CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

Courses of Study and Scheme of Examination of B.E. First Year (2012-13)
Common to all branches of Engineering except Bio-Tech. & Bio-Medical Engg.

FIRST SEMESTER

S. No	Board of Study	Subject Code	Subject	Periods Per Week			Scheme of Examination Theory			Total Marks	Credit [L+[T+P]] 2
				L	T	P	ESE	CT	TA		
1	Basic Sciences	300114(14)	Applied Mathematics-I	4	1	-	80	20	20	120	5
2	Humanities	300111(46)	Professional Communication in English	4	-	-	80	20	20	120	4
3	Basic Sciences	300112(11)	Applied Chemistry	4	1	-	80	20	20	120	5
4	Mechanical Engineering	300211(37)	Engineering Graphics	2	1	4	80	20	20	120	5
5	Elect. Engg.	300118(24)	Elements of Electrical Engineering (New)	4	1	-	80	20	20	120	5
6	Basic Sciences	300121(11)	Applied Chemistry (Lab)	-	-	2	40	-	20	60	1
7	Elect. Engg.	300126(24)	Elements of Electrical Engineering (Lab)	-	-	2	40	-	20	60	1
8	Mechanical Engineering	300124(37)	Workshop Practice	-	-	3	40	-	20	60	2
9	Humanities	300127(46)	Library & Seminar	-	-	1	-	-	20	20	1
TOTAL				18	4	12	520	100	180	800	29

L-Lecture, T-Tutorial, P-Practical, ESE – End Semester Exam, CT- Class Test, TA- Teacher's Assessment

Note: (i) The teaching in the 1st and 2nd semester will be divided in two groups consisting of various branches as shown below: P1-GROUP: Electronics & Communication, Information Technology, Electronics & Instrumentation, Electrical, Chemical, Electrical & Electronics; Q1-GROUP: Computer Science, Mechanical, Civil, Mining and Applied Electronics & Instrumentation, Metallurgy Mechatronics.

(ii) Applied Mathematics-I will be taught to both the groups in the first semester.

(iii) Library & seminar will be conducted by the relevant discipline/humanities as decided by the Principal.

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

Courses of Study and Scheme of Examination of B.E. First Year (2012-13)
Common to all branches of Engineering except Bio-Tech. & Bio-Medical Engg.

SECOND SEMESTER

S. No	Board of Study	Subject Code	Subject	Periods Per Week			Scheme of Examination Theory			Total Marks	Credit [L+[T+P]] 2
				L	T	P	ESE	CT	TA		
1	Basic Sciences	300214(14)	Applied Mathematics-II	4	1	-	80	20	20	120	5
2	Civil Engg.	300212(20)	Environment & Ecology	4	-	-	80	20	20	120	4
3	Basic Sciences	300218(15)	Applied Physics (New)	4	1	-	80	20	20	120	5
4	Civil Engg.	300216(20)	Basic Civil Engineering	4	1	-	80	20	20	120	5
5	Mechanical Engg.	300219(37)	Fundamental of Mechanical Engineering (New)	4	1	-	80	20	20	120	5
6	Basic Sciences	300228(15)	Applied Physics (Lab)	-	-	2	40	-	20	60	1
7	Mechanical Engg.	300229(37)	Mechanical Engineering (Lab)	-	-	2	40	-	20	60	1
8	Humanities	300221(46)	Communication Skills (Lab)	-	-	3	40	-	20	60	2
9	Humanities	300220(46)	Library & Seminar	-	-	1	-	-	20	20	1
		TOTAL		20	4	8	520	100	180	800	29

L-Lecture, T-Tutorial, P-Practical, ESE – End Semester Exam, CT- Class Test, TA- Teacher's Assessment

Note:

(i) The teaching in the 1st and 2nd semester will be divided in two groups consisting of various branches as shown below:
P1-GROUP: Electronics & Communication, Information Technology, Electronics & Instrumentation, Electrical, Chemical, Electrical & Electronics; Q1-GROUP: Computer Science, Mechanical, Civil, Mining and Applied Electronics & Instrumentation, Metallurgy, Mechatronics.

(ii) Applied Mathematics-II will be taught to both the groups in the second semester.

(iii) Library & seminar will be conducted by the relevant discipline/humanities as decided by the Principal.

