

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.	Board of			Per	iods	Per	Schei	me of E	kamination	Total	Credit
No	Study	Subject Code	Subject	1	Week			The		Marks	[L+[<u>T+P</u>]]
	o tau,			L	Т	P	ESE	СТ	TA	Marks	2
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	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				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.



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SECOND SEMESTER

S.	Board of			_	iods	-	Schei		xamination	Total	Credit
No	Study	Subject Code	Subject		Week			The		Marks	[L+[<u>T+P]]</u>
	,			L	Т	Р	ESE	СТ	TA		2
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)	ı	-	2	40	ı	20	60	1
8	Humanities	300221(46)	Communication Skills (Lab)	ı	-	3	40	1	20	60	2
9	9 Humanities 300220(46) Library & Seminar		1	-	1	-	ı	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 & EXAMINATION

BE (Metallurgical Engineering) III Semester

Sl.	Board of Study	Subject	~	_	erio r we		So	cheme o Exam	of	Total	Credit
No.		Code	Subject	L	Т	P		eory/ P		Marks	L+(T+P)/2
1	Applied Mathematics	338351(14)	Mathematics – III	4	1	-	ESE 80	20	TA 20	120	5
2	Metallurgical Engg.	338352(38)	Introduction to Materials Science		1	-	80	20	20	120	4
3	Metallurgical Engg.	338353(38)	Geology of Minerals & Ore Dressing		-	-	80	20	20	120	4
4	Applied Chemistry	338354(11)	Chemical Characterization of Materials	3	1	-	80	20	20	120	4
5	Metallurgical Engg.	338355(38)	Thermodynamics & Kinetics	3	1	-	80	20	20	120	4
6	Metallurgical Engg.	338356(38)	Introduction to Physical Metallurgy	3	1	-	80	20	20	120	4
7	Applied Chemistry	338361(11)	Chemical Characterization of Materials Lab	-	1	3	40	,	20	60	2
8	Metallurgical Engg.	338362(38)	Geology of Minerals & Ore Dressing Lab	-	-	3	40		20	60	2
9	Metallurgical Engg.	338363(38)	Physical Metallurgy Lab	-	1	3	40	1	20	60	2
10	Metallurgical Engg.	338364(38)	Materials Science Lab	-	-	3	40	-	20	60	2
11	Humanities	338365(46)	Value Education	-	-	2	-	-	40	40	1
12				-	•	1	-		-	-	-
Total	otal			20	5	15	640	120	240	1000	34

L: Lecture, T: Tutorial, P: Practical, ESE: End Semester Exam, CT: Class Test, TA: Teachers Assessment

Note: Duration of all theory papers will be of Three Hours.

Chhattisgarh Swami Vivekanand Technical University, Bhilai

SCHEME OF TEACHING & EXAMINATION

BE (Metallurgical Engineering) IV Semester

Sl. No.	Board of	Subject	Subject		ods p week	er	Scheme of Exam		am	Total Marks	Credit L+(T+P)/2
	Study	Code		L	Т	P	Theo	ry/ Pra	et.		
					•	•	ESE	CT	TA		
1	Appl. Mathematics	338451(14)	Numerical Analysis	4	-	-	80	20	20	120	4
2	Electrical Engg.	338452(24)	Electrical Technology & Electronics	4	1	-	80	20	20	120	5
3	Metallurgical Engg.	338453(38)	Testing of Materials	3	1	-	80	20	20	120	4
4	Metallurgical Engg.	338454(38)	Principles of Extractive Metallurgy	3	1	-	80	20	20	120	4
5	Metallurgical Engg.	338455(38)	Fuels, Furnaces and Refractories	3	1	-	80	20	20	120	4
6	Metallurgical Engg.	338456(38)	Engineering Economics	3	1	1	80	20	20	120	4
7	Electrical Engg.	338461(24)	Electrical Technology & Electronics Lab	-	-	3	40	-	20	60	2
8	Metallurgical Engg.	338462(38)	Testing of Materials Lab	-	-	3	40		20	60	2
9	Metallurgical Engg.	338463(38)	Non-Destructive Testing Lab	-	-	3	40	-	20	60	2
10	Metallurgical Engg.	338464(38)	Fuels, Furnaces and Refractories Lab	-	-	3	40	-	20	60	2
11	Humanities	338465(46)	Health, Hygiene & Yoga	-	-	2	-	-	40	40	1
12	12 Library			-	-	1	-	-	-	-	-
	Total			19	6	15	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. student. It is to be completed in two parts. The first part will be in summer after IV sem. after which students have to submit a training report which will be evaluated by the college teachers during B.E. V SEM.

