



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

SCHEME OF TEACHING AND EXAMINATION

B.Tech (Third Semester – Mechanical Engineering)

Sl. No.	Board of Studies (BOS)	Courses (Subject)	Course Code	Period per Week			Scheme of Examination			Total Marks	Credit
				L	T	P	Theory/Lab				
							ESE	CT	TA		
1.	Basic Science	Mathematics - III	B000311(014)	3	1	-	100	20	30	150	4
2.	Mech. Engg.	Mechanical Measurement and Metrology	B037312(037)	2	1	-	100	20	30	150	3
3.	Mech. Engg.	Engineering Mechanics	B037313(037)	2	1	-	100	20	30	150	3
4.	Mech. Engg.	Engineering Thermodynamics	B037314(037)	2	1	-	100	20	30	150	3
5.	Mech. Engg.	Material Science	B037315(037)	2	1	-	100	20	30	150	3
6.	Mech. Engg.	Computer Aided Machine Drawing Lab	B037321(037)	-	-	4	40	-	20	60	2
7.	Mech. Engg.	Mechanical Measurement and Metrology Lab	B037322(037)	-	-	2	40	-	20	60	1
8.	Mech. Engg.	Engineering Thermodynamics Lab	B037323(037)	-	-	2	40	-	20	60	1
9.	Mech. Engg.	Software Lab	B037324(037)	-	-	2	40	-	20	60	1
10.	Humanities	Personality Development	B000306(046)	-	-	2	-	-	10	10	-
Total Marks				11	5	10	660	100	240	1000	21

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

Chhattisgarh Swami Vivekanand Technical University, Bhilai

Scheme of Teaching and Examination

B.Tech. (Mechanical Engineering) IV Semester

S. No.	Board of Study	Courses (Subject)	CourseCode	Period per Week			Scheme of Examination			Total Marks	Credit
				L	T	P	Theory/Lab				
							ESE	CT	TA		
1	Mech. Engg.	Applied Thermodynamics	B037411(037)	2	1	-	100	20	30	150	3
2	Mech. Engg.	Fluid Mechanics	B037412(037)	3	1	-	100	20	30	150	4
3	Mech. Engg.	Strength of Materials	B037413(037)	2	1	-	100	20	30	150	3
4	Mech. Engg.	Manufacturing Process	B037414(037)	2	1	-	100	20	30	150	3
5	Mech. Engg.	Kinematic of Machine	B037415(037)	3	1	-	100	20	30	150	4
6	Mech. Engg.	Fluid Mechanics Lab	B037421(037)	-	-	2	40	-	20	60	1
7	Mech. Engg.	Material Testing Lab	B037422(037)	-	-	2	40	-	20	60	1
8	Mech. Engg.	Manufacturing Process Lab	B037423(037)	-	-	2	40	-	20	60	1
9	Mech. Engg.	Virtual Lab	B037424(037)	-	-	2	40	-	20	60	1
10	Mandatory Course	Indian Culture and Constitution of India	B000406(046)	-	-	2	-	-	10	10	-
Total Marks				12	5	10	660	100	240	1000	21

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.

Note 1: Industrial Training of six weeks is mandatory for B.Tech. 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 (CSVTV, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

B Tech (Fifth Semester – Mechanical Engineering)

Sl. No.	Board of Studies	Courses (Subject)	Course Code	Period per Week			Theory/Lab			Total Marks	Credits
				L	T	P	ESE	CT	TA		
				1.	Mech. Engg.	Internal Combustion Engine	C037511(037)	2	1		
2.	Mech. Engg.	Solid Mechanics	C037512(037)	3	1	-	100	20	30	150	4
3.	Mech. Engg.	Fluid Machines	C037513(037)	2	1	-	100	20	30	150	4
4.	Mech. Engg.	Dynamics of Machine	C037514(037)	3	1	-	100	20	30	150	3
5.	Professional Elective-1 (Refer Table I)			2	1	-	100	20	30	150	3
6.	Mech. Engg.	Internal Combustion Engine Lab	C037521(037)	-	-	2	40	-	20	60	1
7.	Mech. Engg.	Dynamics of Machine Lab	C037522(037)	-	-	2	40	-	20	60	1
8.	Mech. Engg.	Fluid Machines Lab	C037523(037)	-	-	2	40	-	20	60	1
9.	Mech. Engg.	Project-I based on Summer Internship/ Industrial Training	C037524(037)	-	-	2	40	-	20	60	1
10.	Civil Engg.	Environmental Studies	C000506(020)	-	-	2	-	-	10	10	-
Total				13	5	10	660	100	240	1000	21

