLOOR: 2nd Floor	1. lines, lettering, dimensioning, scales
	2. geometrical construction and curves
	3. projection of points, lines, surfaces
	4. projection of solids
	5. Drawing isometric view from orthogonal/ sectional views of simple solid objects.
	6. full and half sectional views of solids

	7. development of surfaces
	8. computer aided drafting
MACHINE DRAWING-I ROOM NO: B 301 FLOOR: 2nd floor	1. Orthographic projections of machine elements
	2. sectional views
	3. Isometric projection of components
	4. Assembly of a plummer block
	5. detailed drawings of a SCREW JACK
	6. detailed drawings of a tool head of a shaping machine
	7. detailed drawings of a tailstock of a lathe
	8. detailed drawings of a mechanical assembly
WORKSHOP PRACTICE-II ROOM NO: A 122 FLOOR: Ground Floor	1. Pattern Making
	2. Mould making Practice
	3. Making a typical product using sheet metal
	4. Basic Forging processes like upsetting, drawing down and forge welding
	5. Practicing Resistance Spot Welding, Shielded Metal Arc Welding and Gas Welding
	6. Machining of typical products involving lathe, milling/shaping operations and finishing process(es)
	7. Machining of gears
APPLIED MECHANICS LAB ROOM NO:, B 101, B 102 FLOOR: Ground Floor	1. Determination of Hardness of material by Brinell Hardness Test.
	2. Determination of Hardness of materials by Rockwell Hardness Test.
	3. Determining modulus of rigidity and stiffness of spring.
	4. Determination of Coefficient of friction by the inclined plane apparatus.
	5. Tensile Test of Mild Steel
	6. Test for torsion on mild steel specimen
	7. To observe speed ratios by using belt pulley and gears.
FLUID MECHANICS & HYDRAULIC MACHINES LAB ROOM NO: B 105 FLOOR: Ground Floor	1. Determining coefficient of discharge for Venturi meter, Orifice meter
	2. Reynold's experiments
	3. Pipe friction in laminar and turbulent flow regimes
	4. Experiments on Fluid Machinery : Pumps
	5. Experiments on Hydro-Turbines: Francis
	6. Experiment to verify Bernouli's theorem
MANUFACTURING TECHNOLOGY LAB ROOM NO: B 105 FLOOR: Ground Floor	1. Sand preparation and testing
	2. Casting of metals after preparation of suitable moulds
	3. Practicing smithy or forging of carbon steels and testing for its property changes
	4. Laboratory experiments in Fabrication processes to observe effects of varying process parameters in GMAW
	5. Laboratory experiments in Fabrication processes to observe effects of varying process parameters in SMAW
	6. Testing for Joint defects
MATERIAL TESTING LAB ROOM NO: B 302 FLOOR: 2nd floor	1. Experiments on heat treatment of carbon steels under different rates of cooling.
	2. Izod test of annealed, normalized and quenched carbon steel specimens.
	3. Charpy test of annealed, normalized and quenched carbon

	steel specimens.
	4. Brinell hardness testing of annealed, normalized and quenched carbon steel specimens
	5. Rockwell hardness testing of annealed, normalized and quenched carbon steel specimens
	6. Sample preparation and etching of ferrous and non-ferrous metals and alloys for metallographic observation
	7. Observation of presence of surface/ sub-surface cracks using dye penetration technique
MACHINE DRAWING-II ROOM NO: B301 FLOOR: 2nd floor	1. Detailed drawings of a steam engine crosshead
	2. Detailed drawings of a Lathe tail-stock
	3. Assembly drawing of a screw jack
	4. Detailed drawings of a screw jack
	5. Assembly drawing of a Lathe speed gear box
	6.Making orthographic and isometric projections of different components into AUTO CAD
APPLIED THERMODYNAMICS & HEAT TRANSFER LAB ROOM NO: A 103 FLOOR: Ground Floor	1. Determination of thermal conductivity of composite wall plates and also determination of unknown thermal conductivity of press wood.
	2. Determination of 'h' for natural convection over a tube loosing heat.
	3. Determination of thermal conductivity of a metal rod.
	4. Determination of thermal conductivity of an insulating powder.
	5. Determination of 'h' for forced convection over a pin fin.
	6. Verification of emissivity of a plate.
	7. Study of a shell and tube heat exchanger and determination of LMTD.
DESIGN PRACTICE-1 ROOM NO: A 417 FLOOR: 3rd Floor	1.Design of Knuckle/Cotter joint
	2. Design of Screw jack
	3. Design of Riveted joints
	4. Design of Shaft Couplings
	5. Design of Belt pulley drive
	6. Design of Helical compression spring
METROLOGY & MEASUREMENT LAB ROOM NO: A 309 FLOOR: 2nd Floor	1. Determination of radius of curvature of a curved specimen by Vernier caliper & Vernier depth gauge
	2. Determination of radius of arc of a concave surface by dynamic method with the help of roller & Vernier caliper
	3. Measurement of angle of a component using Sine-bar and slip gauges.
	4. Measurement of a specific dimension for a lot of components, and prepare a histogram from the data obtained.
	5. Measurement of surface finish by a Talysurf instrument.
	6. Measurement of air velocity across an air duct using anemometer.
	7. Determination of bore diameter using Vernier height gauge & Vernier caliper
	8. Measurement of thread size by using thread gauge
APPLIED FLUID	1. Study of cavitation characteristics of centrifugal pump.