Chhattisgarh Swami Vivekanand Technical University, Bhilai
SCHEME OF TEACHING AND EXAMINATION
BE (MECHANICAL ENGINEERING) III Semester

S. No.	Board of Study	Sub. Code	SUBJECT	PERIODS PER WEEK			SCHEME OF EXAM Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1.	Appl Mathematics	337351(14)	Mathematics-III	4	1	-	80	20	20	120	5
2.	Mech. Engg	337352(37)	Machine Drawing	4	1	-	80	20	20	120	5
3.	Mech. Engg	337353(37)	Material Science & Metallurgy	3	1	-	80	20	20	120	4
4	Mech. Engg	337354(37)	Mechanics of Solids-I	4	1	-	80	20	20	120	5
5	Mech. Engg	337355(37)	Engineering Thermodynamics	4	1	-	80	20	20	120	5
6	Mech. Engg	337356(37)	Mechanical Measurements & Metrology	3	1	-	80	20	20	120	4
7	Mech. Engg	337361(37)	Machine Drawing Lab	-	-	3	40	-	20	60	2
8	Mech. Engg	337362(37)	Material Testing Lab	-	-	2	40	-	20	60	1
9	Mech. Engg	337363(37)	Engineering Thermodynamics Lab	-	-	2	40	-	20	60	1
10	Mech. Engg	337364(37)	Mechanical Measurements & Metrology Lab	-	-	2	40	-	20	60	1
11	Humanities	337365(46)	Value Education	-	-	2	-	-	40	40	1
12			Library	-	-	1	-	-	-	-	-
			Total	**22**	**6**	**12**	**640**	**120**	**240**	**1000**	**34**

L: Lecture, T: Tutorial, P: Practical, ESE: End Semester Exam, CT: Class Test, TA: Teachers Assessment
Note: Duration of End Semester Examination all theory papers will be of Three Hours **except for Machine Drawing Paper (at Sl. No. 2) which is of four hours duration.**

Chhattisgarh Swami Vivekanand Technical University, Bhilai

SCHEME OF TEACHING AND EXAMINATION

BE (MECHANICAL ENGINEERING) IV Semester

S. No.	Board of Study	Sub. Code	SUBJECT	PERIODS PER WEEK			SCHEME OF EXAM Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1.	Mech. Engg	337451(37)	Fluid Mechanics	4	1	-	80	20	20	120	5
2.	Mech. Engg	337452(37)	Mechanics of Solids-II	4	1	-	80	20	20	120	5
3.	Mech. Engg	337453(37)	Applied Thermodynamics	4	1	-	80	20	20	120	5
4	Mech. Engg	337454(37)	Kinematics of Machines	4	1	-	80	20	20	120	5
5	Mech. Engg	337455(37)	Numerical Analysis & Computer Programming (C & C++)	4	1	-	80	20	20	120	5
6	Mech. Engg	337456(37)	Manufacturing Science-I	3	1	-	80	20	20	120	4
7	Mech. Engg	337461(37)	Fluid mechanics Lab	-	-	2	40	-	20	60	1
8	Mech. Engg	337462(37)	Computer Aided Drafting Lab	-	-	2	40	-	20	60	1
9	Mech. Engg	337463(37)	Kinematics of Mechanics Lab	-	-	2	40	-	20	60	1
10	Mech. Engg	337464(37)	NACP Lab	-	-	2	40	-	20	60	1
11	Humanities	337465(46)	Health, Hygiene & Yoga	-	-	2	-	-	40	40	1
12			Library	-	-	1	-	-	-	-	-
			Total	23	6	11	640	120	240	1000	34

L: Lecture, T: Tutorial, P: Practical, ESE: End Semester Exam, CT: Class Test, TA: Teachers Assessment
Note (1): Duration of all theory papers will be of Three Hours.
Note (2): Industrial Training of six weeks is mandatory for B.E. students. It is to be completed in two parts. The first part will be in summer after IV semester after which students have to submit a training report which will be evaluated by the college teachers during V Semester.

Chhattisgarh Swami Vivekanand Technical University Bhilai (C.G.)