L – Lecturer ,T – Tutorial, P – Practical , CT –ClassTest ESE – End Semester Exam TA – Teacher’s Assessment

- **Note:** - The students have to attend the four weeks industrial training / summer internship in B. Tech program after fourth semester, which will be evaluated in fifth semester.

Table I (Professional Elective I)

S.N.	Board of Studies	Course Code	Subject
1.	Mechanical Engg.	C037531(037)	Operation Research
2.	Mechanical Engg	C037532(037)	Composite Materials
3.	Mechanical Engg.	C037533(037)	Gas Dynamics and Jet Propulsion

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.

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



SCHEME OF TEACHING AND EXAMINATION

B Tech (Sixth Semester – Mechanical Engineering)

Sl. No.	Board of Studies	Courses (Subject)	Course Code	Period per Week			Theory/Lab			Total Marks	Credits
				L	T	P	ESE	CT	TA		
1.	Mech. Engg.	Design of Machine Elements	C037611(037)	3	1	-	100	20	30	150	4
2.	Mech. Engg.	Manufacturing Technology	C037612(037)	3	1	-	100	20	30	150	4
3.	Mech. Engg.	Heat & Mass Transfer	C037613(037)	3	1	-	100	20	30	150	4
4.	Professional Elective-II (Refer Table I)			2	1	-	100	20	30	150	3
5.	Open Elective – I (Refer Table II)			2	0	-	100	20	30	150	2
6.	Mech. Engg.	Design of Machine Elements Lab	C037621(037)	-	-	2	40	-	20	60	1
7.	Mech. Engg.	Computer Aided Modeling & Analysis Lab	C037622(037)	-	-	2	40	-	20	60	1
8.	Mech. Engg.	Heat & Mass Transfer Lab	C037623(037)	-	-	2	40	-	20	60	1
9.	Mech. Engg.	Virtual Lab-2	C037624(037)	-	-	2	40	-	20	60	1
10.	Humanities	Technical Communication and Soft Skill	C000601(046)	-	-	2	-	-	10	10	-
Total				13	4	10	660	100	240	1000	21

L – Lecturer
P – Practical,

T – Tutorial, TA – Teacher’s Assessment
ESE – End Semester Exam, CT – Class Test

Table I (Professional Elective II)

S.N.	Board of Studies	Subject	Course Code
1.	Mechanical Engineering	Finite Element Analysis	C037631(037)
2.	Mechanical Engineering	Power Plant Engineering	C037632(037)
3.	Mechanical Engineering	Maintenance and Reliability	C037633(037)

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.

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



Chhattisgarh Swami Vivekanand Technical University (CSVTVU, NEWAI (C.G.))

B Tech (Sixth Semester)

List of Open Elective – I (Table III) (For 6th Semester)

