



ISBM
UNIVERSITY
KNOWLEDGE ♥ WISDOM ♥ HUMANITY

**BACHELOR OF
TECHNOLOGY IN
MINING ENGINEERING
(B. Tech.)**

SYLLABUS

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**Courses of Study and Scheme of Examination of Diploma in Engineering for Mining
branch of Technology**

FIRST SEMESTER

Sr. No	Board of study	Subject Code	Subject	Periods Per Week			Scheme of Examination			Total Marks	Credit [L+[T+P]] 2
				L	T	P	Theory/ Practical				
							ESE	CT	TA		
							External Marks	Internal Marks			
1	Basic Sciences	BT 55101	Applied Mathematics-I	4	1	-	70	20	10	100	5
2	Humanities	BT 55102	Professional Communication in English	4	-	-	70	20	10	100	4
3	Basic Sciences	BT 55103	Applied Chemistry	4	1	-	70	20	10	100	5
4	Mechanical Engineering	BT 55104	Engineering Graphics	2	1	4	70	20	10	100	5
5	Elect. Engg.	BT 55105	Elements of Electrical Engineering	4	1	-	70	20	10	100	5
6	Basic Sciences	BT 55106	Applied Chemistry (Lab)	-	-	2	100	-	50	150	1
7	Elect. Engg.	BT 55107	Elements of Electrical Engineering (Lab)	-	-	2	100	-	50	150	1
8	Mechanical Engineering	BT 55108	Workshop Practice (Lab)	-	-	3	140	-	50	190	2
9	Humanities	BT 55109	Library & Seminar**	-	-	1	-	-	10	10	1
TOTAL				18	4	12	690	100	210	1000	29

SECOND SEMESTER

Sr. No	Board of Study	Subject Code	Subject	Periods Per Week			Scheme of Examination			Total Marks	Credit [L+[(T+P)]/2]
				L	T	P	Theory				
							ESE	CT	TA		
							External Marks	Internal Marks			
	Basic Sciences	BT 55201	Applied Mathematics-II	4	1	-	70	20	10	100	5
	Civil Engg.	BT 55202	Environment & Ecology	4	-	-	70	20	10	100	4
	Basic Sciences	BT 55203	Applied Physics	4	1	-	70	20	10	100	5
	Civil Engg.	BT 55204	Basic Civil Engineering	4	1	-	70	20	10	100	5
	Mechanical Engg.	BT 55205	Fundamental of Mechanical Engineering	4	1	-	70	20	10	100	5
	Basic Sciences	BT 55206	Applied Physics (Lab)	-	-	2	100	-	50	150	1
	Mechanical Engg.	BT 55207	Mechanical Engineering (Lab)	-	-	2	100	-	50	150	1
	Humanities	BT 55208	Communication Skills (Lab)	-	-	3	140	-	50	190	2
	Humanities	BT 55209	Library & Seminar	-	-	1	-	-	10	10	1
TOTAL				20	4	8	690	100	210	1000	29

THIRD SEMESTER

S. No.	Board of Study	Sub. Code	SUBJECT	PERIODS PER WEEK			SCHEME OF EXAM Theory/Practical			Total Marks	Credit L+(T+P)/2
				L	T	P	ESE	CT	TA		
							External Marks	Internal Marks			
1	Appl. Mathematics	BT 55 D 301	Mathematics-III	4	1	-	70	20	10	100	5
2	Civil Egg.	BT 55 D 302	Mechanics of Solids & Fluid Mechanics	4	1	-	70	20	10	100	5
3	Electronics & Telecom.	BT 55 D 303	Programming with C	3	1	-	70	20	10	100	4
4	Mining Egg.	BT 55 D 304	Mining Geology-I	4	1	-	70	20	10	100	5
5	Mining Engg.	BT 55 D 305	Mine Surveying-I	4	1	-	70	20	10	100	5
6	Mining Engg.	BT 55 D 306	Mine Development	3	1	-	70	20	10	100	4
7	Mining Engg.	BT 55 D 307	Mine Development Lab	-	-	3	70		20	90	2
8	Mining Engg.	BT 55 D 308	Mining Geology-I Lab	-	-	2	70		20	90	1
9	Mining Engg.	BT 55 D 309	Mine Surveying-I Lab	-	-	2	70		20	90	1
10	Elect. & Telecom.	BT 55 D 310	Programming with C Lab	-	-	2	70		20	90	1
11	Humanities	BT 55 D 311	Value Education	-	-	2		20	20	40	1
12		BT 55 D 312	Library	-	-	1					-
Total				22	6	12	700	140	160	1000	120

