



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

## SCHEME OF TEACHING AND EXAMINATION

### B.Tech (Third Semester – Mechatronics 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.	Mechatronics Engg.	Mechanics of Materials	B067312(067)	3	1	-	100	20	30	150	4
3.	Mechatronics Engg.	Electronic Devices and Digital Circuits	B067313(067)	3	1	-	100	20	30	150	4
4.	Mechatronics Engg.	Metrology and Instrumentation	B067314(067)	2	1	-	100	20	30	150	3
5.	Mechatronics Engg.	Engineering Materials	B067315(067)	2	-	-	100	20	30	150	2
6.	Mechatronics Engg.	Material Testing Lab.	B067321(067)	-	-	2	40	-	20	60	1
7.	Mechatronics Engg.	Electronic Devices and Digital Circuits Lab.	B067322(067)	-	-	2	40	-	20	60	1
8.	Mechatronics Engg.	Metrology and Instrumentation Lab.	B067323(067)	-	-	2	40	-	20	60	1
9.	Mechatronics Engg.	Software Lab (Programming in C++)	B067324(067)	-	-	2	40	-	20	60	1
10.	Humanities	Personality Development	B000306(046)	-	-	2	-	-	10	10	-
Total Marks				13	4	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 (CSVTV, NEWAI (C.G.))

## SCHEME OF TEACHING AND EXAMINATION

### B Tech (Fourth Semester - Mechatronics)

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.	Mechatronics	Kinematics of Machines	B067411(067)	3	1	-	100	20	30	150	4
2.	Mechatronics	Microprocessor and Microcontroller	B067412(067)	3	1	-	100	20	30	150	4
3.	Mechatronics	Modern Control Systems	B067413(067)	3	1	-	100	20	30	150	4
4.	Mechatronics	Fluid Mechanics	B067414(067)	2	1	-	100	20	30	150	3
5.	Mechatronics	Thermal Engineering	B067415(067)	2	-	-	100	20	30	150	2
6.	Mechatronics	Kinematics of Machines Lab	B067421(067)	-	-	2	40	-	20	60	1
7.	Mechatronics	Microprocessor and Microcontroller Lab	B067422(067)	-	-	2	40	-	20	60	1
8.	Mechatronics	Fluid Mechanics Lab	B067423(067)	-	-	2	40	-	20	60	1
9.	Mechatronics	Virtual Lab(Computer aided design and manufacturing Lab)	B067424(067)	-	-	2	40	-	20	60	1
10.	Non- Credit	Indian Culture and Constitution of India	B000406(046)	-	-	2	-	-	10	10	-
Total Marks				13	4	10	660	100	240	1000	21

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

**Note:**

1. Duration of End Semester Exam of all theory papers will be of Three Hours.
2. Industrial Training of eight weeks is mandatory for B.Tech.. 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.



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

## SCHEME OF TEACHING AND EXAMINATION

### B Tech (Fifth Semester – Mechatronics 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.	Mechatronics	Dynamics of Machines	C067511(067)	3	1		100	20	30	150	4
2.	Mechatronics	Fluid Machines and Fluidics	C067512(067)	3	1	-	100	20	30	150	4
3.	Mechatronics	Advance Microcontroller and System Design	C067513(067)	2	1	-	100	20	30	150	4
4.	Mechatronics	Manufacturing Technology	C067514(067)	3	1	-	100	20	30	150	3
5.	Professional Elective-1 (Refer Table I)			2	-	-	100	20	30	150	2
6.	Mechatronics	Dynamic Of Machine lab	C067521(067)	-	-	2	40	-	20	60	1
7.	Mechatronics	Fluid Machines and Fluidics lab	C067522(067)	-	-	2	40	-	20	60	1
8.	Mechatronics	System Design Lab	C067523(067)	-	-	2	40	-	20	60	1
9.	Mechatronics	Project-I based on Summer Internship/ Industrial Training	C067524(067)	-	-	2	40	-	20	60	1
10.	Civil Engg.	Environmental Studies	C000506(020)	-	-	2	-	-	10	10	-
<b>Total</b>				<b>13</b>	<b>4</b>	<b>10</b>	<b>660</b>	<b>100</b>	<b>240</b>	<b>1000</b>	<b>21</b>

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

- Note: - The students has to attended 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.	Mechatronics	C067531(067)	Signals and Systems
2.	Mechatronics	C067532(067)	Maintenance Engineering
3.	Mechatronics	C067533(067)	Engineering Economics
4.	Mechatronics	C067534(067)	Machine Tool Design