MECHANICS LAB ROOM NO: A 104 FLOOR: Ground Floor	2. Study of the characteristics of submerged jet.
	3. Verification of Stokes law.
	4. Determination of loss through pipes and fittings.
	5. Performance test of pumps in series & parallel.
	6. Study of cavitation phenomenon.
MACHINING & MACHINE TOOLS LAB ROOM NO: A122/2 FLOOR: Ground Floor	1. Measurement of cutting forces (P_z and P_x or P_y) in straight turning at different feeds and velocities.
	2. Measurement of average cutting temperature in turning under different speed – feed combinations
	3. Measurement of surface roughness in turning under different conditions.
	4. Production of a straight toothed spur gear from a cast or forged disc.
	5. Producing a cast iron vee – block by machining.
	6. Geometrical and kinematic test of a centre lathe or a drilling machine.
IC ENGINE LAB ROOM NO: A122/1 FLOOR: Ground Floor	1. Determination of calorific value of a fuel by Bomb calorimeter.
	2. Study of 2 stroke and 4 stroke S.I and C.I engine.
	3. Study of valve timing diagram of Diesel Engine.
	4. Performance Test of a muticylinder Petrol Engine by Morse method.
	5. Performance Text of an I.C. Engine using Rope Brake Dynamometer.
	6. Study of MPFI (multipoint fuel injection system).
DESIGN PRACTICE-II ROOM NO: A 417 FLOOR: 3rd Floor	1. Overview of 2D & 3D modeling techniques of mechanical components and systems.
	2. Details study of 2D & 3D modeling using software like Auto CAD, Pro-E or similar software.
	3. Mathematical coding of mechanical components implementing software like AutoCAD, Pro-E or similar software.
	4. Analysis of mechanical components like AutoCAD, Pro-E or similar software.
	5. Assignment on Design Practice using codes, e.g., Pressure vessel codes, Gear design codes.
	6. Assignment on Selection of mechanical components from manufacturers' catalogue.
DYNAMICS OF MACHINES LAB ROOM NO: B 201 FLOOR: 1st Floor	1. Study of whirling phenomenon for different end conditions.
	2. Static and dynamic balancing of rotating masses.
	3. Study of Epicyclic gear train & holding torque apparatus.
	4. Experiments on working of governor, operation and analysis.
	5. Experiments on working of gyroscope, operation and analysis.
	6. Studying operation of cams and its analysis.
	7. Study of vibrations.
AIR CONDITIONING &REFRIGERATION LAB ROOM NO: B 203 FLOOR: 1st Floor	1. Study of a Domestic Refrigerator.
	2. Study of a room (window type) Air Conditioner.
	3. Determination of C.O.P of a vapour compression refrigeration system.
	4. Determination of actual and theoretical C.O.P of Water

	Cooler Test Rig.
	5. Determination of actual, theoretical and relative C.O.P of the Refrigeration Test Rig.
	6. Study of Summer and Winter Air Conditioning System.
FLUID POWER CONTROL LAB ROOM NO: A 124 FLOOR: Ground Floor	1. Study of a Hydraulic Trainer system.
	2. Study of a Pneumatic Trainer system.
	3. Controlling the speed of a hydraulic cylinder by operating a flow control valve and measurement of piston velocity.
	4. Design, prepare and operate a hydraulic / pneumatic circuit for automatic sequencing of two cylinders.
	5. Prepare an AND logic circuit using pneumatic components.
	6. Prepare an OR logic circuit using pneumatic components.
ADVANCED MANUFACTURING TECHNOLOGY LABORATORY ROOM NO: A 105 FLOOR: Ground Floor	1. Programming on CNC Turning.
	2. Programming on CNC Milling Machine.
	3. Study of Abrasive Jet Machining.
	4. Study of Ultrasonic Machining.
	5. Parametric Study of Electro-Discharge Machining.
	6. Study of Electro-Chemical Machining.

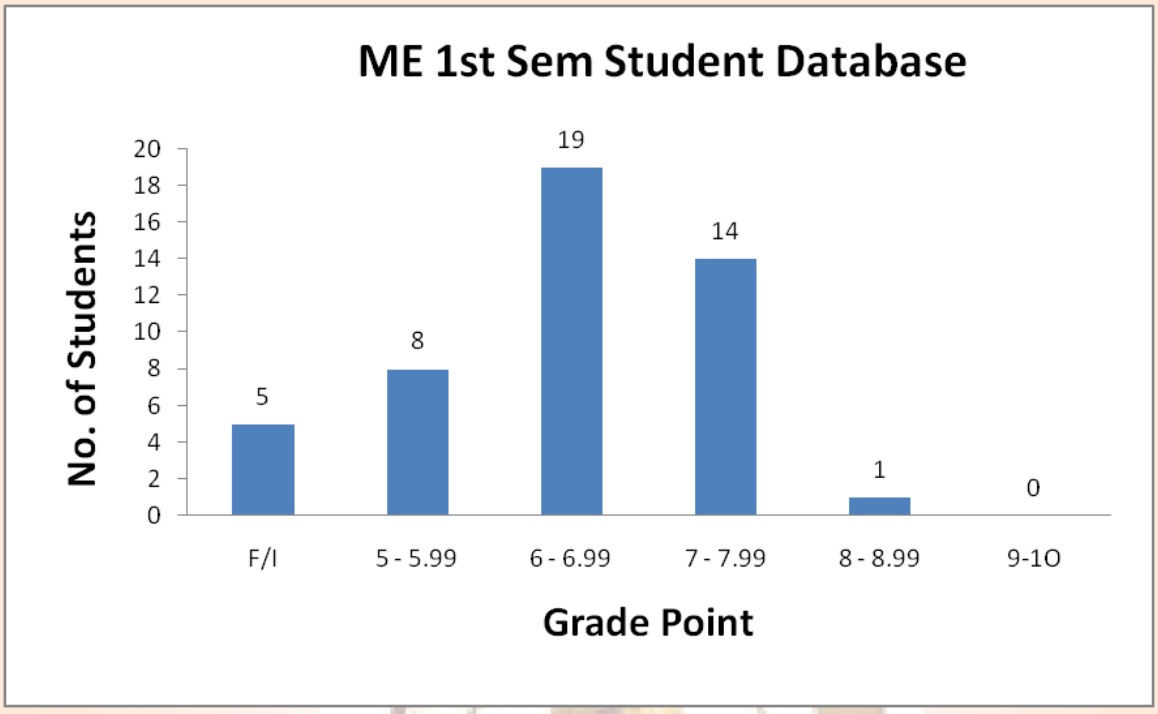
13.0 FACULTY PARTICIPATIONS:

