



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			Total Marks	Credit [L+[T+P] 2
							Theory				
				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.



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SECOND SEMESTER

S. No	Board of Study	Subject Code	Subject	Periods Per Week			Scheme of Examination			Total Marks	Credit [L+ <u>[T+P]</u>] 2
							Theory				
				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:

- 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.
- Applied Mathematics-II will be taught to both the groups in the second semester.
- Library & seminar will be conducted by the relevant discipline/humanities as decided by the Principal.

**CHHATTISGARH SWAMI VIVEKANAD TECHNICAL UNIVERSITY,
BHILAI (C.G.)**

SCHEME OF TEACHING AND EXAMINATION

BE (Chemical Engineering) III Semester

Sl. No	Board of Study	Subject Code	Subject	Period per week			Scheme of Exam Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1	Applied Mathematics	319351(14)	Mathematics-III	4	1	-	80	20	20	120	5
2	Chemical Engineering	319352(19)	Inorganic Process Technology	4	-	-	80	20	20	120	4
3	Chemical Engineering	319353(19)	Fundamentals of Chemical Engineering	3	1	-	80	20	20	120	4
4	Chemical Engineering	319354(19)	Applied Physical Chemistry	3	1	-	80	20	20	120	4
5	Mechanical Engineering	319355(37)	Strength of Materials	3	1	-	80	20	20	120	4
6	Chemical Engineering	319356(19)	Instrumentation & Measurement	3	1	-	80	20	20	120	4
7	Chemical Engineering	319361(19)	Inorganic Process Technology Lab	-	-	3	40		20	60	2
8	Chemical Engineering	319362(19)	Applied Physical Chemistry Lab	-	-	3	40		20	60	2
9	Mechanical Engineering	319363(37)	Strength of Materials Lab	-	-	3	40		20	60	2
10	Chemical Engineering	319364(19)	Instrumentation & Measurement Lab	-	-	3	40		20	60	2
11	Humanities	319365(46)	Value Education	-	-	2	-		40	40	1
12			Library	-	-	1					
Total				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 VIVEKANAD TECHNICAL UNIVERSITY,
BHILAI (C.G.)
SCHEME OF TEACHING AND EXAMINATION
BE (Chemical Engineering) IV Semester**

S. No	Board of Study	Subject Code	Subject	Period per week			Scheme of Exam Theory/Practical			Total Marks	Credit
				L	T	P	ESE	CT	TA		
1	Chemical Engineering	319451(19)	Fluid and Particle Operations	4	1	-	80	20	20	120	5
2	Chemical Engineering	319452(19)	Environmental Pollution and Control	3	1	-	80	20	20	120	4
3	Chemical Engineering	319453(19)	Process Stoichiometric Calculations	3	1	-	80	20	20	120	4
4	Chemical Engineering	319454(19)	Material Technology	4	0	-	80	20	20	120	4
5	Chemical Engineering	319455(19)	Fuel Technology	4	0	-	80	20	20	120	4
6	Applied Chemistry	319456(11)	Organic Chemistry	4	0	-	80	20	20	120	4
7	Chemical Engineering	319461(19)	Fluid and Particle Operations Lab	-	-	3	40		20	60	2
8	Chemical Engineering	319462(19)	Environmental Pollution and Control Lab	-	-	3	40		20	60	2
9	Chemical Engineering	319463(19)	Fuel Technology Lab	-	-	3	40		20	60	2
10	Applied Chemistry	319464(11)	Organic Chemistry Lab	-	-	3	40		20	60	2
11	Humanities	319465(46)	Health , Hygiene & Yoga	-	-	2	-		40	40	1
12			Library	-	-	1					
Total				22	3	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.