S.N.	Board of Studies	Subject	Course Code
1	Agriculture Engg.	Food Packaging Technology	C000601(094)
2	Agriculture Engg	Energy Management & Audit	C000602(094)
3	Agriculture Engg	Energy Conservation & Management	C000603(094)
4	Agriculture Engg	Disaster Management	C000604(094)
5	Agriculture Engg	Ecology and Sustainable Development	C000605(094)
6	Agriculture Engg	Non Conventional Energy Sources	C000606(094)
7	Mechanical Engineering	Safety Engineering	C000607(037)
8	Mechanical Engineering	Value Engineering	C000608(037)
9	Mechanical Engineering	Managing Innovation & Entrepreneurship	C000609(037)
10	Mechanical Engineering	Environment Pollution & Control	C000610(037)
11	Management	Enterprise Resource Planning ((Except CSE & IT Branch)	C000611(076)
12	Computer Science Engg.	Artificial Intelligence	C000612(022)
13	Computer Science Engg	Quantum Computing	C000613(022)
14	Computer Science Engg	Cyber Security	C000614(022)
15	Civil Engg	Construction engineering and management	C000615(020)
16	Civil Engg	Metro system and engineering	C000616(020)
17	Civil Engg	Infrastructure Planning and Management	C000617(020)
18	Computer Science Engg	Parallel Processing & Computing	C000618(022)
19	Computer Science Engg	Cryptography & Network Security	C000619(022)
20	Computer Science Engg	Cloud Computing	C000620(022)
21	Computer Science Engg	Computer Networks	C000621(022)
22	Computer Science Engg	Internet of Things	C000622(022)
23	Computer Science Engg	Data Structures and Algorithms	C000623(022)
24	Computer Science Engg	Big Data Analytics	C000624(022)
25	Electrical and Electronics Engg	Electrical Estimation and Costing	C000625(025)
26	Electrical and Electronics Engg	Energy Auditing and Management	C000626(025)
27	Management	Finance Management	C000627(076)
28	Mechanical Engineering	Safety Engineering	C000628(037)
29	Electronics & Telecom.	AI and Machine learning	C000629(028)
30	Electronics & Telecom.	Operating Systems	C000630(028)
31	Electronics & Telecom.	Internet & Web Technology	C000631(028)
32	Electronics & Telecom.	Database Management Systems (DBMS)	C000632(028)
33	Electronics & Telecom.	Device Modelling	C000633(028)
34	Electronics & Telecom.	Introduction to MEMS	C000634(028)
35	Mechanical Engineering	Principles of Management	C000635(037)
36	Mechanical Engineering	Advanced I.C. Engines	C000636(037)

37	Mechanical Engineering	Mechanical Vibrations & Condition Monitoring	C000637(037)
38	Mechatronics	Entrepreneurship Developments	C000638(067)
39	Plastic Engineering	Heat Transfer Operation	C000639(095)
40	Plastic Engineering	Process Economics and Management	C000640(095)
41	Plastic Engineering	Adhesive and Surface Coating	C000641(095)
42	Information Technology	E-Commerce	C000642(033)
43	Information Technology	Industrial Economics and Management	C000643(033)
44	Information Technology	Project Planning & Management	C000644(033)
45	Information Technology	Bio-Informatics	C000645(033)
46	Information Technology	Management Information System	C000646(033)
47	Chemical Engineering	Plant Utility & Safety Engineering	C000647(019)
48	Chemical Engineering	Environment Pollution & Control	C000648(019)

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Chhattisgarh Swami Vivekanand Technical University (CSV TU, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

B Tech (Seventh Semester – Mechanical Engineering)

Sl. No.	Board of Studies (BOS)	Courses (Subject)	Course Code	Period per Week			Scheme of Examination			Total Marks	Credit
				L	T	P	Theory/Lab				
							ESE	CT	TA		
1.	Mechanical Engg.	Design of Transmission System	D037711(037)	3	1	-	100	20	30	150	4
2.	Mechanical Engg.	Refrigeration & Air-Conditioning	D037712(037)	2	1	-	100	20	30	150	3
3.	Mechanical Engg.	Automation in Manufacturing	D037713(037)	2	1	-	100	20	30	150	3
4.	<i>Professional Elective –III (Refer to Table I)</i>			1	1	-	100	20	30	150	2
5.	<i>Open Elective- II (Refer to Table II)</i>			2	0	-	100	20	30	150	2
6.	Mechanical Engg.	Refrigeration & Air-Conditioning Lab	D037721(037)	-	-	2	40	-	20	60	1
7.	Mechanical Engg.	CIM & Automation Lab	D037722(037)	-	-	2	40	-	20	60	1
8.	Mechanical Engg.	Project (Phase I)	D037723(037)	-	-	6	60	-	40	100	3
9.	Mechanical Engg.	Industrial Training	D037724(037)			2			20	20	1
10.	Humanities	Universal Human Values 2	D000701(046)	-	-	2	-	-	10	10	-
Total Marks				10	4	14	640	100	260	1000	20

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

➤ Note: - The students have to attend the four weeks industrial training / summer internship in B. Tech program after sixth semester, which will be evaluated in seventh semester.