(a) Participation in parents department

i)	External sponsored projects	
ii)	Consultancy	
iii)	Continuing education	√
iv)	Collaboration (industrial/institutional)	
v)	Students Projects	√
vi)	Students Guidance (M.Tech/PhD)	
vii)	Invited lectures (National/International)	
viii)	Professional Society Activities	√
ix)	Conferences/seminars/winter/summer schools organized	√
x)	Research Publications	√
xi)	Text Books/Monographs published	
xii)	Patents/ Awards received	
xiii)	Any financial Assistance for projects received	

14.0 STUDENTS RESULTS:

STUDENTS RESULTS (2017-18)						
SEM	**10.00 - 9.00**	**8.99 - 8.00**	**7.99 - 7.00**	**6.99 - 6.00**	**5.99 - 5.00**	**(F/I)**
1ST	0	1	14	19	8	5
2ND	0	9	16	9	7	6
3RD	0	11	23	41	31	7
4TH	3	7	34	40	19	7
5TH	0	13	42	55	13	9
6TH	0	28	54	36	5	3
7TH	0	31	47	22	3	2
8TH	0	9	62	23	0	11


ME 1st Sem Student Database
No. of Students
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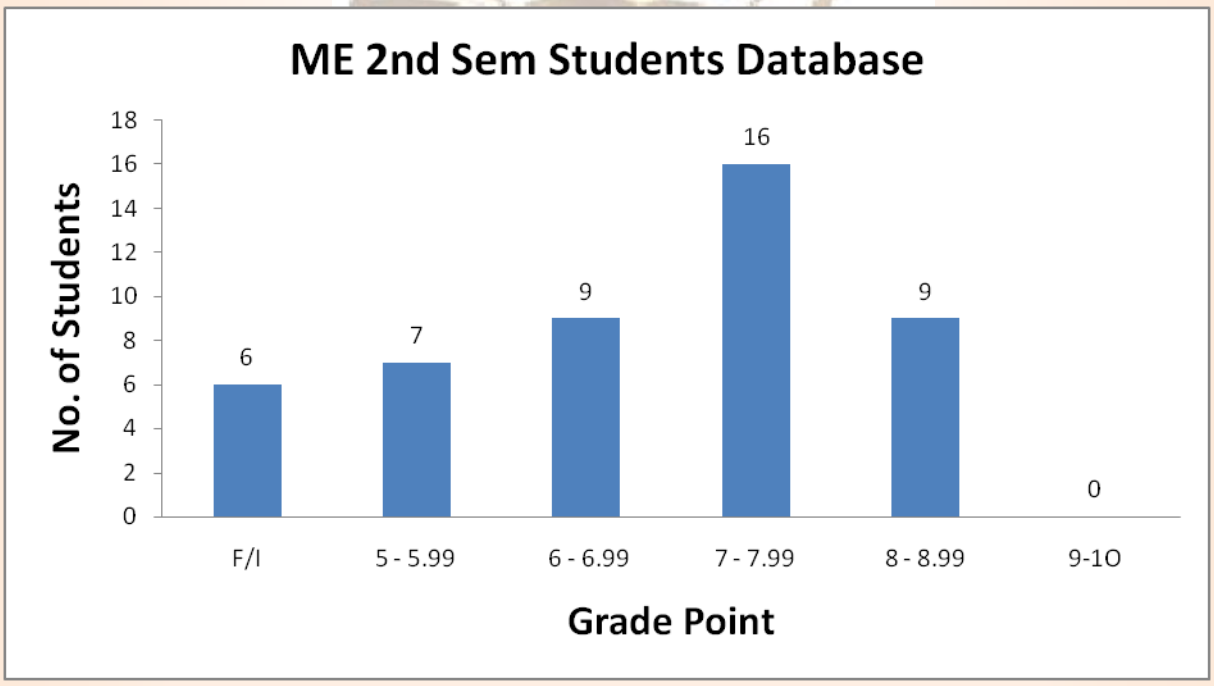
16
14
12
10
8
6
4
2
0
5
8
19
14
1
0
F/I
5 - 5.99
6 - 6.99
7 - 7.99
8 - 8.99
9-10
Grade Point


