SREENIDHI INSTITUTE OF SCIENCE & TECHNOLOGY (AUTONOMOUS)
B.Tech in Mechanical Engineering

COURSE STRUCTURE 2015-16: A15

I Year – I Semester

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5H101	English-I	2	---	---	2	25	75
2	5H111	Engineering Mathematics-I	3	1	---	3	25	75
3	5H121	Engineering Physics-I	3	1	---	3	25	75
4	5H131	Engineering Chemistry-I	2	1	---	2	25	75
5	5F101	Computer Programming	3	1	---	3	25	75
6	5B101	Engineering Drawing-I	1	1	4	3	25	75
7	5H171	English Language and Communication Skills Lab	---	---	2	1	25	75
8	5H181	Engineering Physics Lab – I	---	---	2/2	1	25	75
9	5H186	Engineering Chemistry Lab	---	---	2/2	1	25	75
10	5F171	Computer Programming Lab	---	---	3	2	25	75
11	5B171	Engineering Workshop – I	---	---	2/2	1	25	75
12	5F172	IT Workshop – I	---	---	2/2	1	25	75
13	5B191	Seminar on Current Affairs and Technical Topics			2	1	100	--
		Total	**14**	**5**	**15**	**24**	**400**	**900**

I Year – II Semester

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5H202	English-II	2	2	----	2	25	75
2	5H213	Engineering Mathematics-II	3	1	---	3	25	75
3	5E201	Data Structures and C++	3	1	---	3	25	75
4	5B202	Engineering Drawing-II	1	1	2	2	25	75
5	5H232	Environmental Chemistry and Ecology	2	1	---	2	25	75
6	5BC03	Engineering Mechanics	3	1	---	3	25	75
7	5H224	Applied Physics -II	3	1	---	3	25	75
8	5H233	Ethics, Morals, Gender Sensitization, and Yoga	1	1	---	1	25	75
9	5E271	Data Structures and C++ Lab	---	---	3	2	25	75
10	5B272	Engineering Workshop-II	---	---	2/2	1	25	75
11	5H282	Engineering Physics Lab-II	---	---	2/2	1	25	75
12	5B292	Seminar on Science and its impact	---	---	2	1	100	---
		Total	**18**	**9**	**9**	**24**	**375**	**825**

Note: All End Examinations (Theory and Practical) are of **Three** hours duration.

T – Tutorial **L- Theory** **P/D – Practical/Drawing**
C- Credits **Int. - Internal Exam** **Ext. - External Exam**

II Year – I Semester

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5H314	Engineering Mathematics –III	3	1	---	3	25	75
2	5C347	Elements of Electronics Engineering	3	1	---	3	25	75
3	5B305	Thermodynamics	3	1	---	3	25	75
4	5B306	Mechanics of Solids	3	1	---	3	25	75
5	5BC07	Metallurgy and Material Science	3	1	---	3	25	75
6	5BC08	Fluid Mechanics and Hydraulic Machinery	3	1	---	3	25	75
7	5H373	Functional and Communicative Written English	1	2	--	**1**	25	75
8	5B373	Fluid Mechanics and Hydraulic Machinery Lab	---	---	3	2	25	75
9	5C381	Electronics Engineering Lab	---	---	3/2	1	25	75
10	5B374	Metallurgy Lab	---	---	3/2	1	25	75
11	5B375	Mechanics of Solids Lab	---	---	3/2	1	25	75
12	5B393	Seminar on Technology and its impact			2	1	100	--
		Total	**19**	**9**	**8**	**25**	**375**	**825**

II Year – II Semester

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5H416	Probability and Statistics	3	1	---	3	25	75
2	5B409	Applied Thermodynamics-I	3	1	---	3	25	75
3	5B410	Manufacturing processes	3	1	---	3	25	75
4	5AC41	Elements of Electrical Engineering	3	1	---	3	25	75
5		**Open Elective-I**	3	--	--	3	25	75
6	5B414	*Machine Drawing and Computer aided drawing*	2	1	4	2	25	75
7	5H474	Effective English Communication	--	1	2	1	25	75
8	5B476	Comprehensive Viva-voce-I	---	---	---	1	25	75
9	5B477	Manufacturing Processes Lab	---	---	3	2	25	75
10	5AC91	Electrical Engineering Lab	---	---	3/2	1	25	75
11	5B494	Technical seminar			2	1	100	--
		Total	**17**	**6**	**12**	**23**	**350**	**750**

Open Elective –I

5GC46	Applied Biology
5ZC08	Enterprise Resource Planning
5BC11	Operations Research
5B412	Advanced Fluid Mechanics
5B413	Smart Materials

Note: All End Examinations (Theory and Practical) are of **Three** hours duration.