FOURTH SEMESTER

S. No.	Board of Study	Subject Code	Subject	Periods per week			Scheme of Exam			Total Marks	Credit $L+(T+P)/2$
				L	T	P	Theory/Practical				
							ESE	CT	TA		
							External Marks	Internal Marks			
1	Mining Engg.	BT 55 D 401	Mine Climate & Ventilation	3	1	-	70	20	10	100	4
2	Mining Engg.	BT 55 D 402	Engineering Materials	3	-	-	70	20	10	100	3
3	Electrical Engg.	BT 55 D 403	Basic Electrical Engineering	4	1	-	70	20	10	100	5
4	Mining Engg.	BT 55 D 404	Mining Geology – II	3	1	-	70	20	10	100	4
5	Mining Engg.	BT 55 D 405	Underground Coal Mining	3	1	-	70	20	10	100	4
6	Electronics & Telecom	BT 55 D 401	Basic Electronics and Instrumentation	4	1	-	70	20	10	100	5
7	Mining Engg.	BT 55 D 407	Mining Geology – II Lab	-	-	2	70	-	20	90	1
8	Mining Engg.	BT 55 D 408	Mine Climate & Ventilation Lab	-	-	2	70	-	20	90	1
9	Electrical Engg.	BT 55 D 409	Basic Electrical Engineering Lab	-	-	4	70	-	20	90	2
10	Mining Engg.	BT 55 D 410	Underground Coal Mining Lab	-	-	4	70	-	20	90	2
11	Humanities	BT 55 D 411	Health, Hygiene & Yoga	-	-	2	-	20	20	40	1
12		BT 55 D 412	Library	-	-	1	-	-	-	-	-
Total				20	5	15	700	140	160	1000	32

FIFTH SEMESTER

S. No.	Board of Study	Subject Code	Subject	Periods per week			Scheme of Exam			Total Marks	Credit $L+(T+P)/2$
				L	T	P	Theory/ Practical				
							ESE External Marks	CT Internal Marks	TA		
1	Computer Sc. & Engg.	BT 55 D 501	Numerical Analysis & Computer Programming	3	1	-	70	20	10	100	4
2	Mining Engg.	BT 55 D 502	Mine Survey - II	3	1	-	70	20	10	100	5
3	Mining Engg.	BT 55 D 503	Mine Legislation – I	3	1	-	70	20	10	100	4
4	Mining Engg.	BT 55 D 504	Under ground Metal Mining	4	-	-	70	20	10	100	5
5	Mining Engg.	BT 55 D 505	Surface Mining - I	4	1	-	70	20	10	100	5
6	Mining Engg.	BT 55 D 506	Mine Machinery – I	3	1	-	70	20	10	100	4
7	Mining Engg.	BT 55 D 507	Mine Machinery - I Lab	-	-	2	70	-	20	90	1
8	Computer Sc. & Engg.	BT 55 D 508	Numerical Analysis & computer Programming Lab	-	-	4	70	-	20	90	2
9	Mining Engg.	BT 55 D 509	Surface Mining - I Lab	-	-	2	70	-	20	90	2
10	Mining Engg.	BT 55 D 510	Mine Survey- II Lab	-	-	4	70	-	20	90	2
11	Humanities	BT 55 D 511	Personality Development	-	-	2	-	20	20	40	1
12	Mining Engg.	BT 55 D 512	*Practical Training/Library	-	1	-	-	-	-	-	-
Total				20	5	15	700	140	160	1000	35

SIXTH SEMESTER

S. No.	Board of Study	Subject Code	Subject	Periods per week			Scheme of Exam			Total Marks	Credit $L+(T+P)/2$
				L	T	P	Theory/Practical				
							ESE	CT	T		
							External Marks	Internal Marks			
1	Mining Engg.	BT 55 D 601	Blasting Engineering	4	1	-	70	20	10	100	5
2	Mining Engg.	BT 55 D 602	Mine Health and Safety	3	1	-	70	20	10	100	4
3	Mining Engg.	BT 55 D 603	Mine Machinery - II	3	1	-	70	20	10	100	4
4	Mining Engg.	BT 55 D 604	Mine Legislation - II	3	-	-	70	20	10	100	3
5	Mining Engg.	BT 55 D 605	Mineral Dressing	4	1	-	70	20	10	100	5
6	Refer Table -1		Professional Elective-I	3	1	-	70	20	10	100	4
7	Mining Engg.	BT 55 D 607	Blasting Engg. Lab	-	-	2	70	-	20	90	1
8	Mining Engg.	BT 55 D 608	Mine Health and Safety Engg. Lab	-	-	2	70	-	20	90	1
9	Mining Engg.	BT 55 D 609	Mineral Dressing Lab	-	-	4	70	-	20	90	2
10	Mining Engg.	BT 55 D 610	Mining Machinery -II Lab	-	-	4	70	-	20	90	2
11	Management	BT 55 D 611	Managerial Skills	-	-	2	-	20	20	40	1