ME 2nd Sem Students Database
No. of Students
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16
14
12
10
8
6
4
2
0
6
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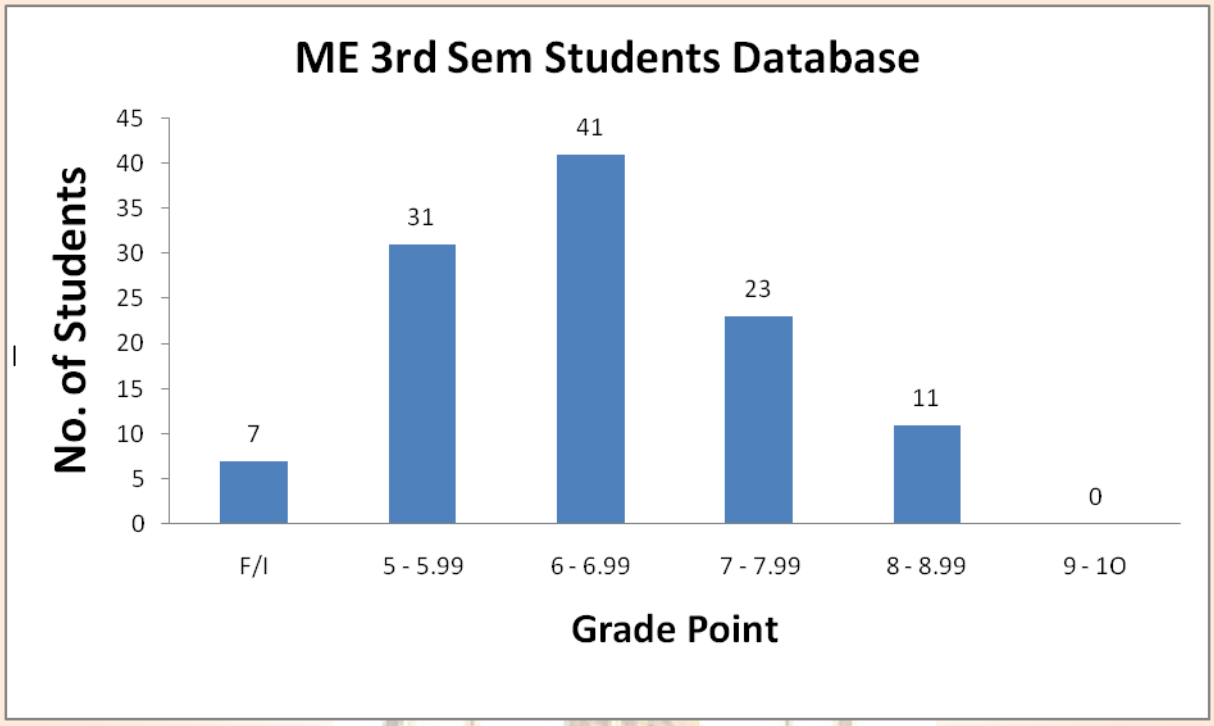
6 - 6.99
7 - 7.99
8 - 8.99
9-10
Grade Point


ME 3rd Sem Students Database
No. of Students
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35
30
25
20
15
10
5
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23
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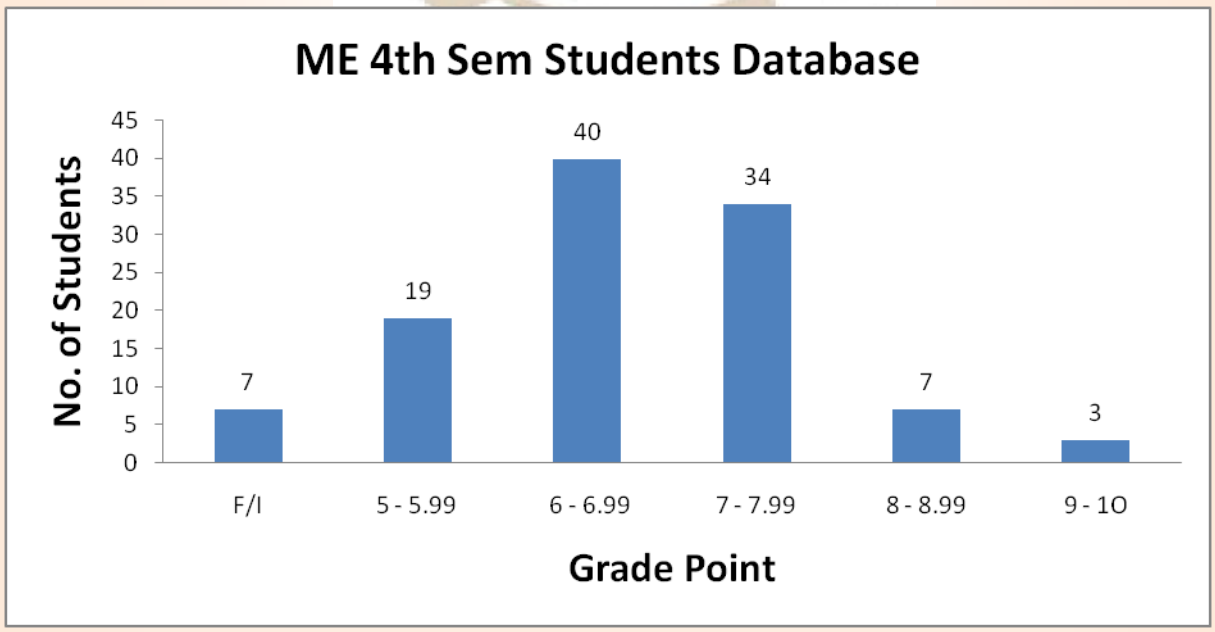
F/I
5 - 5.99
6 - 6.99
7 - 7.99
8 - 8.99
9 - 10
Grade Point