**CHHATTISGARH SWAMI VIVEKANANDA TECHNICAL UNIVERSITY
BHILAI (C.G.)**

**SCHEME OF TEACHING AND EXAMINATION
B.E. (V SEMESTER) CHEMICAL ENGINEERING**

S. No	Board of Study	Subject Code	Subject	Period per week			Scheme of Exam Theory/Practical			Total Marks	Credit L + (T+P)/2
				L	T	P	ESE	CT	TA		
1	Chemical Engineering	319551(19)	Fluid Flow Operations	4	1	-	80	20	20	120	4
2	Chemical Engineering	319552(19)	Heat Transfer Operations	4	1	-	80	20	20	120	4
3	Chemical Engineering	319553(19)	Computational Methods in Chemical Engineering	3	1	-	80	20	20	120	4
4	Chemical Engineering	319554(19)	Organic Process Technology	4	-	-	80	20	20	120	4
5	Chemical Engineering	319555(19)	Chemical Engineering Thermodynamics	4	-	-	80	20	20	120	4
6	Chemical Engineering	319556(19)	Bio Chemical Engineering	4	-	-	80	20	20	120	4
7	Chemical Engineering	319561(19)	Fluid Flow Operations Lab	-	-	3	40		20	60	2
8	Chemical Engineering	319562(19)	Heat transfer Operations Lab	-	-	3	40		20	60	2
9	Chemical Engineering	319563(19)	Organic Process Technology Lab	-	-	2	40		20	60	1
10	Chemical Engineering	319564(19)	Bio Chemical Engineering Lab	-	-	3	40		20	60	2
11	Humanities	300565 (46)	Personality Development	-	-	2	-		20	20	2
12	Chemical Engineering	319566 (19)	Practical Training/Seminar/Library	-	-	1			20	20	1
Total				23	3	14	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 sem.*

CHHATTISGARH SWAMI VIVEKANANDA TECHNICAL UNIVERSITY BHILAI (C.G.)

SCHEME OF TEACHING AND EXAMINATION BE (VI Semester) CHEMICAL ENGINEERING

S. No	Board of Study	Subject Code	Subject	Period per Week			Scheme of Exam Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
1	Chemical Engineering	319651 (19)	Systems Analysis and computer programming	3	1	-	80	20	20	120	4
2	Chemical Engineering	319652 (19)	Chemical Reaction Engineering	3	1	-	80	20	20	120	4
3	Chemical Engineering	319653 (19)	Separation Processes –I	4	1	-	80	20	20	120	4
4	Chemical Engineering	319654 (19)	Process Safety and Plant Utility	4	1	-	80	20	20	120	4
5	Chemical Engineering	319655 (19)	Process Equipment Design I	4	1	-	80	20	20	120	4
6	Refer Table –I		Professional Elective - I	4	-	-	80	20	20	120	4
7	Chemical Engineering	319661 (19)	Systems Analysis and computer programming lab	-	-	3	40		20	60	2
8	Chemical Engineering	319662 (19)	Chemical Reaction Engineering Lab	-	-	3	40		20	60	2
9	Chemical Engineering	319663 (19)	Separation Processes I Lab	-	-	3	40		20	60	2
10	Chemical Engineering	319664 (19)	Process Equipment Design-I Viva	-	-	2	40		20	60	2
11	Management	300665 (76)	Managerial Skills	-	-	2	-		20	20	1
12			Seminar/Library	-	-	1			20	20	1
Total				22	4	14	640	120	240	1000	34

Table – I: Professional Elective - I

Board of Study	Subject Code	Subject
Chemical Engineering	319671 (19)	Optimization Technique
Chemical Engineering	319672 (19)	Membrane Science and Engineering
Chemical Engineering	319673 (19)	Project Engineering
Chemical Engineering	319674 (19)	Nanotechnology

L- Lecture, T- Tutorial, P- Practical, ESE- End Semester Exam, 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.
- 1/4th of total strength of students subject to minimum of 20 students is required to offer an elective in the college in a particular Academic session.
- Choice of elective course once made for an examination cannot be change in future examination.

CHHATTISGARH SWAMI VIVEKANAD TECHNICAL UNIVERSITY, BHILAI (C.G.)