SCHEME OF TEACHING AND EXAMINATION

B.E. V SEMESTER MECHANICAL ENGINEERING

S. No.	Board of Study	Sub. Code	SUBJECT	PERIODS PER WEEK			SCHEME OF EXAM Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1.	Mech. Engg	**337551 (37)**	Machine Design – I	4	1	-	80	20	20	120	5
2.	Mech. Engg	**337552 (37)**	Turbo Machinery	4	1	-	80	20	20	120	5
3.	Mech. Engg	**337553 (37)**	Dynamics of Machines	4	1	-	80	20	20	120	5
4.	Mech. Engg	**337554 (37)**	Fluid Machinery	4	1	-	80	20	20	120	5
5.	Mech. Engg	**337555 (37)**	Manufacturing Science - II	3	1	-	80	20	20	120	4
6.	Mech. Engg	**337556 (37)**	Operations Research	4	1	-	80	20	20	120	5
7.	Mech. Engg	**337561 (37)**	Machine Design-I Lab	-	-	2	40	-	20	60	1
8.	Mech. Engg	**337562 (37)**	Manufacturing Science Lab	-	-	2	40	-	20	60	1
9.	Mech. Engg	**337563 (37)**	Dynamics of machines Lab	-	-	2	40	-	20	60	1
10.	Mech. Engg	**337564 (37)**	Fluid Machinery Lab	-	-	2	40	-	20	60	1
11.	Humanities	**300565 (46)**	Personality Development	-	-	2	-	-	20	20	1
12.	Mech. Engg	**337566 (37)**	*Practical Training Evaluation/Library	-	-	1	-	-	20	20	1
	Total			23	6	11	640	120	240	1000	35

L: Lecture   **T:** Tutorial   **P:** Practical
ESE: End Semester Examination   **CT:** Class Test   **TA:** Teacher's Assessment

Industrial Training of eight weeks is mandatory for B.E. student. It is to be completed in two parts. The first part will be in summer after IV semester after which students have to submit a training report which will be evaluated by the college teachers during B.E. V semester.

Name of the Programme: Bachelor of Engineering   ::::   Duration of the Programme: Four Years

Chhattisgarh Swami Vivekanand Technical University, Bhilai

SCHEME OF TEACHING AND EXAMINATION

B.E. VI SEMESTER MECHANICAL ENGINEERING

S. No.	Board of Study	Sub. Code	SUBJECT	PERIODS PER WEEK			SCHEME OF EXAM Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1.	Mech. Engg	337651 (37)	Machine Design – II	4	1	-	80	20	20	120	5
2.	Mech. Engg	337652 (37)	Energy Systems	4	1	-	80	20	20	120	5
3.	Mech. Engg	337653 (37)	Internal Combustion Engines	4	1	-	80	20	20	120	5
4.	Mech. Engg	337654 (37)	Heat & Mass Transfer	4	1	-	80	20	20	120	5
5.	Mech. Engg	337655 (37)	Production Management	3	1	-	80	20	20	120	4
6.	*Refer Table I*		Professional Elective-I	4	1	-	80	20	20	120	5
7.	Mech. Engg	337661 (37)	Machine Design-II Lab	-	-	2	40	-	20	60	1
8.	Mech. Engg	337662 (37)	Internal Combustion Engines Lab	-	-	2	40	-	20	60	1
9.	Mech. Engg	337663 (37)	Production Management Lab	-	-	2	40	-	20	60	1
10.	Mech. Engg	337664 (37)	HMT Lab	-	-	2	40	-	20	60	1
11.	Management	300665 (76)	Managerial Skills	-	-	2	-	-	40	40	1
12.	Mech. Engg	-------------	Library	-	-	1	-	-	-	-	-
Total				**23**	**6**	**11**	**640**	**120**	**240**	**1000**	**34**

L:	Lecture	**T:**	Tutorial	**P:**	Practical
ESE:	End Semester Examination	**CT:**	Class Test	**TA:**	Teacher's Assessment

Note: Industrial Training of eight weeks is mandatory for B.E. students. It is to be completed in two equal parts. The first part must have been completed in summer after IV semester. The second part to be completed during summer after VI semester after which students have to submit a training report which will be evaluated by college teachers during B.E. VII semester.

Table – 1
Professional Elective – I

S. No.	Board of Study	Subject Code	Subject
1	Mechanical Engineering	337671 (37)	Industrial Hydraulics
2	Mechanical Engineering	337672 (37)	Control Engineering
3	Mechanical Engineering	337673 (37)	Engineering Economics
4	Mechanical Engineering	337674 (37)	Composite Materials
5	Mechanical Engineering	337675 (37)	Power Plant Engineering
6	Mechanical Engineering	337676 (37)	Maintenance and Reliability
7	Mechanical Engineering	337677 (37)	Computer Graphics

Note (1) – 1/4th of total strength of students subject to minimum of twenty students is required to offer an elective in the college in a particular academic session.
Note (2) – Choice of elective course once made for an examination cannot be changed in future examinations.

Name of the Programme: Bachelor of Engineering   ::::   Duration of the programme: Four Years

Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.)