ME 4th Sem Students Database
No. of Students
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35
30
25
20
15
10
5
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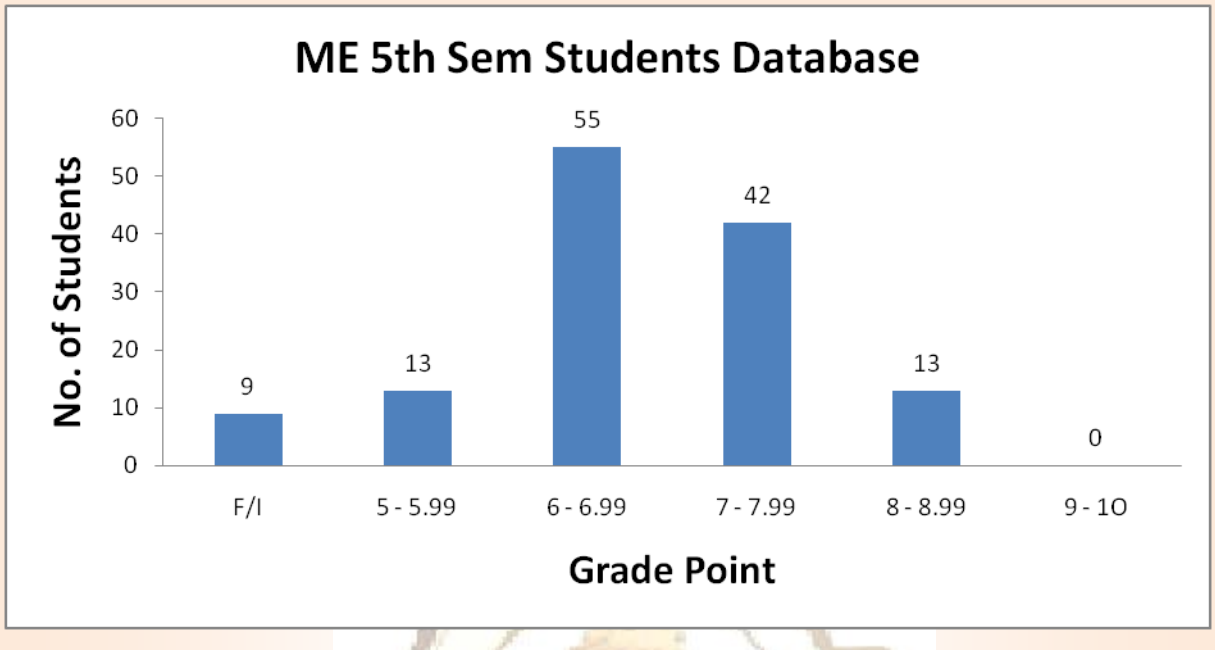
3
F/I
5 - 5.99
6 - 6.99
7 - 7.99
8 - 8.99
9 - 10
Grade Point


ME 5th Sem Students Database
No. of Students
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50
40
30
20
10
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9
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13
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F/I
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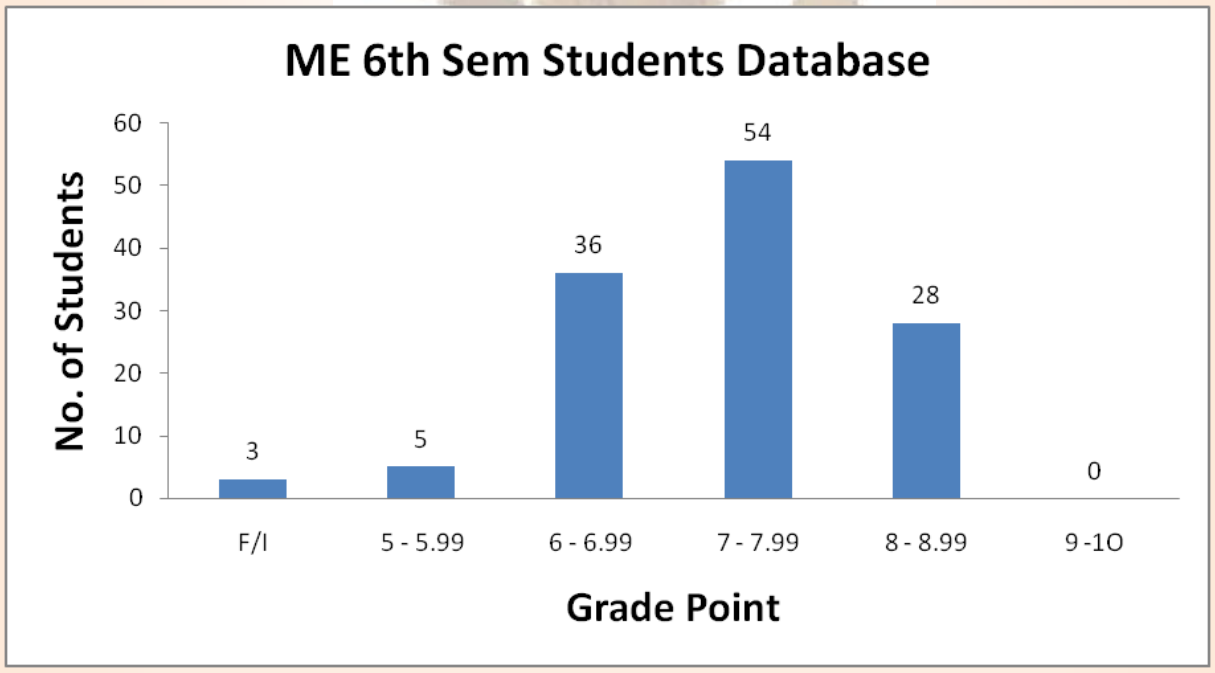
6 - 6.99
7 - 7.99
8 - 8.99
9 - 10
Grade Point