T – Tutorial **L- Theory** **P/D – Practical/Drawing**

C- Credits **Int. - Internal Exam** **Ext. - External Exam**

III Year – I Semester

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5ZC01	Managerial Economics and Financial Analysis	2	1	---	2	25	75
2	5B515	Kinematics of Machinery	3	1	---	3	25	75
3	5B516	Metal Cutting and Machine Tools	3	1	---	3	25	75
4	5B517	Applied Thermodynamics-II	3	1	---	3	25	75
5	5B518	Design of Machine Members-I	2	2	---	2	25	75
6		**Open Elective-II**	3	--	---	3	25	75
7	5H576	Quantitative Aptitude	--	--	2	1	25	75
8	5B578	Group Project	---	---	2	1	25	75
9	5B579	Applied Thermodynamics Lab	---	---	3	2	25	75
10	5B580	Machine Tools Lab	---	---	3	2	25	75
11	5B595	Technology review and seminar-I	---	---	2	1	100	---
		Total	**16**	**7**	**12**	**24**	**350**	**750**

Open Elective – II

5GC47	Fundamentals of Bio Informatics (BT Stream)
5AC46	Control System Engineering (EEE Stream)
5CC49	Fundamentals of Communication Engineering (ECE Stream)
5FC32	Data Base System (CSE Stream)
5ZC19	Entrepreneurship, Project Management and Structured Finance
5ZC20	Product and Services
5HC41	French
5HC46	German
5EC26	SAP-I: SAP ABVP Workbench Fundamentals(CSE& IT Stream)

III Year – II Semester

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5B619	Design of Machine Members-II	3	1	---	3	25	75
2	5B620	Heat Transfer	3	1	---	3	25	75
3	5B621	CAD/CAM	2	2	---	2	25	75
4	5B622	Dynamics of Machinery	3	1	---	3	25	75
5		**Open Elective-III**	2	1	-	2	25	75
6		**Professional Elective-I**	3	1	---	3	25	75
7	5HC77	Logical Reasoning	--	--	2	1	25	75
8	5B681	Comprehensive Viva-voce-II	---	---	---	1	50	50
9	5B682	Heat Transfer Lab	---	---	3	2	25	75
10	5B683	CAD/CAM Lab	---	---	3	2	25	75
11	5B684	KOM and DOM Lab	---		2	1	25	75
12	5B696	Technology review and seminar-II	--	---	2	1	100	--

Total	**16**	**7**	**12**	**24**	**400**	**800**

Open Elective-III	
5GC50	Computational Biology (B.T.Stream)
5EC04	Fundamentals of Operating Systems (CSE Stream)
5FC28	Fundamentals of Data Analytics (IT Stream)
5CC50	Fundamentals of VLSI & Embedded System (ECE Stream)
5ZC03	Banking operations, Insurance and Risk Management (MBA Stream)
5AC44	Fundamentals of measurements and Instrumentation (EEE Stream)
5EC27	SAP-II : SAP ABAB Workbench concepts (CSE&IT Stream)
5HC51	Spanish

Professional Elective-I	
5B623	Design and Analysis of Experiments
5B624	Hydraulics and Pneumatic Systems
5B625	Thermal Turbo machinery
5B626	Automobile Engineering
5B627	Additive Manufacturing Technologies
5B628	Introduction to Nanotechnology

Note: All End Examinations (Theory and Practical) are of **Three** hours duration.

T – Tutorial **L- Theory** **P/D – Practical/Drawing**

C- Credits **Int. - Internal Exam** **Ext. - External Exam**

IV Year – I Semester

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1	5B729	Metrology and Instrumentation	3	1	---	3	25	75
2	5B730	Finite Element Method	3	1	---	3	25	75
3		**Professional Elective-II**	3	2	---	3	25	75
4		**Professional Elective-III**	3	--	---	3	25	75
5	5GC49	Intellectual Property Rights	1	1	-	1	25	75
6	5ZC02	Management Science	3	1	---	3	25	75
7	5B785	Project Phase-I	---	1	3	3	100	-
8	5B786	Industry Oriented Mini Project	---	---	---	2	25	75
9	5B787	Metrology Lab	---	---	3/2	2	25	75
10	5B788	Instrumentation Lab	---	---	3/2	2	25	75
11	5B789	Production Drawing Practice	---	1	4	2	25	75
12	5B797	Technology review and	---	---	2	1	100	---

		seminar-III						
		Total	**16**	**8**	**11**	**28**	**450**	**750**

Professional Elective-II	
5B731	Rotor Dynamics
5B732	Refrigeration and Air Conditioning
5B733	Advanced Manufacturing Processes
5B734	Characterization of Nanomaterials
5B735	Quality and Reliability Engineering

Professional Elective-III	
5B736	Design of Mechanisms
5B737	Renewable Energy Systems
5B738	Design of Press tools and Tool Design
5B739	Nano Bio-Materials
5B740	Mechatronics

IV Year – II Semester

S.No.	Subject Code	Subject	L	T	P/D	C	Max. Marks	
							INT	EXT
1		**Professional Elective - IV**	3	2	---	3	25	75
2		**Professional Elective - V**	3	2	---	3	25	75
3	5B890	Project:- Phase-II	---	---	20	12	50	150
4	5B891	Comprehensive Viva-voce-III	---	---	---	1	50	50
5	5B898	Technology review and seminar-IV	---	---	2	1	100	---
		Total	**6**	**4**	**22**	**20**	**250**	**350**

Professional Elective - IV	
5B841	Fracture Mechanics
5B842	Jet propulsion and Rocket Engineering
5B843	Automation and Robotics
5B844	Nanocomposites
5B845	Simulation Modeling of Manufacturing Systems

Professional Elective - V	
5B846	Design Optimization
5B847	Power Plant Engineering
5B848	Computational Fluid Dynamics
5B849	Mechanics Manufacturing Methods of Composite Materials
5B850	Carbon based nanostructures and their applications
5B851	Flexible Manufacturing System & Machine Vision