ChhattisgarhSwamiVivekanandTechnicalUniversity Bhilai (C. G.)

Scheme of Teaching and Examination B.E. (V Semester) Metallurgical Engineering

S.	Boardof	~ mg		Pe	riods Weel	_	~	cheme (aminati	-	_ Total	Credit
No	Study	Code	Subject				The	ory/pra	ctical		L+(T+P)/2
				L	T	P	ESE	CT	TA		
1	Metallurgical Engineering	338551 (38)	Transport Phenomenon in Metallurgical Process	4	-	-	80	20	20	120	4
	Metallurgical Engineering	338552 (38)	Industrial Pollution and Control	3	1	-	80	20	20	120	4
7	Metallurgical Engineering	338553 (38)	Iron Making	3	1	-	80	20	20	120	4
1 4	Metallurgical Engineering	338554 (38)	Mechanical Working Processes	3	1	-	80	20	20	120	4
)	Metallurgical Engineering	338555 (38)	Non Ferrous Extraction Metallurgy	3	1	-	80	20	20	120	4
l n	Metallurgical Engineering	338556 (38)	Phase Diagram & Phase Transformation	4	1	-	80	20	20	120	5
. /	Metallurgical Engineering	338561 (38)	Transport Phenomenon Lab	-	-	3	40	-	20	60	2
	Metallurgical Engineering	338562 (38)	Mechanical Working Processes Lab	ı	ı	3	40	ı	20	60	2
9	Metallurgical Engineering	338563 (38)	Phase Transformation Lab	-	ı	3	40	ı	20	60	2
	Metallurgical Engineering	338564 (38)	Iron MakingLab	-	-	3	40	-	20	60	2
11	Humanities	300565 (46)	Personality Development	-	-	2	-		20	20	1
12	Metallurgical Engineering	338566 (38)	*Practical Training Evaluation and Library	-	-	1	-	-	20	20	1
	Total			20	5	15	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 sem. 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 Bhilai (C.G.)

Scheme of Teaching and Examination B.E. (VI Semester) Metallurgical Engineering

S.	Board of	Subject	Subject		iods Veek	_	Schen	ne of I	Exam	Total	Credit	
No	Study	Code					Theor	y/prac	tical	Marks	L+(T+P)/2	
				L	T	P	ESE	CT	TA			
1	Metallurgical Engineering	338651 (38)	Furnace Technology & Instrumentation	4	-	-	80	20	20	120	4	
2	Metallurgical Engineering	338652 (38)	Theory and Technology of Heat Treatment	3	1	1	80	20	20	120	4	
3	Metallurgical Engineering	338653 (38)	Computer Programming and Applications in Metallurgical Industries	3	1	-	80	20	20	120	4	
4	Metallurgical Engineering	338654 (38)	Metal Joining Processes	3	1	ı	80	20	20	120	4	
5	Metallurgical Engineering	338655 (38)	Steel Making	3	1	-	80	20	20	120	4	
6	ReferTo	able- I	Professional Elective-I	4	1	-	80	20	20	120	5	
7	Metallurgical Engineering	338661 (38)	Furnace Technology Lab	-	-	3	40	-	20	60	2	
8	Metallurgical Engineering	338662 (38)	Computer Programming and Applications in Metallurgical Industries Lab	-	-	3	40	-	20	60	2	
9	Metallurgical Engineering	338663 (38)	Metal Joining Lab	-	-	3	40	1	20	60	2	
	Metallurgical Engineering	338664 (38)	Theory and Technology of Heat Treatment Lab	-	-	3	40	-	20	60	2	
11	Management 300665(76) Ma		Managerial Skills	-	-	2	-	-	40	40	1	
12	12 Library			-	-	1	-	-	-	-	-	
	Total			20	5	15	640	120	240	1000	34	

L: Lecture T: Tutorial P: Practical

ESE: End Semester Examination **CT:** Class Test **TA:** Teachers' 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	Metallurgical Engineering	338671 (38)	X-Ray Diffraction &Transmission Electron Microscopy
2	Metallurgical Engineering	338672 (38)	Metallurgy of Rare Metals
3	Metallurgical Engineering	338673 (38)	Composite Materials

Note:(1)- 1/4thof totalstrengthof student's subject to minimum of twenty students is required to offer inelective in the college in a particular academic session.