Table –1: Professional Elective - I

S. No.	Board of Studies	Code	Name of Subject
1	Mining Engg.	BT 55 D 606(1)	Mine Management
2	Mining Engg.	BT 55 D 60(2)	Small Scale & Dimensional Stone Mining

SEVENTH SEMESTER

S. No.	Board of Study	Subject Code	Subject	Periods per week			Scheme of Exam			Total Marks	Credit L+(T+P)/2
				L	T	P	Theory/Practical				
							ESE	CT	TA		
							External Marks	Internal Marks			
1	Mining Engg.	BT 55 D 701	Mine Economics	4	1	-	70	20	10	100	5
2	Mining Engg.	BT 55 D 702	Mine Surveying - III	4	1	-	70	20	10	100	5
3	Mining Engg.	BT 55 D 703	Rock Mechanics	4	1	-	70	20	10	100	5
4	Mining Engg.	BT 55 D 704	Mine Fires and hazards	4	1	-	70	20	10	100	5
5	Refer Table - 2		Professional Elective-II	4	1	-	70	20	10	100	5
6	Mining Engg.	BT 55 D 706	Mine Surveying – III Lab	-	-	4	70	-	20	90	2
7	Mining Engg.	BT 55 D 707	Rock Mechanics Lab	-	-	4	70	-	20	90	2
8	Mining Engg.	BT 55 D 708	Mine Fires and hazards Lab	-	-	2	70	-	20	90	1
9	Mining Engg.	BT 55 D 709	Minor Project	-	-	2	110	-	20	130	1
10	Mining Engg.	BT 55 D 710	Innovative & Entrepreneurial Skills	-	-	2	70	20	10	100	1
11	Mining Engg.	BT 55 D 711	**Practical Training	-	-	-	-	-	-	-	-
12			Library	-	-	1	-	-	-	-	-
Total Periods of 40 per week				20	05	15	740	120	140	1000	32

Professional Elective - II			
S. No.	Board of Studies	Name of Subject	Code
1	Mining Engg.	Mine Planning	BT 55 D 705(1)
2	Mining Engg.	Industrial Engg.	BT 55 D 705(2)

EIGHTH SEMESTER

S. No.	Board of Study	Subject Code	Subject	Periods per week			Scheme of Exam			Total Marks	Credit L+(T+P)/2
				L	T	P	Theory/Practical				
							ESE	CT	TA		
							External Marks	Internal Marks			
1	Mining Engg.	BT 55 D 801	Mining Machinery - III	4	1	-	70	20	10	100	5
2	Mining Engg.	BT 55 D 802	Pollution Control in Mining	4	1	-	70	20	10	100	5
3	Mining Engg.	BT 55 D 803	Strata Control	4	1	-	70	20	10	100	5
4	Refer Table -2		Professional Elective -III	4	1	-	70	20	10	100	5
5	Refer Table -3		Open Elective - IV	4	-	-	70	20	10	100	4
6	Mining Engg.	BT 55 D 806	Mining Machinery – III Lab	-	-	2	70	-	20	90	1
7	Mining Engg.	BT 55 D 807	Strata Control Lab	-	-	2	70	-	20	90	1
8	Mining Engg.	BT 55 D 808	Pollution Control Lab	-	-	2	70	-	20	90	1
9	Mining Engg.	BT 55 D 809	Major Project	-	-	7	110	-	20	130	4
10	Mining Engg.	BT 55 D 810	Report Writing & Seminar	-	-	2	70	20	10	100	1
11			Library	-	-	1	-	-	-	-	-
Total Periods of 40 per week				20	04	16	740	120	140	1000	32

Table –2

Professional Elective - III			
S. No.	Board of Studies	Code	Name of Subject
1	Mining Engg.	BT 55 D 804(1)	Surface Mining - II
2	Mining Engg.	BT 55 D 804(2)	Application of Computer, Geographical Information System (GIS) and RemoteSensing (RS) in Mining.

Table -3

Open Elective –IV			
S. No.	Board of Studies	Code	Name of Subject
1	Mining Engg.	BT 55 D 805(1)	Ecology and Sustainable Development
2	Mining Engg.	BT 55 D 805(2)	Water Shed Management
3	Mining Engg.	BT 55 D 805(3)	Air Pollution and ControlMeasures
4	Mining Engg.	BT 55 D 805(4)	Ecology and Sustainable Development