ME 6th Sem Students Database
No. of Students
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20
10
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3
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28
0
F/I
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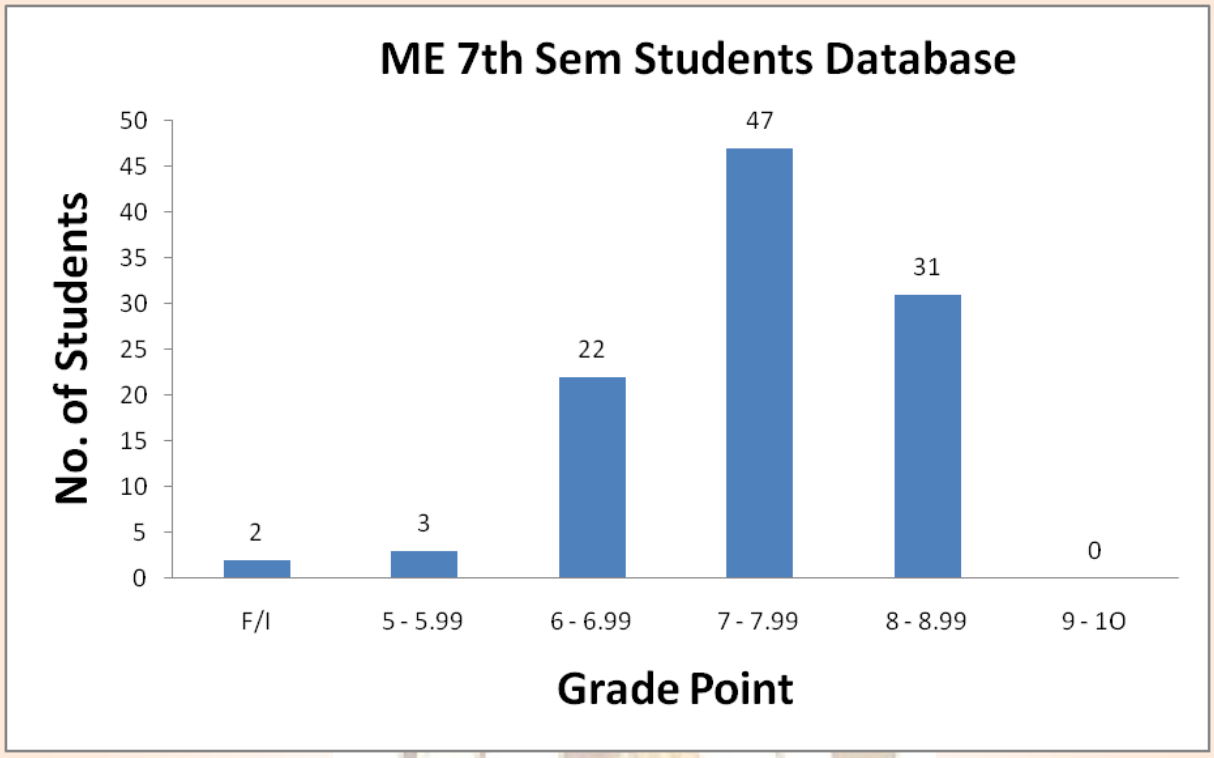
6 - 6.99
7 - 7.99
8 - 8.99
9 -10
Grade Point


ME 7th Sem Students Database
No. of Students
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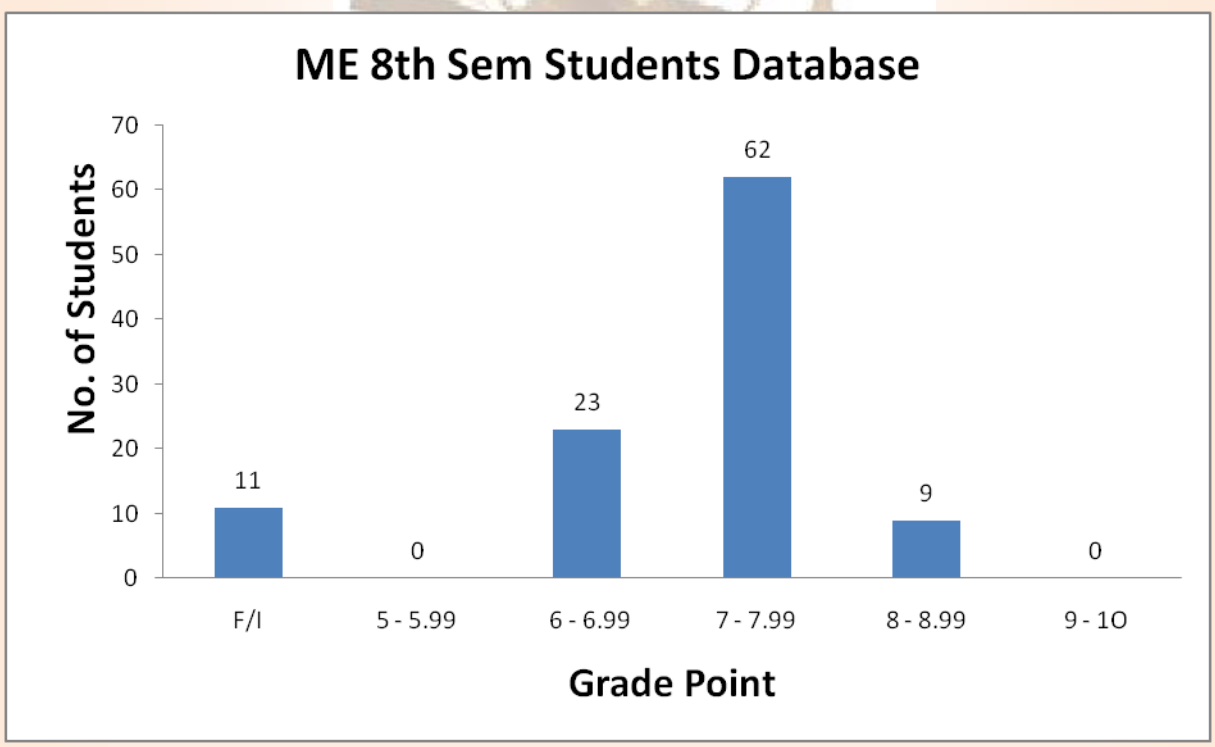
45
40
35
30
25
20
15
10
5
0
2
3
22
47
31
0
F/I
5 - 5.99
6 - 6.99
7 - 7.99
8 - 8.99
9 - 10
Grade Point