SCHEME OF TEACHING & EXAMINATION

B.E. VII SEMESTER MECHANICAL ENGINEERING

S. No.	Board of Study	Sub. Code	SUBJECT	PERIODS PER WEEK			SCHEME OF EXAM Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1.	Mech. Engg	337731(37)	Automobile Engineering	3	1	-	80	20	20	120	4
2.	Mech. Engg	337732(37)	Refrigeration & Air-conditioning	4	1	-	80	20	20	120	5
3.	Mech. Engg	337733(37)	Computer Aided Design & Manufacturing	4	1	-	80	20	20	120	5
4	Mech. Engg	337734(37)	Machine Tool Technology	4	1	-	80	20	20	120	5
5	Refer Table - II		Professional Elective-II	4	1	-	80	20	20	120	5
6	Mech. Engg	337761(37)	Automobile Engineering Lab	-	-	3	40	-	20	60	2
7	Mech. Engg	337762(37)	Refrigeration & Air-conditioning Lab	-	-	3	40	-	20	60	2
8	Mech. Engg	337763(37)	Computer Aided Design and Manufacturing Lab	-	-	3	40	-	20	60	2
9	Mech. Engg	337764(37)	Minor Project	-	-	3	100	-	40	140	2
10	Management	337765(76)	Innovative & Entrepreneurial Skills	-	-	2	-	-	40	40	1
11	Mech. Engg	337766(37)	** Practical Training Evolution/ Library	-	-	1	-	-	40	40	1
			Total	19	5	15	620	100	280	1000	34

L – Lecture, T – Tutorial, P – Practical,
ESE – End Semester Exam, CT – Class Test, TA – Teacher's Assessment

**To be completed after VI semester and before the commencement of VII Semester.

Table – II
Professional Elective - II

S.No.	Branch	Subject Code	Subject
1	Mechanical	337741(37)	Quality Control & Total Quality Management
2	Mechanical	337742(37)	Energy Management & Audit
3	Mechanical	337743(37)	Applied Elasticity & Plasticity
4	Mechanical	337744(37)	Product Design & Development
5	Mechanical	337745(37)	Numerical Control of Machines Tools
6	Mechanical	337746(37)	Thermal System Design
7	Mechanical	337747(37)	Cyber Security/Information Security

Note: (1) 1/4th of total strength of students subject to minimum of 20 students is required to offer and elective in the college in a particular academic session.

Note: (2) Choice of elective course once made for an examination cannot be changed in future examinations.

Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.)
SCHEME OF TEACHING AND EXAMINATION
B.E. VIII SEMESTER MECHANICAL ENGINEERING

S. No.	Board of Study	Sub. Code	SUBJECT	PERIODS PER WEEK			SCHEME OF EXAM Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1.	Mech. Engg	337831(37)	Robotics	4	1	-	80	20	20	120	5
2.	Mech. Engg	337832(37)	Finite Element Methods	4	1	-	80	20	20	120	5
3.	Mech. Engg	337833(37)	Industrial Engineering & Management	4	1	-	80	20	20	120	5
4	Refer Table - III		Professional Elective-III	4	1	-	80	20	20	120	5
5	Refer Table - IV		Open Elective-IV	4	-	-	80	20	20	120	4
6	Mech. Engg	337861(37)	Robotics Lab	-	-	2	40	-	20	60	1
7	Mech. Engg	337862(37)	Finite Element Methods Lab	-	-	2	40	-	20	60	1
8	Mech. Engg	337863(37)	Industrial Engineering & Management Lab	-	-	2	40	-	20	60	1
9	Mech. Engg	337864(37)	Major Project	-	-	7	100	-	80	180	4
10	Mech. Engg	337865(37)	Report Writing & Seminar	-	-	2	-	-	40	40	1
11			Library	-	-	1	-	-	-	-	-
	Total			20	4	16	620	100	280	1000	32

L – Lecture, T – Tutorial, P – Practical,
ESE – End Semester Exam, CT – Class Test, TA – Teacher's Assessment

Table – III
Professional Elective - II

S.No.	Branch	Subject Code	Subject
1	Mechanical	337841(37)	Mechatronics
2	Mechanical	337842(37)	Vibration & noise control
3	Mechanical	337843(37)	Optimization Techniques
4	Mechanical	337844(37)	Computational Fluid Dynamics
5	Mechanical	337845(37)	Soft Computing Techniques
6	Mechanical	337846(37)	Environment Pollution & Control
7	Mechanical	337847(37)	Mechanical Handling System & Equipments

Note: (1) 1/4th of total strength of students subject to minimum strength of 20 students is required to offer and elective in the college in a particular academic session.

