



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	-
Total				13	4	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 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) 1/4th 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 – 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	-
Total				13	4	10	660	100	240	1000	21

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	C067631(067)
2.	Mechatronics	Computer Graphics	C067632(067)
3.	Mechatronics	Numerical Analysis	C067633(067)
4.	Mechatronics	Principle of Management	C067634(067)

Table II (Professional Elective II Lab)

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

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 (CSV TU, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

B Tech (Seventh Semester – Mechatronics Engg.)

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 Engg.	Autotronics	D067711(067)	3	1	-	100	20	30	150	4
2.	Mechatronics Engg.	Automated Manufacturing I	D067712(067)	2	1	-	100	20	30	150	3
3.	Mechatronics Engg.	Robotics and Machine Vision	D067713(067)	2	1	-	100	20	30	150	3
4.	Professional Elective –III (Refer to Table I)			1	1	-	100	20	30	150	2
5.	Open Elective- II (Refer to Table II)			2	0	-	100	20	30	150	2
6.	Mechatronics Engg.	Autotronics Lab	D067721(067)	-	-	2	40	-	20	60	1
7.	Mechatronics Engg.	Robotics and Machine Vision Lab	D067722(067)	-	-	2	40	-	20	60	1
8.	Mechatronics Engg.	Project (Phase I)	D067723(067)	-	-	6	60	-	40	100	3
9.	Mechatronics Engg.	Industrial Training	D067724(067)			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.	Mechatronics Engg.	D067731(067)	Industrial Engineering
2.	Mechatronics Engg.	D067732(067)	Quality Control & Management
3.	Mechatronics Engg.	D067733(067)	Artificial Intelligence and Expert Systems
4.	Mechatronics Engg.	D067734(067)	Product Design and Development
5.	Mechatronics Engg.	D067735(067)	Electronic Instrumentation and Automation

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 (CSV TU, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

B.Tech (Eighth Semester – Mechatronics Engineering)

Sl. No.	Board of Studies (BOS)	Courses (Subject)	Course Code	Period per Week			Scheme of Examination			Total Mark	Credit
				L	T	P	Theory/Lab				
							ESE	CT	TA		
1.	Mechatronics Engineering	Automated Manufacturing–II	D067811(067)	3	1	-	100	20	30	150	4
2.	Professional Elective–IV (Refer to Table-I)			2	1	-	100	20	30	150	3
3.	Open Elective–III (Refer to Table-III)			2	0	-	100	20	30	150	2
4.	Mechatronics Engineering	Flexible Manufacturing System (Lab)	D067821(067)	-	-	2	40	-	20	60	1
5.	Mechatronics Engineering	Mechatronics Systems Design (Lab)	D067822(067)	-	-	2	40	-	20	60	1
6.	Mechatronics Engineering	Project (Phase–II)	D067823(067)	-	-	14	350	-	80	430	7
Total Marks				7	2	18	730	60	210	1000	18

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

Table – I (Professional Elective–IV)

S.N.	Board of Studies	Course Code	Subject
1.	Mechatronics Engineering	D067831(067)	Production and Product Management
2.	Mechatronics Engineering	D067832(067)	Computational Fluid Dynamics
3.	Mechatronics Engineering	D067833(067)	Micro Electro – Mechanical Systems
4.	Mechatronics Engineering	D067834(067)	Neural Network & Fuzzy Systems
5.	Mechatronics Engineering	D067835(067)	Medical Electronics
6.	Mechatronics Engineering	D067836(067)	Virtual Instrumentation
7.	Mechatronics Engineering	D067837(067)	Computer Organization and Software Engineering
8.	Mechatronics Engineering	D067838(067)	Finite Element Methods

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.