ME 8th Sem Students Database
No. of Students
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60
50
40
30
20
10
0
11
0
23
62
9
0
F/I
5 - 5.99
6 - 6.99
7 - 7.99
8 - 8.99
9 - 10
Grade Point

15.0 INDUSTRIAL TRAINING:

Mechanical Engineering Department co-ordinates Industrial Training for every student as this is compulsory according to university course curriculum.

NAME	ROLL NO	PERIOD	COMPANY NAME
SAIFUR RAHMAN	24100714046	03/07/2017- 01/08/2017	Eastern Railway, Sealdah
AHMAD ALI	24100714004		
TUHIN MUKHERJEE	24100714071		
SUBHAM SINHA	24100714061		
AKASH RAI	24100714006		
KANHAIYA SINGH	24100714028		
SANDEEP KUMAR	24100714047		
MD IMRAN	24100714032		
SHATRUGHAN YADAV	24100714052		
MITHUN MAHTO	24100714036		
ANIRBAN BHADURI	24100714008		
AUROBINDO MUKHERJEE	24100715096		
ARIJIT MONDAL	24100714012		
ANIRBAN DAS	24100714010		
MRITYUNJOY NASKAR	24100714038	27/06/2017- 27/07/2017	Mukesh Training academy
ANIRBAN CHAKRABORTY	24100714009	16/08/2017-12/09/2017	
DEBOBRATO GHOSH	24100714021	17/07/2017-31/07/2017	D.V.C
RAJESH LAYEK	24100714044	28/06/2017- 18/07/2017	
SANDIP SINGH	24100714048		
SOUVIK PATRA	24100714058		
SOURAV MONDAL	24100715125	01/07/2017-31/07/2017	R. Traders
SOHAM DAS	24100715120		
ARITRA SEN	24100714014	29/01/2017- 18/02/2017	S.E.R Kharagpur Workshop
TAPABROTA CHATTERJEE	24100714068		
VIJAY KUMAR PASWAN	24100714072		
PREETAM DEY	24100714041		
AKASH MAHATO	24100714005		
SUTIRTHA GHOSH	24100714066		
SANDIPAN GHORAI	24100714049		
BODHISATTWA GHOSH	24100714019	02/05/2017-13/05/2017	E.R Liluah

ABHISHEK ROUTH	24100714003	19/07/2017 – 01/08/2017	
SOUMEN MONDAL	24100715124	20/10/2017- 18/11/2017	Eureka Engineering Works
SK MASUK	24100715118		
TUHIN SUBHRA BASU	24100715133		
SIDDHARTH MANDAL	24100714054	24/07/2017 – 22/08/2017	Burn Standard Ltd., Howrah
MD EZAZ AHMED MOLLA	24100714031	03/02/2017- 03/03/2017	
BUDDHADEV MALIK	24100714020		
ABIR DEY	24100715094		
SUBHOJIT HALDER	24100714063		
RISHABH KORI	24100714045	24/07/2017- 22/08/2017	
SUDIP BHUNIA	24100714064	05/07/2017–03/08/2017	
JIBANDIP SARDAR	24100715103		
MANAB GUCHHAIT	24100715105		
RUPAM MUKHERJEE	24100715112	21/08/2017 – 19/09/2017	
SUBHAM MUKHERJEE	24100715126		
SOMENATH DAS	24100715122		
AMITAVA SING BABU	24100715095		
BIJAN MONDAL	24100715097	23/11/2017- 22/12/2017	Lorch Welding Products Pvt Ltd
SADHANA GURUNG	24100715113	24/08/2017- 21/9/2017	Integrated Test Range (DRDO) Odhisha
MD MOUSIN GAZI	24100715107	06/02/2017 – 04/03/2017	507 Army Base Workshop, Kankinara
SUBHANKAR BANIK	24100714062		
PRASANT KUMAR	24100714040	30/06/2017 – 29/07/2017	Heavy Engineering Corporation Ltd, Jharkhand
BARISH SAHA	24100714016	03/07/2017 – 02/08/2017	E.R LHB Coach
AMIT DAS	24100714007	16/08/2017-12/09/2017	M.T.A
SUMAN KUMAR BANIK	24100715129	20/10/2017 – 18/11/2017	Eureka Engineering Works
SUBHANKAR MONDAL	24100715127		
DIPANKAR MONDAL	24100715099		
SOHAM GUHA NEOGI	24100715121	01/07/2017–31/07/2017	Bridge & Roof Co Ltd