Note:(2)- Choice of elective code 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 Scheme of Teaching and Exam

B.E. VII Semester Metallurgical Engineering

S. No	Board of Study	Subject Code	Subject	Period	ls per	Week		heme Exam		Total Marks	Credit L+ (T+P)/2
	Study	Code		L	т	Р	Theor		ctical	IVIAI KS	L· (1·1)/L
				_			ESE	СТ	TA		
1	Metallurgical Engineering	338731(38)	Foundry Technology	4	1	_	80	20	20	120	5
2	Metallurgical Engineering	338732(38)	Deformation behavior of Materials	4	1	-	80	20	20	120	5
3	Metallurgical Engineering	338733(38)	Corrosion and Degradation of Materials	4	1	-	80	20	20	120	5
4	Metallurgical Engineering	338734(38)	Alloys Their Properties and Selection	4	1	-	80	20	20	120	5
5	Refer Ta	ıble – II	Professional Elective – II	4	1	-	80	20	20	120	5
6	Metallurgical Engineering	338761(38)	Foundry Technology Lab	-	-	2	40	-	20	60	1
7	Metallurgical Engineering	338762(38)	Alloys and Their Properties and Selection Lab	-	-	3	40	-	20	60	2
8	Metallurgical Engineering		Corrosion and Degradation of Materials Lab	-	-	3	40	-	20	60	2
9	Metallurgical Engineering	338764(38)	Minor Project	-	-	4	100	-	40	140	2
10	Management	338765(76)	Innovative and Entrepreneurial Skills	-	-	2	-	-	40	40	1
11	Metallurgical Engineering 338766(38) **Practical Training Evaluation and Library			-	1	-	-	40	40	1	
	Total			20	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 sem and before the commencement of VII sem

S.No.	Board of Study	Subject Code	Subject
1	Metallurgical Engineering	338741 (38)	Alternative Routs of Iron and Steel Making
2	Metallurgical Engineering	338742 (38)	Design and application for Engineering Materials
3	Metallurgical Engineering	338743(38)	Ferro Alloy Technology

Note: (1) - 1/4th of total strength of students subject to minimum of twenty students is required to offer in elective in the

Note: (2) - Choice of elective code once made for an examination can not be changed in future examinations.

Chhattisgarh Swami Vivekanand Technical University, Bhilai Scheme of Teaching & Examination

B.E. VIII Semester Metallurgical Engineering

S. No	Board of Study	Subject Code	Subject	Period	s per	Week		heme Exam		Total Marks	Credit L+ (T+P)/2
	Study	Coue		L	Т	Р	Theor			IVIAI NS	L· (1·1)/2
							ESE	СТ	TA		
1	Metallurgical Engineering	338831(38)	Materials Characterization	4	1	-	80	20	20	120	5
2	Metallurgical Engineering	338832(38)	Secondary Steel Making Technology	4	1	-	80	20	20	120	5
3	Metallurgical Engineering	338833(38)	Experimental Techniques in Metallurgy	4	1	-	80	20	20	120	5
4	Refer Ta	able – III	Professional Elective – III	4	1	-	80	20	20	120	5
5	5 Refer Table – IV		Open Elective – IV	4	-	-	80	20	20	120	4
5	Metallurgical Engineering	338861(38)	Materials Characterization Lab	-	-	2	40	-	20	60	1
6	Metallurgical Engineering	338862(38)	Advance Steel Making Hands on Training	-	-	2	40	-	20	60	1
7	Metallurgical Engineering		Experimental Techniques in Metallurgy Lab	-	-	2	40	-	20	60	1
8	Metallurgical Engineering	338864(38)	Major Project	-	-	7	100	-	80	180	4
9	Metallurgical Engineering	338865(38)	Report Writing and Seminar	-	-	2	-	-	40	40	1
	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 -3								
Professional Elective - III									
S.No.	Board of Study	Subject Code	Subject						
1	Metallurgical Engineering	338841(38)	Powder Metallurgy						
2	Metallurgical Engineering	338842(38)	Light Metals and Alloys						

Note: (1) - 1/4th of total strength of student's subject to minimum of twenty students is required to offer in elective in the college in a particular academic session.

Note: (2) - Choice of elective code 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 the college 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 the college in a particular academic session.

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