Note: (1) 1/4<sup>th</sup> 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 – Mechatronics 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.	Mechatronics	Machine Design	C067611(067)	3	1	-	100	20	30	150	4
2.	Mechatronics	Industrial and Power Electronics	C067612(067)	3	1	-	100	20	30	150	4
3.	Mechatronics	Digital Signal Processing and its Applications	C067613(067)	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 III)			2	0	-	100	20	30	150	2
6.	Mechatronics	Computer Aided Modeling & Analysis Lab	C067621(067)	-	-	2	40	-	20	60	1
7.	Mechatronics	Digital Signal Processing and its Applications Lab	C067622(067)	-	-	2	40	-	20	60	1
8.	Professional Elective –II Lab (Refer Table II)			-	-	2	40	-	20	60	1
9.	Mechatronics	Simulation Lab	C067623(067)	-	-	2	40	-	20	60	1
10.	Humanities	Technical Communication and Soft Skill	C000625(067)	-	-	2	-	-	10	10	-
<b>Total</b>				<b>13</b>	<b>4</b>	<b>10</b>	<b>660</b>	<b>100</b>	<b>240</b>	<b>1000</b>	<b>21</b>

L – Lecturer  
P – Practical,

T – Tutorial, TA – Teacher's Assessment  
ESE – End Semester Exam, CT –ClassTest

**Table I (Professional Elective II)**

S.N.	Board of Studies	Subject	Course Code
1.	Mechatronics	Hydraulics and Pneumatics control	
2.	Mechatronics	Computer Graphics	
3.	Mechatronics	Numerical Analysis	
4.	Mechatronics	Principle of Management	

**Table II (Professional Elective II Lab)**

<b>S.N.</b>	<b>Board of Studies</b>	<b>Subject</b>	<b>Course Code</b>
<b>1.</b>	<b>Mechatronics</b>	Hydraulics and Pneumatics control Lab	<b>C067624(067)</b>
<b>2.</b>	<b>Mechatronics</b>	Computer Graphics Lab	<b>C067625(067)</b>
<b>3.</b>	<b>Mechatronics</b>	Numerical Analysis Lab	<b>C067626(067)</b>
<b>4.</b>	<b>Mechatronics</b>	Principle of Management Lab	<b>C067627(067)</b>

**Note: (1) 1/4<sup>th</sup> 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 (CSV TU, NEWAI (C.G.))

## B Tech (Sixth Semester)

### List of Open Elective – I (Table III ) (For 6<sup>th</sup> 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	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	Cyber Security	C000618(022)
19	Computer Science Engg	Parallel Processing & Computing	C000619(022)
20	Computer Science Engg	Cryptography & Network Security	C000620(022)
21	Computer Science Engg	Cloud Computing	C000621(022)
22	Electrical Engineering	Fibre Optics	C000622(024)
23	Electrical Engineering	Microcontroller and Embedded System	C000623(024)
24	Electrical Engineering	Hybrid Electric vehicle	C000624(024)
25	Electrical Engineering	Digital Control System	C000625(024)
26	Electrical and Electronics Engg	Electrical Estimation and Costing	C000626(025)
27	Electrical and Electronics Engg	Energy Auditing and Management	C000627(025)
28	Management	Finance Management	C000628(076)
29	Mechanical Engineering	Safety Engineering	C000629(037)
30	Electronics & Telecom.	AI and Machine learning	C000630(028)
31	Electronics & Telecom.	Operating Systems	C000631(028)
32	Electronics & Telecom.	Internet & Web Technology	C000632(028)
33	Electronics & Telecom.	Database Management Systems (DBMS)	C000633(028)
34	Electronics & Telecom.	Device Modelling	C000634(028)
35	Electronics & Telecom.	Introduction to MEMS	C000635(028)
36	Mechanical Engineering	Principles of Management	C000636(037)
37	Mechanical Engineering	Advanced I.C. Engines	C000637(037)

38	Mechanical Engineering	Mechanical Vibrations & Condition Monitoring	<b>C000638(037)</b>
39	Mechatronics	Entrepreneurship Developments	<b>C000639(067)</b>
40	Mechatronics	Enterprise Resource Planning (Except CSE & IT Branch)	<b>C000640(067)</b>
41	Plastic Engineering	Heat Transfer Operation	<b>C000641(095)</b>
42	Plastic Engineering	Process Economics and Management	<b>C000642(095)</b>
43	Plastic Engineering	Adhesive and Surface Coating	<b>C000643(095)</b>
44	Information Technology	E-Commerce	<b>C000644(033)</b>
45	Information Technology	Industrial Economics and Management	<b>C000645(033)</b>
46	Information Technology	Project Planning & Management	<b>C000646(033)</b>
47	Information Technology	Bio-Informatics	<b>C000647(033)</b>
48	Information Technology	Management Information System	<b>C000648(033)</b>