SCHEME OF TEACHING AND EXAMINATION SEMESTER VII CHEMICAL ENGINEERING

S. No	Board of Study	Subject Code	Subject	Period per Week			Scheme of Exam Theory/Practical			Total Marks	Credit
				L	T	P	ESE	CT	TA		
1	Chemical Engineering	319731(19)	Petroleum Refinery Engineering	4	1	-	80	20	20	120	5
2	Chemical Engineering	319732(19)	Environment legislation and Impact Assessment	3	1	-	80	20	20	120	4
3	Chemical Engineering	319733(19)	Separation Processes - II	4	1	-	80	20	20	120	5
4	Chemical Engineering	319734(19)	Process Equipment Design-II	4	1	-	80	20	20	120	5
5	Refer Table -II		Professional Elective-II	4	1	-	80	20	20	120	5
6	Chemical Engineering	319761(19)	Petroleum Refinery Engineering - lab	-	-	3	40		20	60	2
7	Chemical Engineering	319762(19)	Separation Processes-II -Lab	-	-	3	40		20	60	2
8	Chemical Engineering	319763(19)	Process Equipment Design-II Viva	-	-	3	40		20	60	2
9	Chemical Engineering	319764(19)	Minor Project	-	-	4	100		40	140	2
10	Management	319765(76)	Innovative and Entrepreneurial Skills	-	-	2	-		40	40	1
11	Chemical Engineering	319766(19)	**Practical Training and Library	-	-	1	-		40	40	1
Total				19	5	16	620	100	280	1000	34

Table – II

Professional Elective-II		
Board of Study	Subject Code	Subject
Chemical	319741(19)	Reactor Design.
Chemical	319742(19)	Transport Phenomena
Chemical	319743(19)	Polymer Technology
Chemical	319744(19)	Oil and Fat Technology

Note: 1. All theory papers will be of three hours duration

2. ** To be completed after VI semester and before the Commencement of VII semester

3. 1/4th of total strength of students subject to minimum of 20 students is required to offer an elective in the college in a particular Academic session.

4. Choice of elective course once made for an examination cannot be change in future examination.

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

**CHHATTISGARH SWAMI VIVEKANAD TECHNICAL UNIVERSITY,
BHILAI (C.G.)**

**SCHEME OF TEACHING AND EXAMINATION
SEMESTER VIII CHEMICAL ENGINEERING**

S. No	Board of Study	Subject Code	Subject	Period per week			Scheme of Exam Theory/Practical			Total Marks	Credit
				L	T	P	ESE	CT	TA		
1	Chemical Engineering	319831(19)	Process Equipment Design III	4	1	-	80	20	20	120	5
2	Chemical Engineering	319832(19)	Modeling and Simulation	3	1	-	80	20	20	120	4
3	Chemical Engineering	319833(19)	Process Dynamics and Control	4	1	-	80	20	20	120	5
4	Refer Table -III		Professional Elective-III	4	0	-	80	20	20	120	4
5	Refer Table-IV		Open Elective-IV	4	0	-	80	20	20	120	4
6	Chemical Engineering	319861(19)	Process Equipment Design-III Viva	-	-	3	40		20	60	2
7	Chemical Engineering	319862(19)	Modeling and Simulation Lab	-	-	3	40		20	60	2
8	Chemical Engineering	319863(19)	Process Dynamics and Control Lab	-	-	3	40		20	60	2
9	Chemical Engineering	319864(19)	Major Project	-	-	6	100		80	180	3
10	Management	319865(76)	Report Writing and Seminar	-	-	2	-		40	40	1
11	Chemical Engineering		Library	-	-	1	-		-		-
Total				19	3	18	620	100	280	1000	32

Table – III

Professional Elective- III		
Board of Study	Subject Code	Subject
Chemical	319841(19)	Process Economics and Management
Chemical	319842(19)	Process Engg. & Costing
Chemical	319843(19)	Sugar Technology
Chemical	319844(19)	Pulp and Paper Technology

Note: 1. All theory papers will be of three hours duration

2. 1/4th of total strength of students subject to minimum of 20 students is required to offer an elective in the college in a particular Academic session.

3. Choice of elective course once made for an examination cannot be change in future examination.

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

Table –4

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 Technology	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 Technology	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