SIDDHARTHA SARKAR	24100715117		
SUJAUDDIN MONDAL	24100715128	03/08/2017–01/09/2017	Linde
ABHIRUP CHOWDHURY	24100715134	01/06/2017–01/07/2017	Tap Turbo Engineering Pvt. Ltd, Chennai
SAIKAT HALDER	24100715136	01/08/2017–28/08/2017	MREL

16.0 STUDENT'S MENTORSHIP:

Name of Faculty	Student's Roll Number	Frequency of interactions	Remarks
Mr.Utpal Madhu & Mr. Sudipta Nath	24100717001 to 24100717020 (2nd Year Students)	Once in a week	1. Collected their certificates andtestimonials 2. Problems and doubts regarding the different classes and others college activities had been discussed and necessary action had taken. 3. Encourage them to attain the regular classes and submit the assignment within schedule time. 4. Encourage them to take participation in different cultural programme, quiz and debate competition.
Mr.Saumya Singha & Mr. Swagata Banerjee	24100716029 to 24100716059 (2nd Year Students)	Once in a week	1. Collected their certificates andtestimonials 2. Problems and doubts regarding the different classes and others college activities had been discussed and necessary action had taken. 3. Encourage them to attain the regular classes and submit the assignment within schedule time. 4. Encourage them to take participation in different cultural programme, quiz and debate competition.
Mr.Ssubrata Barman & Mr. Ashok Kumar Laha	241007106060 to 241716090(2nd Year Students)	Once in a week	1. Collected their certificates andtestimonials 2. Problems and doubts regarding the different classes and others college activities had been discussed and necessary action had taken. 3. Encourage them to attain the regular classes and submit the assignment within schedule time. 4. Encourage them to take participation in different cultural programme, quiz and debate competition.

Mr. Arkaprava Bhattacharya & Mr. Abhijit Bhowmick	24100716091 to 24100716096 & 24100717030 to 24100717099 (2nd Year Students)	Once in a week	1. Collected their certificates andtestimonials 2. Problems and doubts regarding the different classes and others college activities had been discussed and necessary action had taken. 3. Encourage them to attain the regular classes and submit the assignment within schedule time. 4. Encourage them to take participation in different cultural programme, quiz and debate competition.
Mr. Somnath Das & Mr. Gouranga Bor	24100715001 to 24100715030(3rd Year Students)	Once in a week	1. Collected their certificates andtestimonials 2. Problems and doubts regarding the different classes and others college activities had been discussed and necessary action had taken. 3. Encourage them to attain the regular classes and submit the assignment within schedule time. 4. Encourage them to take participation in different cultural programme, quiz and debate competition.
Mr. Dhrubajyoti Chakraborty & Mr. Ranjit Kumar Das	24100715031 to 24100715060 (3rdYear Students)	Once in a week	1. Collected their certificates andtestimonials 2. Problems and doubts regarding the different classes and others college activities had been discussed and necessary action had taken. 3. Encourage them to attain the regular classes and submit the assignment within schedule time. 4. Encourage them to take participation in different cultural programme, quiz and debate competition.
Mr. Suman Das & Dr. Abhishek Kundu	24100715061 to 24100715092 (3rdYear Students)	Once in a week	1. Collected their certificates andtestimonials 2. Problems and doubts regarding the different classes and others college activities had been discussed and necessary action had taken. 3. Encourage them to attain the regular classes and submit the assignment within schedule time. 4. Encourage them to take participation in different cultural programme, quiz and debate competition.

Mr. Arindam Chakraborty & Mr. Biplab Baran Mandal	24100716001 to 24100716028 (3rd Year Students)	Once in a week	1. Collected their certificates andtestimonials 2. Problems and doubts regarding the different classes and others college activities had been discussed and necessary action had taken. 3. Encourage them to attain the regular classes and submit the assignment within schedule time. 4. Encourage them to take participation in different cultural programme, quiz and debate competition.

17.0 DEPARTMENTAL BUDGET:

Swami Vivekananda Institute of Science & Technology		
Sonarpur, Kolkata-700145		
Budget and Allocation Statement		
Dept of Mechanical Engineering	Rs. In Lacs	
Accounts Head	**2017-2018**	
	Budgeted Amount.	**Allocation Amount.**
Capital Equipment, Software & License Fees	2.00	2.00
Library Books	1.00	1.00
Research & Development	2.00	1.50
Furniture & Fixture	0.5	0.50
Laboratory Equipments	2.00	1.00
Visiting Faculty Remuneration	0.00	0.00
Laboratory Exp. Consumable	0.50	0.50
Laboratory Maintenance	0.50	0.50
Students Projects	1.50	1.50
Journal & Periodicals	0.50	0.25
Faculty Development & Initiative	0.75	0.75
Contingency Exp.	0.50	0.50
Total	**11.75**	**10.00**

Submitted by

Mr. Suman Das
Head of the Department (Mechanical Engineering)
Swami Vivekananda Institute of Science & Technology, Sonarpur