Table I (Professional Elective III)

S.N.	Board of Studies	Course Code	Subject
1.	Mechanical Engg.	D037731(037)	Machine Tool Technology
2.	Mechanical Engg.	D037732(037)	Quality Control and Total Quality Management
3.	Mechanical Engg.	D037733(037)	Thermal System Design
4.	Mechanical Engg.	D037734(037)	Industrial Hydraulics
5.	Mechanical Engg.	D037735(037)	Applied Elasticity and Plasticity

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Chhattisgarh Swami Vivekanand Technical University (CSVTU, NEWAI (C.G.))

B Tech (Seventh Semester)

List of Open Elective – II (Table III) (For 7th Semester)

S.N.	Board of Studies	Course Code	Subject
1	Agriculture Engg	D000701(094)	Biomass Management For Fodder And Energy.
2	Agriculture Engg	D000702(094)	Gully And Ravine Control Structures
3	Civil Engg	D000703(020)	Design Of Structures.
4	Agriculture Engg	D000704(094)	Reservoir And Farm Pond Design.
5	Mechanical	D000705(037)	3 D Printing & design
6	Management	D000706(076)	Technology Management
7	Information Technology	D000707(033)	Decision Support & Executive Information system
8	CSE	D000708(022)	Software Technology
9	Management	D000709(076)	Knowledge Entrepreneurship
10	Management	D000710(076)	Intellectual Property Rights
11	Biotechnology	D000711(018)	Phytochemistry
12	Biotechnology	D000712(018)	Clinical Research and Trial Management
13	Biotechnology	D000713(018)	Cellular and Molecular Diagnostics
14	Chemical Engineering	D000714(019)	Environmental Legislation & Impact Assessment
15	Civil Engineering	D000715(020)	Environmental management and Legislations
16	Civil Engineering	D000716(020)	Hydraulics of water and waste water
17	Civil Engineering	D000717(020)	Disaster Management
18	CSE	D000718(022)	Neural Network and Deep Learning
19	CSE	D000719(022)	Big data and Hadoop
20	CSE	D000720(022)	BioInformatics
21	CSE	D000721(022)	Software Testing
22	EEE	D000722(025)	Switched Mode Power Converter
23	EEE	D000723(025)	Internet of Things
24	EEE	D000724(025)	Non Conventional Energy Sources
25	EEE	D000725(025)	Sensors and Transducers
26	Information Technology	D000726(033)	E-Commerce & strategic IT
27	Computer Science & Engg.	D000727(022)	Software Technology
28	Electrical Engineering	D000728(024)	Solar PV Energy System
29	Mechanical Engineering	D000729(037)	Energy Conservation & Management
30	Information Technology	D000730(033)	Information Theory & Coding
31	Management	D000731(076)	Project Planning, Management & Evaluation
32	Electronics & Telecom	D000732(028)	Java Programming
33	Electronics & Telecom	D000733(028)	Cloud computing

34	Electronics & Telecom	D000734(028)	Big data Mining
35	Electronics & Telecom	D000735(028)	Cryptography & Network security
36	Electronics & Telecom	D000736(028)	Neural Network & Fuzzy Logic
37	Electronics & Telecom	D000737(028)	RF IC Design
38	Information Technology	D000738(033)	Graph Theory And Applications
39	Information Technology	D000739(033)	Biometrics
40	Information Technology	D000740(033)	Quantum Computing
41	Information Technology	D000741(033)	Entrepreneurship essentials
42	Information Technology	D000742(033)	Managerial Skills
43	Mechanical Engineering	D000743(037)	Mechatronics
44	Mechanical Engineering	D000744(037)	Engineering Economics
45	Mechanical Engineering	D000745(037)	Computer Graphics
46	Mechanical Engineering	D000746(037)	Control Engineering
47	Management	D000747(076)	Finance Management
48	Mechanical Engg.	D000748(037)	Energy Conservation & Management
49	Plastics Engineering	D000749(095)	Renewable Energy
50	Plastics Engineering	D000750(095)	Plastics Waste Management and Recycling