Note: (2) Choice of elective course once made for an examination cannot be changed in future examinations.

Table - IV

	Open Elective –IV		
S.No.	Board of Studies	Code	Name of Subject
1	Management	300851(76)	Enterprise Resource Planning **(Except CSE & IT Branch)**
2	Information Technology	300852(33)	E-Commerce & strategic IT **(Except CSE & IT Branch)**
3	Management	300853(76)	Technology Management
4	Information Technology	300854(33)	Decision Support & Executive Information system
5	Computer Science & Engg.	300855(22)	Software Technology
6	Management	300856(76)	Knowledge Entrepreneurship
7	Management	300857(76)	Finance Management
8	Management	300858(76)	Project Planning, Management & Evaluation
9	Mechanical Engg.	300859(37)	Safety Engineering
10	Computer Science & Engg.	300801(22)	Bio Informatics
11	Mechanical Engg.	300802(37)	Energy Conservation & Management
12	Nanotechnology	300803(47)	Nanotechnology
13	Management	300804(76)	Intellectual Property Rights
14	Mechanical Engg.	300805(37)	Value Engineering
15	Civil Engg.	300806(20)	Disaster Management
16	Civil Engg.	300807(20)	Construction Management
17	Civil Engg.	300808(20)	Ecology and Sustainable Development
18	Chem. Engg.	300809(19)	Non Conventional Energy Sources
19	Electrical Engg.	300810(24)	Energy Auditing & Management **(Except Electrical Engg. Branch)**
20	Mechanical Engg.	300811(37)	Managing Innovation & Entrepreneurship
21	Information Technology	300812(33)	Biometrics
22	Information Technolgy	300813(33)	Information Theory & Coding
23	Computer Science & Engg.	300814(22)	Supply Chain Management
24	Computer Science & Engg.	300815(22)	Internet & Web Technology
25	Electrical Engg.	300816(24)	Electrical Estimation and Costing
26	Electrical& Electronics Engg.	300817(25)	Non Conventional Energy Sources
27	Computer Science & Engg.	300818(22)	Big Data and Hadoop

Note (1) 1/4th of total strength of students is required to offer an elective in thecollege in a particular academic session.

(2) - Choice of elective course once made for an examination cannot be changed

Table - IV

	Open Elective –IV		
S.No.	Board of Studies	Code	Name of Subject
1	Management	300851(76)	Enterprise Resource Planning **(Except CSE & IT Branch)**
2	Information Technology	300852(33)	E-Commerce & strategic IT **(Except CSE & IT Branch)**
3	Management	300853(76)	Technology Management
4	Information Technology	300854(33)	Decision Support & Executive Information system
5	Computer Science & Engg.	300855(22)	Software Technology
6	Management	300856(76)	Knowledge Entrepreneurship
7	Management	300857(76)	Finance Management
8	Management	300858(76)	Project Planning, Management & Evaluation
9	Mechanical Engg.	300859(37)	Safety Engineering
10	Computer Science & Engg.	300801(22)	Bio Informatics
11	Mechanical Engg.	300802(37)	Energy Conservation & Management
12	Nanotechnology	300803(47)	Nanotechnology
13	Management	300804(76)	Intellectual Property Rights
14	Mechanical Engg.	300805(37)	Value Engineering
15	Civil Engg.	300806(20)	Disaster Management
16	Civil Engg.	300807(20)	Construction Management
17	Civil Engg.	300808(20)	Ecology and Sustainable Development
18	Chem. Engg.	300809(19)	Non Conventional Energy Sources
19	Electrical Engg.	300810(24)	Energy Auditing & Management **(Except Electrical Engg. Branch)**
20	Mechanical Engg.	300811(37)	Managing Innovation & Entrepreneurship
21	Information Technology	300812(33)	Biometrics
22	Information Technolgy	300813(33)	Information Theory & Coding
23	Computer Science & Engg.	300814(22)	Supply Chain Management
24	Computer Science & Engg.	300815(22)	Internet & Web Technology
25	Electrical Engg.	300816(24)	Electrical Estimation and Costing
26	Electrical& Electronics Engg.	300817(25)	Non Conventional Energy Sources
27	Computer Science & Engg.	300818(22)	Big Data and Hadoop

Note (1) 1/4th of total strength of students is required to offer an elective in thecollege in a particular academic session.
(2) - Choice of elective course once made for an examination cannot be changed